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Facility: Mt. Carberry Secure Landfill  
Location: Bean Brook Road, Success, NH  
Permittee: Androscoggin Valley Regional Refuse Disposal District (AVRRDD)  
Permit No.: DES-SW-88-029  
Application: Type I-A Permit Modification – Horizontal and Vertical Expansion (Phase IIIA)  
Application No.: 2020-48625  
Date Completed: April 22, 2022

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**PROJECT DESCRIPTION**

Androscoggin Valley Regional Refuse Disposal District (AVRRDD), the permittee and property owner of the Mt. Carberry Secure Landfill (Landfill) in Success, NH, submitted the herein-referenced Type I-A permit modification application for landfill expansion into the Phase III area recognized in a 1989 permit approval. The proposed expansion, called Phase IIIA, is both laterally into the Phase III footprint and vertically above the existing Phases I and II footprint. The Phase IIIA expansion is divided into Stages 13, 14, and 15, and encompasses approximately one-half of the Phase III area. The design plans submitted are preliminary.

AVRRDD requested approval to:

1. Develop approximately 24.1 acres of Landfill footprint,
2. Increase Landfill design height by approximately 4 feet to elevation 1834 feet, and
3. Update the facility’s design, operating, closure and financial assurance plans to incorporate the Phase IIIA modification.

As stated in the application, the proposed modification would increase the developed Landfill capacity by approximately 4,992,000 cubic yards for a total capacity of approximately 13,338,000 cubic yards, and extend the Landfill life expectancy by approximately 16.3 years into 2041.

The proposed site development includes:

1. New double-liner system,
2. New leak detection and leachate collection systems, riser building, pump station, and force main,
3. Extension of the existing leachate gravity sewer system to near the proposed riser building,
4. Extension of the landfill gas collection system,
5. New stormwater treatment ponds and drainage structures, and
6. Extension of the access roads.

Proposed activities for development include:

1. Applying for Phase IIIA final design approval,
2. Placing fill within the Phase IIIA, Stage 13 area to 6 feet above the groundwater table, and other site work,
3. Monitoring groundwater elevations for one year to assure groundwater separation,
4. Constructing the Stage 13 liner system and operating in Stage 13, and
5. Subsequently applying for permit modifications for design, construction, and operation of Stages 14 and 15.

AVRRDD concurrently submitted an application for waiver of Env-Sw 804.03(e) regarding wetlands setbacks, Env-Sw 805.05(j) regarding penetrations in the existing landfill liner system, and Env-Sw 805.07(b)(1) regarding 24-hour leak detection time within the existing landfill.

NHDES reviewed the applications to determine whether the proposed activities meet all applicable criteria for issuance of a permit modification as specified in the New Hampshire Solid Waste Rules (the Rules, Env-Sw 100 et seq.), in effect on the date of the final decision on the applications. The results of the review are summarized herein, on a rule by rule basis. The reader can obtain a copy of the cited rules from the NH Office of Legislative Services (see [http://gencourt.state.nh.us/rules/default.htm](http://gencourt.state.nh.us/rules/default.htm)).

NHDES is approving the Type I-A application and requested waivers, with conditions. NHDES notes that parts of the Type I-A application for expansion are based upon preliminary design drawings, technical specifications, and operating and closure plans. As stated in this review, NHDES is requiring specific additional information be included in various subsequent applications required by the Rules for obtaining approval of final design plans and specifications.
Facility Description

AVRRDD owns and, through its contractor Cianbro Corporation, operates the Mt. Carberry Secure Landfill (Landfill) in Success, NH. The existing built Landfill is approximately 67.3 acres, and is comprised of two phases, which are subdivided into a total of twelve stages. The Landfill is classified as a RCRA Subtitle D, non-hazardous, municipal solid waste, double-lined landfill. It is located on Bean Brook Road in Success and is accessed from Hutchins Street in Berlin, NH. The Landfill is located approximately 2,900 feet from the nearest residence, in Berlin, and located on ground that slopes downward to the south and west. The Landfill has an unlimited service area and operates as a commercial solid waste facility.

The Landfill has a leachate detention pond and a gravity-feed and force-main leachate sewer system that discharges to the City of Berlin Water Pollution Control Facility (BPCF). The Landfill has an active decomposition/landfill gas management system that directs gas to a flare for destruction. The gas can also be piped to the White Mountain Paper Company mill for use as fuel.

Facility History

In 1987, the James River Corporation applied to NHDES for a solid waste permit for the Landfill in Success, NH. In September 1988, NHDES issued Permit No. DES-SW-88-029/Part I and, in July 1989, NHDES issued Permit No. DES-SW-88-029/Part II. The permitted footprint of the landfill includes Phases I through III, with active operations in Phases I and II. The Landfill was originally used primarily to dispose of pulp and paper mill waste. In 1993, the Landfill was authorized to accept waste from an unlimited service area. The Landfill currently still accepts waste from the White Mountain Paper Company mill (formerly Gorham Tissue & Paper Mill). AVRRDD purchased the Landfill from Fraser Paper, LLC in late 2002.

Permit History

Standard Permit No. DES-SW-88-029 was issued for the Landfill in two parts. The first part was issued on October 8, 1988 to authorize a pilot project to demonstrate that dewatering techniques for Phase I/Stage I would create the required liner-to-groundwater separation distance, and the second part was issued on July 7, 1989, following a successful demonstration, for the completion of Phase I/Stage 1 and conceptual approval of the remainder of Phase I and Phases II through III (See Part II Permit, Condition 2.7 and 4.2). The permit has been modified multiple times. Refer to the facility permit file for additional information.

Compliance Status

The permittee signed a compliance statement as part of the submitted application to certify the facility’s performance.
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history pursuant to Env-Sw 303.14. As of the date of this review, NHDES Solid Waste has no open enforcement actions with the applicant.

PUBLIC HEARING AND COMMENT PROCESS

In accordance with the requirements of the Solid Waste Rules, specifically Env-Sw 303, Filing Provisions for Applications, Registrations, and Reports, and Env-Sw 304, Application Review, as well as the Solid Waste Management Act, specifically RSA 149-M:9,VIII and RSA 149-M:11,IV(a), NHDES held a public hearing on the proposed application for expansion.

After NHDES deemed the application complete on July 16, 2021, AVRRDD and NHDES coordinated the date, time, and location of a public hearing. NHDES’ regulatory obligation regarding notification of a public hearing is described in Env-Sw 304.08, Public Hearing, and NHDES took the following actions to fulfill its obligation:

- NHDES prepared and AVRRDD paid for publication of the notice of public hearing in newspapers of general circulation in the host municipality and host solid waste management district, specifically, the Coos County Democrat, Conway Daily Sun, and Union Leader. The public hearing was originally scheduled for October 27, 2021, but was postponed at the request of AVRRDD and rescheduled to December 16, 2021. AVRRDD paid for publication of the notice of a rescheduled public hearing in the Coos County Democrat, Conway Daily Sun, and Union Leader.
- NHDES provided in writing sent by first-class mail the notice of public hearing to the applicant, host municipality, host solid waste management district and other affected entities, excluding abutters (who received their notice from AVRRDD), for the original hearing date and the rescheduled hearing date.

AVRRDD’s regulatory obligation for providing notice of the public hearing is also described in Env-Sw 304.08, Public Hearing. As required by that rule, AVRRDD notified abutters to the facility of the date, time, and location of the public hearing.

Notifications by NHDES and AVRRDD were made at least 30 days in advance of the public hearing. In addition, NHDES posted the notice electronically on the NHDES website, through its Twitter feed and Facebook page, and through its Municipal EcoLink newsletter, and physically on the NHDES bulletin board. NHDES and AVRRDD fulfilled their notification obligations in accordance with Env-Sw 304.08.

The public hearing was held on December 16, 2021 in Berlin, NH. The public comment period closed on January 7, 2022. NHDES considered all comments received during the public hearing and comment period in making its decision. For a summary of the public comments and NHDES’ responses, see the Response to Public Comments issued under separate cover. The individual comments and a recording of the public hearing are part of the public record of this application, available at NHDES.

TECHNICAL REVIEW NOTES

NHDES reviewed the information provided in the applications to determine if the proposed changes met the applicable requirements of the NH Solid Waste Rules, Env-Sw 100 et seq. The notes provided in this section document the review, on a rule by rule basis. The notes identify whether the cited rule is applicable and, if applicable, whether or not information provided in the application satisfied the requirement of the rule. If a rule relates to an existing feature or activity already approved at the existing facility and for which NCES did not propose a change, NHDES did not undertake an evaluation of the application relative to the particular rule. Likewise, where the subject of a rule requires no evaluation, none was undertaken.
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General note regarding construction and operating requirements: NHDES reviewed the application to determine whether the proposed measures are likely to satisfy the construction and operating requirements in the Rules. Actual compliance with construction and operating requirements can only be determined through a compliance assessment when the actual construction and operation activities are implemented. Even if NHDES has determined the proposed measures are likely to satisfy rule requirements, additional or different measures may be necessary to maintain compliance depending on actual conditions.

**Env-Sw 300 SOLID WASTE PROGRAM: PERMITS**

**Env-Sw 304 APPLICATION REVIEW**

**Env-Sw 304.07 Technical Review**
- 304.07(a) – Applicable
- 304.07(b) – Applicable
- 304.07(c) – Not applicable

**Env-Sw 315 PERMIT MODIFICATION**

**Env-Sw 315.01 Applicability**
- 315.01(a) – Applicable – Applicant is modifying an existing facility permit that does not meet the exemption criteria in Env-Sw 315.01(b); therefore, this part applies.

**Env-Sw 315.02 Definitions**
- 315.02(a) – Applicable – Applicant is requesting a change that is not a Type II through Type V modification.
- 315.02(b) – Applicable – Applicant is requesting an increase in the approved design capacity; therefore, the request/application by definition is classified as a Type I-A permit modification. The applicant has satisfied the requirement for selecting the proper submittal type.
- 315.02(c) through (g) – Not applicable

**Env-Sw 315.03 Approval Required**
- 315.03(a) – Applicable – Permittee must have written approval from NHDES to implement the change.
- 315.03(b)(1) – Applicable – See review of Env-Sw 315.05.
- 315.03(b)(2) through (5) – Not applicable

**Env-Sw 315.04 Permit Modification Application Filing Procedures**
- 315.04(a) – Applicable – Satisfies requirement.
- 315.04(b) and (c) – Not applicable

**Env-Sw 315.05 Application Content and Format, Type I Modifications**
- 315.05(a) – Applicable – Required information submitted.
- 315.05(b) – Applicable – Required information submitted.
- 315.05(c)(1) – Applicable – Required information submitted.
- 315.05(c)(2) – Applicable – Language not provided; however, information needed to modify permit is provided. NHDES will draft permit language. No exception taken.
- 315.05(c)(3) – Applicable – Required information submitted.
- 315.05(c)(4) – Applicable – Draft design plans and amendments to the operating and closure plans were provided. Amendments to the financial assurance plan were discussed; however, no itemized closure or post-closure cost estimates were provided. **Requirement partially satisfied.**

Prior to filing a notice of intent to construct, the permittee shall obtain approval via the Type II permit modification application process final design drawings, operating plan, and closure plan. Prior to filing the notice of intent to operate for Phase IIIA or any portion thereof, the permittee shall...
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obtain approval of a final financial assurance plan pursuant to Env-Sw 1403.

- 315.05(c)(5) – Applicable – Required information submitted. Assessment to follow herein.
- 315.05(d) – Applicable – Required information submitted.
- 315.05(e) – Applicable – Required information submitted.
- 315.05(f) – Applicable – Required information submitted. Assessment to follow herein.
- 315.05(g) – Applicable – Signed compliance certification statement. Required information submitted.
- 315.05(h) – Applicable – See review of Env-Sw 316.
- 315.05(i) – Applicable – Required information submitted. See Attachment A, Determination of Public Benefit.
- 315.05(j) – Applicable – Required information submitted. A wetland permit was obtained prior to application submittal. Alteration of Terrain permits required for construction of Phase III stages were not identified on the application form but were discussed in the Design Report. No exception taken.
- 315.05(k) – Applicable – Required information submitted.
- 315.05(l) – Applicable – Required information submitted.

**Env-Sw 316 PERFORMANCE HISTORY REQUIREMENTS**

Env-Sw 316.01 Purpose – Purpose statement. No evaluation undertaken.

Env-Sw 316.02 Applicability

Not applicable – The Rules in this part do not apply to the applicant because the applicant is a type of political subdivision, i.e. solid waste district formed under RSA 53-B. (Ref. RSA 53-B:7).

**Env-Sw 800 LANDFILL REQUIREMENTS**

**Env-Sw 801 APPLICABILITY**

Env-Sw 801.01 Applicability

- 801.01 – Applicable – The landfill is subject to rules in Env-Sw 800.

**Env-Sw 802 PERMITTING REQUIREMENTS**

Env-Sw 802.01 Permit Required

- 802.01 – Applicable – The facility is not permit-exempt pursuant to Env-Sw 302; therefore, a permit is required.

Env-Sw 802.02 Permit Application Requirements

- 802.02 – Not applicable – The landfill is already permitted.

**Env-Sw 803 FEDERAL REQUIREMENTS FOR MSW LANDFILLS**

Env-Sw 803.01 Purpose

- 803.01 – Purpose Statement. No evaluation required.

Env-Sw 803.02 Applicability

- 803.02 – Applicability Statement relative to Env-Sw 803.03 and Env-Sw 803.04. No evaluation required.

Env-Sw 803.03 Applicability of Federal Law

- 803.03(a) – Exemption is not applicable – Facility is currently operating.
- 803.03(b) – Exemption is not applicable – Facility is currently operating.
- 803.03(c) – Facility is currently operating and receives greater than 100 tons per day (tpd) of waste; therefore, the landfill is subject to all requirements of 40 CFR 258. See also notation at Env-Sw 803.04(a) and Notice of Final Determination of Full Program Adequacy for the State of New Hampshire’s Municipal Solid Waste Landfill Permitting Program, published in Federal Register Volume 60, No. 30, February 14, 1995(*).
- 803.03(d) – Exemption is not applicable – Facility is currently operating.
- 803.03(e) – Facility is currently operating and receives greater than 100 tpd of waste; therefore, the landfill is subject to all requirements of 40 CFR 258.
- 803.03(f) – Applicable – Definitions specified in 40 CFR 258 are applicable.
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Env-Sw 803.04 Standards Specific to MSWLFs Subject to 40 CFR 258

- 803.04(a) – Applicable – 40 CFR 258 applies; as do Env-Sw 900, Env-Sw 1000, Env-Sw 1100, Env-Sw 1400, Env-Sw 1600, and this chapter.
- 803.04(b) – Not applicable – Applicant has not requested a waiver to any 40 CFR 258 requirements.

(*) In 1995, the U.S. Environmental Protection Agency (EPA) determined that all portions of New Hampshire’s Municipal Solid Waste Landfill (MSWLF) permit program are adequate to assure compliance with Federal MSWLF criteria (RCRA Subtitle D; 40 CFR 258). Thus, the technical review of the requirements in 40 CFR 258 is covered by the technical review presented below for the comparable state rules.

Env-Sw 804 SITING REQUIREMENTS

Env-Sw 804.01 Applicability

- 804.01(a) – Applicable – The proposed expansion beyond the existing footprint is classified, per Env-Sw 103.48, as a “new facility”. The landfill siting requirements in Part Env-Sw 804 apply to the proposed “new facility” area because it is not one of the exceptions listed in Env-Sw 804.01(a)(1)-(4).

Env-Sw 804.02 Groundwater Protection Standards

- 804.02(a) – Applicable – Nearest drinking water supply well (not owned by the applicant) listed in NHDES OneStop database is over ½ mile to northwest. Requirement satisfied.
- 804.02(b) – Applicable – The hydrogeologic conditions in and around the proposed footprint have been monitored over several decades. Some wells will have to be decommissioned for new liner construction, and additional monitoring wells are proposed. Groundwater at the AVRRDD facility is monitored in accordance with Groundwater Management and Release Detection Permit GWP-198706016. Requirement satisfied.
- 804.02(c) – Applicable – The hydrogeologic report submitted updates the site-wide information in the hydrogeologic evaluation provided in Section 2 of the “Permit Modification for the Phase III North Landfill Expansion, Mt. Carberry Secure Landfill, August 2009” prepared by Sevee & Maher Engineers, Inc. Requirement satisfied.
- 804.02(d) – Applicable – AVRRDD proposes groundwater separation demonstration over a duration of no less than one year and prior to obtaining a Type II approval for the construction of Phase IIIA Stage 13 liner systems. Final design of Phase IIIA may vary due to the results of this demonstration. The required separation to the bedrock surface has been demonstrated. **Requirement partially satisfied.**

Prior to filing the notice of intent to construct for any liner system, inclusive of final subgrade preparation, in Phase IIIA or any portion thereof, the permittee shall submit a demonstration that the phase or portion meets the requirements of Env-Sw 804.02(d). The demonstration shall be made in accordance with the proposal submitted as part of the Permit Modification Application (ref. WMD Log No. 2020-48625-01 [Vol. 1, PDF page 545], dated April 1, 2020), with the groundwater monitoring period consisting of no less than one year. During the monitoring period, the permittee shall submit progress reports to NHDES no less than quarterly.

Env-Sw 804.03 Surface Water Protection Standards

- 804.03(a) – Applicable – Alteration of Terrain permit is required for constructions in Phase III. Surface water sampling at select locations is required by the facility’s Groundwater Management and Release Detection Permit. See also RSA 485-A:15.I. Requirement satisfied.
- 804.03(b) – Applicable – Requirement satisfied.
- 804.03(c) – Applicable – Requirement satisfied.
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- 804.03(d) – Applicable – Requirement satisfied.
- 804.03(e) – Applicable – The permittee has applied for a waiver of this rule. See review of Env-Sw 202 in Attachment B.
- 804.03(f) – Applicable – Requirement satisfied.
- 804.03(g) – Applicable – Requirement satisfied.

**Env-Sw 804.04 Set-back Requirements**
- 804.04(a) – Applicable – Requirement satisfied.
- 804.04(b) – Applicable – Requirement satisfied.
- 804.04(c) – Applicable – Requirement satisfied.
- 804.04(d) – Not applicable.
- 804.04(e) – Applicable – Requirement satisfied.

**Env-Sw 804.05 Geologic Siting Limitations**
- 804.05(a) – Applicable – Requirement satisfied.
- 804.05(b) – Applicable – Requirement satisfied.

**Env-Sw 804.06 Other Siting Limitations** – Not applicable

**Env-Sw 805 DESIGN AND CONSTRUCTION REQUIREMENTS**

**Env-Sw 805.01 Applicability**
- 805.01 – Applicable – The design requirements of this part apply and apply as a complement to Env-Sw 1004, Env-Sw 1103, and Env-Sw 900.

**Env-Sw 805.02 General Landfill Design Requirements**
- 805.02(a)(5-7) – Applicable – See review of Env-Sw 805.03, 805.05, 805.07, 805.09, 805.10, and 806.07. Provision to have a groundwater and surface water monitoring system pursuant to Env-Or 700 is satisfied by Groundwater Release Detection Permit GWP-198706016-S-006. Other necessary features are incorporated in the existing built facility.
- 805.02(b) – Not applicable

**Env-Sw 805.03 Landfill Subgrade and Base Grade Standards**
- 805.03(a) – Applicable – See Technical Specifications Sections 02222 and 02223. Requirement satisfied.
- 805.03(b) – Applicable – Twelve inches of low permeability soil is proposed under the bottom liner. See design drawings and Technical Specification Section 02223. Requirement satisfied.
- 805.03(c), (d), and (e) – Applicable – See Landfill Stability Evaluations and Calculations. Requirement satisfied.
- 805.03(f) – Applicable – Twelve inches of low permeability soil is proposed under the bottom liner. See design drawings and Technical Specification Section 02223. Requirement satisfied.
- 805.03(g) – Applicable – See design drawings, and review of Env-Sw 805.06 and Env-Sw 806.05. Requirement satisfied.

**Env-Sw 805.04 Liner Material and Construction Requirements**
- 805.04(a) – Not applicable.
- 805.04(b) – Applicable – See Technical Specifications Section 02276. Liner seaming methods using solvents are not proposed. Requirement satisfied.
- 805.04(c) – Applicable – See proposed liner system in the design drawings (e.g., Detail ¼ on Drawing No. D-1) and Technical Specifications Section 02279. Requirement satisfied.
- 805.04(d) – Applicable – See review of Env-Sw 805.16.

**Env-Sw 805.05 Liner System Design Standards**
- 805.05(a) – Applicable – See review of Env-Sw 805.04, Env-Sw 805.06 and Env-Sw 805.07.
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- **805.05(b)** – Applicable – See review of Env-Sw 805.12 through 805.15.
- **805.05(c)** – Applicable – Requirement satisfied.
- **805.05(d)** – Not applicable.
- **805.05(e)** – Applicable – Requirement satisfied.
- **805.05(f)** – Applicable – See design drawings and Technical Specification Section 02234. Requirement satisfied.
- **805.05(g)** – Not applicable - Geosynthetics are not proposed for use as a replacement for granular materials on side slopes.
- **805.05(h)** – Applicable - Side slopes are designed for a maximum 3 horizontal to 1 vertical grade. Calculations provided, except for veneer stability of liner system. **Requirement partially satisfied.**

Calculations for liner system stability (e.g., veneer stability) shall be provided with the Type II permit modification application for final design approval.

- **805.05(i)** – Applicable - See review of Env-Sw 805.16.
- **805.05(j)** – Applicable – Liner penetrations not proposed in new footprint – requirement satisfied. Liner penetrations are present in existing liner system footprint over which new waste capacity is proposed – AVRRDD has applied for a waiver of this rule relative to existing liner systems; see review of Env-Sw 202 in Attachment B.

### Env-Sw 805.06 Leachate Collection and Removal System Design Standards

- **805.06(a)** – Applicable – Requirement satisfied.
- **805.06(b)** – Applicable – Requirement satisfied.
- **805.06(c)** – Applicable – Requirement satisfied.
- **805.06(e)** – Applicable – See Design Report leachate collection system calculations. Requirement satisfied.
- **805.06(g)** – Not applicable
- **805.06(h)** – Applicable – Automated notification alarms are not discussed in the application. Also see review of Env-Sw 806.05. **Unclear if requirement is satisfied.**

The Type II permit modification application for final design approval shall include locations and descriptions of the automated notification alarms.

- **805.06(i)** – Applicable – Requirement satisfied.
- **805.06(j)** – Applicable – Requirement satisfied.
- **805.06(k)** – Applicable – See Technical Specifications Section 02234. Requirement satisfied.
- **805.06(l)** – Applicable – Recirculation of leachate is not proposed. Requirement satisfied.
- **805.06(m)** – Not applicable - No recirculation of leachate is proposed.
- **805.06(n)** – Applicable – Requirement satisfied.
- **805.06(o)** – Applicable – Pump station high-water alarms are not discussed in the application. **Unclear if requirement is satisfied.**

The Type II permit modification application for final design approval shall include locations and descriptions of backup pumping capacity, backup power supply and high-water alarms.

- **805.06(p)** – Applicable – High-water alarms for the leachate management system are not discussed in the
The Type II permit modification application for final design approval shall include locations and descriptions of the high-water alarms.

Env-Sw 805.07 Leak Detection and Location System Design Standards
- 805.07(a) – Applicable – See Typical Liner Section details (drawing no. D-1). Requirement satisfied.
- 805.07(b) – Applicable
  - (1) AVRRDD has applied for a waiver of this rule for vertical expansion over the existing Phase I and Phase II liner system. See review of Env-Sw 202 in Attachment B.
  - (2) Applicable – Leak isolation provided by monitoring secondary leachate collection system per SW regulations, and liquid quality monitoring for underdrain system in accordance with GW permit.

Env-Sw 805.08 Groundwater and Surface Water Monitoring System Design Standards

Env-Sw 805.09 Stormwater Management System Design Standards
- 805.09(a) – Applicable – Requirement satisfied.
- 805.09(b) – Applicable – Design is based on a 25-year/24-hour storm event, with has greater duration that the time of concentration of the drainage area(s) being served. No exception taken.
- 805.09(c) – Applicable – See stormwater drainage report for modeling of pre-, intermediate-, and post-development conditions. Requirement satisfied.
- 805.09(d) – Applicable – Requirement satisfied.
- 805.09(e) – Applicable – Requirement satisfied.
- 805.09(f) – Applicable – Requirement satisfied.
- 805.09(g) – Applicable – Intermediate-and post-development peak surface runoff flows are modeled to be less than the pre-development conditions. No exception taken.
- 805.09(h) – Applicable – See Design Report and Stormwater Drainage Report. All stormwater which contacts waste is proposed to be treated as leachate. Requirement satisfied.
- 805.09(j) – Applicable – See detail 17/4 in Design Drawings, and cap design in Closure Plan. Requirement satisfied.
- 805.09(m) – Applicable – See Design Drawings and Operating Plan. Requirement satisfied.
- 805.09(n) – Applicable – A closed stormwater system is proposed, but not discussed in the operating or closure plans. Requirement not satisfied.

The permittee shall add to the operating and closure plans provisions for inspection, monitoring, and maintaining closed stormwater drainage systems.

Env-Sw 805.10 Landfill Capping System Design Standards
- 805.10(a) – Applicable – Plans are preliminary; final closure plans shall meet the requirements of the rules in effect at the time of final design. Preliminary plans satisfy requirement.
- 805.10(b) – Applicable – See review of Env-Sw 805.10(e).
- 805.10(c) – Not applicable
- 805.10(d) – Not applicable
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- 805.10(e) – Applicable – See Closure Plan, including drawings and Technical Specifications.
  - (1) 12” intermediate cover proposed. Requirement satisfied.
  - (2) 6” gas transmission layer (consisting of select sand) and active gas extraction system proposed. See also review of Env-Sw 805.16. Requirement satisfied.
  - (3) 40-mil textured LLDPE liner proposed. See also review of 805.16. Requirement satisfied.
  - (4) 12” select sand layer over drainage geocomposite proposed. See also review of 805.16. Requirement satisfied.
  - (5) 4” topsoil over 6” low perm soil proposed. Requirement satisfied.
- 805.10(f) – Applicable – A 6” low permeability soil layer (also identified as “moisture retention layer” in the Closure Plan) is proposed between the topsoil and drainage layer. No exception taken.
- 805.10(g) – Not applicable
- 805.10(h) – Applicable – Both swales and a moisture retention layer proposed. Requirement satisfied.
- 805.10(i) – Applicable – See Landfill Stability Evaluation and Calculations. Evaluations included waste mass failure, both cap and bottom liner system sliding, and global stability, under both static and seismic conditions. Requirement satisfied.
- 805.10(j) – Applicable – See details in the Closure Drawings. Requirement satisfied.
- 805.10(k) – Applicable – See details in the Closure Drawings. Requirement satisfied.
- 805.10(l) – Applicable – Modeling of the post-closure stormwater management system catchment areas in the Stormwater Report is consistent with the proposed capping system shown in the Closure Drawings. Requirement satisfied.
- 805.10(m) – Applicable – See Landfill Gas Collection System Master Plan and review of Env-Sw 806.07. LFG management system drawings provided in the LFG master plan but are not included in the preliminary Closure Drawings. Final Closure Plans shall include the drawings required for the LFG management systems. No exception taken.
- 805.10(n) – Applicable – See Closure Drawings in Closure Plan for typical roadway section on the waste mass. Requirement satisfied.
- 805.10(o) – Applicable – See Operating Plan Section 3.7.7. Marker locations are not shown on the Closure Drawings. Plans are preliminary; final Closure Drawings shall include required markers.
- 805.10(p) – Applicable – Capping system design proposes 3H:1V side slopes. Requirement satisfied.

Env-Sw 805.11 Other Landfill Design Requirements

- 805.11(a) – Applicable – See Operating Plan Section 3.7.7 and Phase IIIA Filling Sequence drawings. Requirement satisfied.
- 805.11(b) – Applicable – Requirement satisfied.
- 805.11(c) – Applicable – Requirement satisfied.
- 805.11(d) – Applicable – See Operating Plan Sections 3.7.6 and 3.7.7 and Phase IIIA Filling Sequence drawings. Sequencing of landfill capping to limit leachate generation is not provided. Requirement partially satisfied.

The permittee shall provide a more refined fill sequencing plan, to include a capping sequence, with the application for final design of Phase IIIA or any portion thereof.

- 805.11(e) – Applicable – Requirement satisfied.
- 805.11(g) – Applicable – See Access Road detail on Design Drawing D-4 and Typical Gravel Roadway Section - Haul Road detail in the Closure Drawings. Requirement satisfied.
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- 805.11(h) – Applicable – No changes proposed. See Operating Plan Section 5.6. No further evaluation required.
- 805.11(i) – Applicable – See review of Env-Sw 1103.04.
- 805.11(j) – Applicable – Requirement satisfied.
- 805.11(k) – Applicable – Stability of perimeter and interior berms were not evaluated. The applicant states that the landfill perimeter berms are generally less than 10 feet above surrounding grades and base grades are shallow relative to surrounding ground, and the interior berms are generally 6 feet or less in height and are of no consequence with respect to stability. No exception taken.
- 805.11(l) – Applicable – Requirement satisfied.

Env-Sw 805.12 MSW Landfill Design Standards
- 805.12(a) – Applicable – See review of Env-Sw 805.05. Requirement satisfied.
- 805.12(b) – Applicable – No change from current practices. No exception taken.

Env-Sw 805.13 MSW Incinerator Ash Landfill Design Standards
- 805.13 – Applicable – See review of Env-Sw 805.05. Requirement satisfied.

Env-Sw 805.14 Construction/Demolition Debris Landfill and Coal Ash Landfill Design Standards
- 805.14 – Applicable – Facility is a double-lined facility that accepts construction and demolition debris along with other waste types. The operating plan states that C&D debris in not disposed of closer than 5 feet from the liner or 2 feet from the outer waste side slopes. See Section 5.1 of the Operating Plan for fire control provisions. Requirement satisfied.

Env-Sw 805.15 Design Standards for Landfills Receiving Other Solid Waste Types
- 805.15(a) – Applicable – Requirement satisfied.
- 805.15(b) – Not applicable

Env-Sw 805.16 Quality Assurance/Quality Control (QA/QC) Standards for Liner and Capping Systems
- 805.16 – Applicable – See Technical Specifications, Design Drawings, and Closure Drawings.
- 805.16(a) – Applicable – QA/QC Plan required to be submitted with Type II. Preliminary review follows. No exception taken.
- 805.16(b)(1) – Applicable – See Sections 02223 and 02234. ASTM has withdrawn test method ASTM D422 specified in Rule. The permitted proposes to substitute with ASTM C136/C117. ASTM recommends substituting with ASTM D6913. **Requirement partially satisfied.**
- 805.16(b)(2) – Applicable – See Sections 02234. In Section 02234, the correct test method for sand is specified in Part 2.01C; however, the listed reference standard in Part 1.03 is for a different hydraulic conductivity testing method. **Requirement partially satisfied.**
- 805.16(b)(3) – Applicable – See Section 02234. Requirement satisfied.
- 805.16(c)(1) – Applicable – See Sections 02222, 02223, and 02234. Standard proctor test (ASTM D698) is proposed for the excavated subgrade, modified proctor (ASTM 1557) is proposed for fill soils and sand. Requirement satisfied.
- 805.16(c)(2) – Applicable – See Section 02223. Requirement satisfied.
- 805.16(c)(3) – Applicable – Not specified. **Requirement not satisfied.**
- 805.16(c)(4) – Applicable – Requirement satisfied.
- 805.16(c)(5) – Applicable – Requirement satisfied.
- 805.16(d)(1) – Applicable – See Section 02276. Not specified for cap. **Requirement partially satisfied.**
- 805.16(d)(2) – Applicable – See Section 01400. Minimum qualifications of the Project Engineer and his/her designee (Resident Engineer) not provided. **Requirement partially satisfied.**
- 805.16(d)(3) – Applicable – See Section 02276. Not specified for cap. **Requirement partially satisfied.**
- 805.16(d)(4) – Applicable – See Section 02276. Not specified for cap. **Requirement partially satisfied.**
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- 805.16(d)(5) – Applicable – See Section 02276. Not specified for cap. **Requirement partially satisfied.**
- 805.16(d)(6) – Applicable – See Section 02276. No upper limit specified for amount of geomembrane panel patching for liner. Not specified for cap. **Requirement partially satisfied.**
- 805.16(d)(7) – Applicable – See Section 02276. Not specified for cap. **Requirement partially satisfied.**
- 805.16(d)(8) – Applicable – See Section 02276. Not specified for cap. **Requirement partially satisfied.**
- 805.16(d)(9) – Applicable – See Section 02276. Not specified for cap. **Requirement partially satisfied.**
- 805.16(d)(10) – Applicable – See Section 02276. Not specified for cap. **Requirement partially satisfied.**
- 805.16(d)(11) – Applicable – See Section 02276. Not specified for cap. **Requirement partially satisfied.**

*The permittee shall include with its applications for Type II permit modification applications seeking final construction plan approvals a QA/QC plan and technical specifications that meet the requirements of the applicable rules in effect at the time, including substituting withdrawn standard ASTM D422 with standard ASTM D6913.*

**Env-Sw 805.17 Vertical Expansion of Landfills**
- 805.17(a) – Applicable – See review of Env-Sw 805.05 and Env-Sw 202.
- 805.17(b) – Not applicable

**Env-Sw 806 OPERATING REQUIREMENTS**

**Env-Sw 806.01 Applicability**
- 806.01(a) – Applicable – The rules in this part apply to operation of the subject landfill.
- 806.01(b) – Applicable – The operating requirements of this part apply to the landfill as a complement to the operating requirements in Env-Sw 1005, Env-Sw 1105, and Env-Sw 900.

**Env-Sw 806.02 Waste Placement**
- 806.02(a) – Applicable – Fill sequencing plan included in Operating Plan – requirement satisfied. Implementation is operational requirement to be implemented and enforced as a condition of any approval granted. No further evaluation undertaken.
- 806.02(b) – Applicable – Operational requirement to be implemented and enforced as a condition of any approval granted. No further evaluation undertaken.
- 806.02(c) – Applicable – Operational requirement to be implemented and enforced as a condition of any approval granted. No further evaluation undertaken.
- 806.02(d) – Applicable – Fill sequencing addressed in Fill Sequencing Plans and Operating Plan; cap sequence not addressed. Operational requirement to be implemented and enforced as a condition of any approval granted. No further evaluation undertaken.
- 806.02(e) – Applicable – Operational requirement to be implemented and enforced as a condition of any approval granted. No further evaluation undertaken.
- 806.02(f) – Applicable – Operational requirement to be implemented and enforced as a condition of any approval granted. No further evaluation undertaken.
- 806.02(g) – Applicable – See Operating Plan. Operational requirement to be implemented and enforced as a condition of any approval granted. No further evaluation undertaken.
- 806.02(h) – Applicable – See Operating Plan. Operational requirement to be implemented and enforced as a condition of any approval granted. No further evaluation undertaken.

**Env-Sw 806.03 Landfill Cover During Operations** – Applicable – No changes proposed. Operational requirement to be implemented and enforced as a condition of any approval granted. No further evaluation undertaken.

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**Env-Sw 806.05 Leachate Management Requirements**

- 806.05(a) – Applicable – Leachate collected and removed. No alternative proposed. Requirement satisfied.
- 806.05(b)(1) – Applicable – Design requirement satisfied. Operational requirement to be implemented and enforced as a condition of any approval granted. No further evaluation undertaken.
- 806.05(b)(2) – Applicable - Operational requirement to be implemented and enforced as a condition of any approval granted. No further evaluation undertaken.
- 806.05(b)(3)&(4) – Applicable – See Operating Plan Section 4.1.3. Appendix F, *Leachate Treatment Agreements*, not included. **Requirement partially satisfied.**

The permittee shall include all appendices with the operating plan of record, including leachate treatment agreements.

- 806.05(b)(5) – Not applicable
- 806.05(b)(6)&(7) – Applicable – Leachate recirculation not proposed. No further evaluation undertaken.
- 806.05(c) – Applicable – See review of Env-Sw 805.06.
- 806.05(d) – Applicable – See Operating Plan Sections 3.7.7.3 and 4.1.1. Revisions are preliminary; additional details required for final approvals, including proposed “supplemental riser building and pump O&M plan.” **Requirement partially satisfied.**

The permittee shall include with the Type II application for Phase IIIA Stage 13 an updated operating plan that addresses the requirements of Env-Sw 806.05(d).

- 806.05(e) – Applicable – The operating plan does not address inspection and routine maintenance schedules for the leachate collection and removal system, but refers to a Leachate Sewer O&M Manual. Manual not included or provided. **Requirement not satisfied.**

The permittee shall add to the operating plan the required inspection and maintenance schedule for the leachate collection and removal systems, or provide the Leachate Sewer O&M Manual.

- 806.05(f) through (l) – Not Applicable – No alternative leachate management (e.g., recirculation) proposed.

**Env-Sw 806.06 Stormwater Management Requirements** – Applicable – See Operating Plan Section 3.7.1 and review of Env-Sw 805.09. Operational requirement to be implemented and enforced as a condition of any approval granted. No further evaluation undertaken.

**Env-Sw 806.07 Decomposition Gas Control Requirements**

- 806.07(b) – Applicable – See Operating Plan Section 5.3. Operational requirement to be implemented and enforced as a condition of any approval granted. No further evaluation undertaken.
- 806.07(c) – Applicable – See Operating Plan Sections 5.3 and 6.6, and Closure Plan Section 6.0. Operational and closure requirements to be implemented and enforced as a condition of any approvals granted. No further evaluation undertaken.
- 806.07(d) – Applicable – No changes proposed. No exception taken.
- 806.07(e) – Applicable – See Operating Plan Sections 5.3 and 6.6. Operational requirement to be implemented and enforced as a condition of any approval granted. No further evaluation undertaken.
- 806.07(f) through (i) – Applicable – No changes proposed. Operational requirement to be implemented and enforced as a condition of any approval granted. No further evaluation undertaken.
Env-Sw 806.08 Inspections, Maintenance, Monitoring and Reporting Requirements

- 806.08(a) – Applicable – Statement. This section applies as a complement to Env-Sw 1000 and Env-Sw 1100.
- 806.08(b) – Applicable – Definitions.
- 806.08(c) – Applicable – Operational requirement to be implemented and enforced as a condition of any approval granted. No further evaluation undertaken.
- 806.08(d) – Applicable – Operational requirement to be implemented and enforced as a condition of any approval granted. No further evaluation undertaken.
- 806.08(e) – Applicable – See Env-Sw 806.07. Operational requirement to be implemented and enforced as a condition of any approval granted. No further evaluation undertaken.
- 806.08(f) – Applicable – No changes proposed. Operational requirement to be implemented and enforced as a condition of any approval granted. No further evaluation undertaken.
- 806.08(g) – Applicable – No changes proposed. Operational requirement to be implemented and enforced as a condition of any approval granted. No further evaluation undertaken.
- 806.08(h) – Applicable – No changes proposed. Operational requirement to be implemented and enforced as a condition of any approval granted. No further evaluation undertaken.
- 806.08(i) – Applicable – Operational requirement to be implemented and enforced as a condition of any approval granted. No further evaluation undertaken.
- 806.08(j) – Applicable – Operational requirement to be implemented and enforced as a condition of any approval granted. No further evaluation undertaken.
- 806.08(k) – Applicable – Operational requirement to be implemented and enforced as a condition of any approval granted. No further evaluation undertaken.
- 806.08(l) – Applicable – Operational requirement to be implemented and enforced as a condition of any approval granted. No further evaluation undertaken.

Env-Sw 806.09 Other Operating Standards – Applicable – No changes proposed. No evaluation required.

- 806.09(a) – Applicable – Operational requirement to be implemented and enforced as a condition of any approval granted. No further evaluation undertaken.
- 806.09(b) – Applicable – Operational requirement to be implemented and enforced as a condition of any approval granted. No further evaluation undertaken.
- 806.09(c) – Applicable – Operational requirement to be implemented and enforced as a condition of any approval granted. No further evaluation undertaken.
- 806.09(d) – Applicable – Operational requirement to be implemented and enforced as a condition of any approval granted. No further evaluation undertaken.
- 806.09(e), (f) & (g) – Applicable - Operational requirement to be implemented and enforced as a condition of any approval granted. No further evaluation undertaken.

Env-Sw 806.10 Construction/Demolition Debris Landfill Operating Requirements – Applicable – No changes proposed. Operational requirement to be implemented and enforced as a condition of any approval granted. No further evaluation undertaken.

Env-Sw 806.11 Asbestos Waste Landfill Operating Requirements – Applicable – No changes proposed. Operational requirement to be implemented and enforced as a condition of any approval granted. No further evaluation undertaken.

Env-Sw 806.12 Prohibitions – Applicable – No changes proposed. Operational requirement to be implemented and enforced as a condition of any approval granted. No further evaluation undertaken.

Env-Sw 807 CLOSURE REQUIREMENTS

Env-Sw 807 – Applicable – Proposed changes to the closure plan are limited to language referring to Phase III
anticipated construction and operational dates, editorial changes, and updates to the closure schedule time frame.

Closure Plan is considered preliminary, and final plan must meet requirements in effect at the time of final approval.

No exception taken.

Env-Sw 808 LANDFILL RECLAMATION – Not applicable
Env-Sw 809 RESERVED
Env-Sw 810 PERMIT-EXEMPT LANDFILLS – Not applicable

Env-Sw 900 MANAGEMENT OF CERTAIN WASTES

Env-Sw 901 ASBESTOS – Applicable – No changes proposed. No evaluation undertaken.
Env-Sw 902 ASH – Applicable – No changes proposed. No evaluation undertaken.
Env-Sw 903 CONTAMINATED SOILS – Applicable – No changes proposed. No evaluation undertaken.
Env-Sw 904 INFECTIOUS WASTE – Applicable – No changes proposed. No evaluation undertaken.
Env-Sw 905 TIRES – Applicable – No changes proposed. No evaluation undertaken.

Env-Sw 1000 UNIVERSAL FACILITY REQUIREMENTS

Env-Sw 1001 PURPOSE AND APPLICABILITY

Env-Sw 1001.01 Purpose – Statement. No evaluation undertaken.
Env-Sw 1001.02 Applicability – The rules in this chapter apply to all facilities.

Env-Sw 1002 UNIVERSAL ENVIRONMENTAL PERFORMANCE REQUIREMENTS

Env-Sw 1002.02 Discharge of Pollutants Prohibited – Applicable – These requirements apply independent of any approval granted pursuant to RSA 149-M and the Rules. See Env-Sw 101.02(d) and Env-Sw 305.04(b).
Env-Sw 1002.03 Protection of Wildlife – Applicable – These requirements apply independent of any approval granted pursuant to RSA 149-M and the Rules. See Env-Sw 101.02(d) and Env-Sw 305.04(b).
Env-Sw 1002.04 Safety

• 1002.04(a) – Applicable – See review of Env-Sw 806.07. Requirement to be implemented and enforced as a condition of any approval granted.
• 1002.04(b) – Applicable – See Design Drawings, Operating Plan and Closure Plan. Requirement to be implemented and enforced as a condition of any approval granted.
• 1002.04(c) – Applicable - Requirement satisfied.
• 1002.04(d) – Applicable - These requirements apply independent of any approval granted pursuant to RSA 149-M and the Rules. See Env-Sw 101.02(d) and Env-Sw 305.04(b).

Env-Sw 1002.05 Dams, Flowage and Flood Requirements

• 1002.05(a) – Applicable – These requirements apply independent of any approval granted pursuant to RSA 149-M and the Rules. See Env-Sw 101.02(d) and Env-Sw 305.04(b).
• 1002.05(b) – Applicable – See Stormwater Report. Facility is not located in a 100-year flood zone. Requirement satisfied.

Env-Sw 1003 UNIVERSAL SITING REQUIREMENTS

Env-Sw 1003.01 Distance to Other Facilities – Applicable – Requirement satisfied.
Env-Sw 1003.02 Easements and Rights-of-Way – Applicable – Requirement satisfied.
Env-Sw 1003.03 Property Ownership and Access Rights – Applicable – Requirements satisfied.
Env-Sw 1003.04 Groundwater and Surface Waters – Applicable – Requirements satisfied.
Env-Sw 1003.05 Wetlands – Applicable – Requirement satisfied.
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Env-Sw 1003.06 Shoreland Protection – Applicable – Requirement satisfied.
Env-Sw 1003.07 Designated Rivers – Applicable – Requirement satisfied.

Env-Sw 1004 UNIVERSAL DESIGN REQUIREMENTS

Env-Sw 1004.01 Basic Design Requirements – Applicable – See review of Env-Sw 1002 and Env-Sw 1005.

Env-Sw 1004.02 Roads and Traffic Control
- 1004.02(a) – Applicable – No changes proposed. No further evaluation undertaken.
- 1004.02(b) – Applicable – No changes proposed. No further evaluation undertaken.
- 1004.02(c) – Applicable – No changes proposed. No further evaluation undertaken.
- 1004.02(d) – Applicable – Proposed changes relate to new perimeter access road and access to the working face. Requirement satisfied.
- 1004.02(e) – Applicable – No changes proposed. No further evaluation undertaken.
- 1004.02(f) – Applicable – No changes proposed. No further evaluation undertaken.
- 1004.02(g) – Applicable – See review of Env-Sw 805.11(g). Requirement satisfied.

Env-Sw 1004.03 Drainage
- 1004.03(b) – Applicable – Requirement satisfied.
- 1004.03(c) – Applicable – Requirement satisfied.

Env-Sw 1004.04 Protection of Landfill Closure Systems – Applicable – No closure systems on-site at the time of this review.

Env-Sw 1004.05 Wastewater Systems – Applicable – No changes proposed. No further evaluation undertaken.

Env-Sw 1004.06 Motor Vehicle Waste Collection – Applicable – No changes proposed. No further evaluation undertaken.

Env-Sw 1004.07 Equipment
- 1004.07(b) – Not Applicable.

Env-Sw 1005 UNIVERSAL OPERATING REQUIREMENTS

Env-Sw 1005.01 General Operating Requirements – Applicable - Operational requirements to be implemented and enforced as a condition of any approval granted.

Env-Sw 1005.02 Unauthorized Use Prohibited – Applicable – No changes proposed. Operational requirements to be implemented and enforced as a condition of any approval granted.

Env-Sw 1005.03 Traffic Management – Applicable – Operational requirements to be implemented and enforced as a condition of any approval granted.

Env-Sw 1005.04 Reuse of Waste – Applicable – Operational requirements to be implemented and enforced as a condition of any approval granted.

Env-Sw 1005.05 Public Benefit – Applicable – Operational requirements to be implemented and enforced as a condition of any approval granted. See review in Attachment A.

Env-Sw 1005.06 Operator Qualifications – Applicable – Operational requirements to be implemented and enforced as a condition of any approval granted.

Env-Sw 1005.07 Facility Staffing – Applicable – Operational requirements to be implemented and enforced as a condition of any approval granted.

Env-Sw 1005.08 Financial Assurance – Applicable – See review of Env-Sw 1400 herein. Operational requirements to be implemented and enforced as a condition of any approval granted.

Env-Sw 1005.09 Incident Reporting – Applicable - Operational requirements to be implemented and enforced as a condition of any approval granted.

Env-Sw 1005.10 Out-of-State Waste Recordkeeping – Applicable – Operational requirements to be implemented and
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enforced as a condition of any approval granted.

Env-Sw 1006 UNIVERSAL CLOSURE REQUIREMENTS – Applicable – See review of Env-Sw 1106 herein. No further evaluation undertaken.

Env-Sw 1100 ADDITIONAL FACILITY REQUIREMENTS

Env-Sw 1101 PURPOSE AND APPLICABILITY

Env-Sw 1101.01 Purpose – Statement. No evaluation required.

Env-Sw 1101.02 Applicability

- 1101.02(a) – Applicable – The rules in this chapter apply to this facility.
- 1101.02(b) – Not Applicable – No alternative procedures proposed.
- 1101.02(c) – Applicable – See review of Env-Sw 800, Env-Sw 900 and Env-Sw 1000.

Env-Sw 1102 ADDITIONAL SITING REQUIREMENTS

1102.01 General Siting Requirements – Applicable – See review of siting requirements in Env-Sw 804 & Env-Sw 1003.

1102.02 Co-existence with Other Activities – Applicable – No changes to other activities at the site are proposed with the Phase IIIA expansion. No further evaluation undertaken.

Env-Sw 1103 ADDITIONAL DESIGN REQUIREMENTS

Env-Sw 1103.01 General Design Requirements – Applicable – Requirements satisfied.

Env-Sw 1103.02 Equipment Installation – Applicable – No alternatives to manufacturer recommendations proposed. See Technical Specifications and Design Drawings. Requirement satisfied.

Env-Sw 1103.03 Access Control – Applicable – No changes proposed. No further evaluation undertaken.

Env-Sw 1103.04 Surrounding Properties – Applicable – Litter fencing proposed around Phase IIIA. No other changes proposed. Requirement satisfied.

Env-Sw 1103.05 Design Plans and Specifications, Content and Format

- 1103.05(a) – Applicable – Facility permit number is missing from the Design Drawings, Fill Sequencing Plans, and Closure Plans. **Requirement not satisfied.**

The permittee shall update the drawings and figures to include the facility permit number.

- 1103.05(b) – Applicable – Requirement satisfied.
- 1103.05(c) – Applicable – Requirement satisfied.
- 1103.05(d) – Applicable – Requirement satisfied.
- 1103.05(e) and (f) – Applicable – Requirement satisfied.
- 1103.05(g) – Not applicable – Plans are preliminary. Final construction drawings must be submitted for approval.
- 1103.05(h) – Applicable – Additional calculations or clarifications to calculations required as identified throughout this review. No further evaluation undertaken.

Env-Sw 1104 ADDITIONAL CONSTRUCTION REQUIREMENTS – Applicable – Construction requirements to be implemented and enforced as a condition of any approval granted. No evaluation undertaken.

Env-Sw 1105 ADDITIONAL OPERATING REQUIREMENTS

Env-Sw 1105.01 Prerequisites for Operations – Applicable – Operating requirements to be implemented and enforced as a condition of any approval granted.

Env-Sw 1105.02 Notice of Intent to Operate – Applicable – Operating requirements to be implemented and enforced as a condition of any approval granted.

Env-Sw 1105.03 Operating Approval – Applicable - Operating requirements to be implemented and enforced as a condition of any approval granted.

Env-Sw 1105.04 Basic Operating Requirements – Applicable – Operating requirements to be implemented and
enforced as a condition of any approval granted.

Env-Sw 1105.05 Signs and Postings – Applicable – No changes proposed in design drawings or operating plan. Operating requirements to be implemented and enforced as a condition of any approval granted.

Env-Sw 1105.06 Facility Operating Records – Applicable – No changes proposed in operating plan. Operating requirements to be implemented and enforced as a condition of any approval granted.

Env-Sw 1105.07 Reporting Requirements – Applicable – No changes proposed in operating plan. Operating requirements to be implemented and enforced as a condition of any approval granted.

Env-Sw 1105.08 Hours of Operation – Applicable – No changes proposed. Operating requirements to be implemented and enforced as a condition of any approval granted.

Env-Sw 1105.09 Receipt and Management of Waste – Applicable – No significant changes proposed. Operating requirements to be implemented and enforced as a condition of any approval granted.

Env-Sw 1105.10 Management of Residual Waste – Applicable – Changes relate to the addition of Phase IIIA and a sideriser pump collection system. No exception taken. Operating requirements to be implemented and enforced as a condition of any approval granted.

Env-Sw 1105.11 Operating Plan Content and Format
- 1105.11(a) – Applicable – Requirement satisfied.
- 1105.11(b) – Applicable – Requirement satisfied.
- 1105.11(c) – Applicable – Requirement satisfied.
- 1105.11(d) – Applicable
  - (1) Section 1, Facility Identification – Applicable – Adjustments to language to add Phase IIIA description. No exception taken.
  - (2) Section 2, Authorized and Prohibited Waste – Applicable – Not provided. NHDES presumes no changes proposed. No evaluation undertaken.
  - (3) Section 3, Routine Operations Plan – Applicable – Adjustments to language regarding side slope grades, and addition of Phase IIIA to fill sequencing and other routine operations. No exception taken.
  - (4) Section 4, Residual Waste Management Plan – Applicable – Adjustments to language regarding Phase IIIA leachate collection systems. No exception taken.
  - (5) Section 5, Facility Maintenance, Inspection and Monitoring Plan – Applicable – Adjustments to language regarding Phase IIIA leachate collection systems. No exception taken.
  - (6) Section 6, Contingency Plan – Applicable – Not provided. NHDES presumes no changes proposed. No evaluation undertaken.
  - (7) Section 7, Employee Training Program – Applicable – Not provided. NHDES presumes no changes proposed. No evaluation undertaken.
  - (8) Section 8, Recordkeeping and Reporting – Applicable – Not provided. NHDES presumes no changes proposed. No evaluation undertaken.
- Appendices: Not provided. NHDES presumes no changes proposed. No evaluation undertaken.

The operating plan for Phase IIIA is preliminary. To ensure NHDES has a complete copy, a final copy shall be provided as for approval via the Type II permit modification process for Phase IIIA.

Env-Sw 1105.12 Interaction with Districts – Applicable – Operational requirement to be implemented and enforced as a condition of any approval granted.

Env-Sw 1105.13 Annual Report for Active Facilities, Content – Applicable – Operational requirement to be implemented and enforced as a condition of any approval granted.

Env-Sw 1105.14 Annual Report for Inactive Facilities, Content – Not applicable
Env-Sw 1106 ADDITIONAL CLOSURE REQUIREMENTS

Evaluation of closure requirements is based on preliminary plans. Final closure plans require NHDES approval.

Env-Sw 1106.01 Commencement of Closure Activities – Applicable – Closure requirements to be implemented and enforced as a condition of any approval granted. No evaluation undertaken.

Env-Sw 1106.02 Notice of Intent to Close – Applicable – Closure requirements to be implemented and enforced. No evaluation undertaken.

Env-Sw 1106.03 Basic Facility Closure Requirements – Applicable – Closure requirements to be implemented and enforced as a condition of any approval granted. No evaluation undertaken.

Env-Sw 1106.04 Closure Plan, Content and Format
- 1106.04(a) – Applicable – Requirement satisfied.
- 1106.04(b) – Applicable – Plan is preliminary; final plan requires approval by NHDES. Requirement satisfied.
- 1106.04(c) – Applicable – Requirement satisfied.
- 1106.04(d) – Applicable – Requirement satisfied.
- 1106.04(e) – Applicable
  o (1) Section 1, Facility Identification – Applicable – No changes proposed. No further evaluation undertaken.
  o (2) Section 2, Closure Schedule – Applicable – Language for Phase IIIA added. Adjustments to timeframes made. NHDES notes it is granted 426 weeks for closure plan review and approval. No exception taken.
  o (3) Section 3, Waste Identification – Applicable – Clarifications made. No exception taken.
  o (4) Section 4, Notifications – Applicable – No changes proposed. No further evaluation undertaken.
  o (5) Section 5, Closure Requirements – Applicable – Adjustments to language regarding cap design for consistency with drawings and calculations. No exception taken.
  o (6) Section 6, Post-Closure Requirements – Applicable – No changes proposed. Phase IIIA leachate system information needs to be added.
  o (7) Section 7, Recordkeeping and Reporting – Applicable – No changes proposed. No further evaluation undertaken.
  o (8) Section 8, Other Permits – Applicable – No changes proposed. No further evaluation undertaken.
  o (9) Section 9, Closure Cost Estimate – Applicable – No change proposed to text; estimate not provided.

The closure plan for Phase IIIA is preliminary. To ensure NHDES has a complete copy, a final copy shall be provided as part of the application for Type II approval for Phase IIIA.

Env-Sw 1106.05 Temporary Cessation of Facility Construction or Operations – Not applicable

Env-Sw 1400 FINANCIAL ASSURANCE

Env-Sw 1401 PURPOSE AND APPLICABILITY
- Env-Sw 1401.01 Purpose – Statement. No evaluation undertaken.
- Env-Sw 1401.02 Applicability – The rules in this chapter apply to this facility.

Env-Sw 1402 DEFINITIONS – Applicable – No evaluation undertaken.

Env-Sw 1403 FINANCIAL ASSURANCE REQUIREMENTS
- Env-Sw 1403.01 Financial Assurance Plan Preparation and Submittal
• 1403.01(a) – Applicable – The permittee’s financial assurance plan was last updated in April, 2021 to cover closure cost through Stage 12. Permittee intends to meet its financial assurance obligations for Phase IIIA with either additional deposits to the trust reserve account or a supplemental financial assurance mechanism.

• 1403.01(b) – Applicable – Proposed changes are limited to the closure cost estimate. No other changes proposed. No exception taken.

• 1403.01(c) – Applicable – A financial assurance plan consists of two parts: a financial assurance mechanism and a cost estimate. Permittee proposes to continue existing mechanism or provide an alternative mechanism meeting the requirements of the Rules. Cost estimate not provided. Requirement partially satisfied.

Prior to operation of Phase IIIA or any part thereof, the permittee shall obtain approval of an updated financial assurance plan via the Type II permit modification process.

Env-Sw 1403.02 Closure Cost Estimation – Applicable – Closure cost estimate not provided. Permittee estimated costs for closure construction of Phase IIIA on a per acre basis using the financial assurance submitted for Stage 12 on February 20, 2020. The permittee states that post closure costs are not expected to increase proportional to landfill acreage. An itemized cost estimate is required pursuant to Env-Sw 1403.02(g)(1). Requirement not satisfied.

Prior to operation of Phase IIIA or any part thereof, the permittee shall obtain approval of an updated financial assurance plan via the Type II permit modification process.

Env-Sw 1403.03 Financial Assurance Mechanism, All Facilities – Applicable – No changes proposed. No evaluation required.

Env-Sw 1403.04 Financial Assurance Mechanism, Public Facilities – Applicable – No changes proposed. No evaluation required.

Env-Sw 1403.05 Local Government Financial Test – Not Applicable – Facility does not use LOGO.

**Env-Sw 200 SOLID WASTE PROGRAM: PROCEDURES**

Env-Sw 202 WAIVER OF SOLID WASTE RULES

Env-Sw 202.01 Purpose – Statement. No evaluation undertaken.

Env-Sw 202.02 Procedures

• 202.02(a) – Applicable – Applicant has requested a waiver.

• 202.02(b) – Applicable – Requirement satisfied.

• 202.02(c) – Applicable – See review of Env-Sw 202.03 below.

• 202.02(d) – Applicable – Requirement satisfied.

• 202.02(e) – Applicable – Undertaken.

Env-Sw 202.03 Application Content and Formatting

• 202.03(a) – Applicable

  o (1) Applicable – Requirement satisfied.

  o (2) Applicable – Requirement satisfied.

  o (3) Applicable – Waiver of Env-Sw 804.03(e), Env-Sw 805.05(j) and Env-Sw 805.07(b) sought. Requirement satisfied.

  o (4) Applicable – Requirement satisfied.

  o (5) Applicable – No explicit alternative provided; implied alternative is no change to facility design or operations; if leak develops, pertinent section(s) will be capped. Satisfies requirement.
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- (7) Applicable – See review of Env-Sw 202.04 in Attachment B.
- (8) Applicable – See review of (b) and (c) below. Requirement satisfied.
  - 202.03(b) – Applicable – Requirement satisfied.
  - 202.03(c) – Not applicable.
  - 202.03(d) – Applicable – Optional. Requirement satisfied.
  - 202.03(e) – Applicable – Requirement satisfied.

### Env-Sw 202.04 Criteria – Applicable – See Attachment B.

### APPLICATION DECISION

Env-Sw 305 APPLICATION DECISIONS

- 305.01 – Applicable – Application was reviewed in accordance with Env-Sw 304.
- 305.02(b) – Application is **approved** because NHDES has determined that the proposed activity can be conducted in compliance with applicable requirements of RSA 149-M and the Solid Waste Rules, and there are no grounds for denial in accordance with Env-Sw 305.03.

<table>
<thead>
<tr>
<th>Reason/Condition for Denial</th>
<th>Does Condition Exist?</th>
</tr>
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<tbody>
<tr>
<td>305.03(b)(1) Does not meet the requirements of the Rules</td>
<td>No</td>
</tr>
<tr>
<td>305.03(b)(2) Insufficient or ambiguous information that precludes a determination and the deficiencies are so substantial as to not be remedied by compensating terms and conditions</td>
<td>No</td>
</tr>
<tr>
<td>305.03(b)(3) Applicant meets criteria pursuant to RSA 149-M:9, IX¹</td>
<td>No</td>
</tr>
<tr>
<td>RSA 149-M:9, IX(a) Person fails to demonstrate reliability, expertise, integrity, and competence to operate a SW facility</td>
<td>No</td>
</tr>
<tr>
<td>RSA 149-M:9, IX(b) Person has been convicted of, or pled guilty or no contest to, a felony within previous 5 years of application date</td>
<td>No</td>
</tr>
<tr>
<td>RSA 149-M:9, IX(c) For corporations or business entities, key personnel have been convicted of, or pled guilty or no contest to, a felony within previous 5 years of application date</td>
<td>No</td>
</tr>
<tr>
<td>305.03(b)(4) Has not demonstrated legal right to occupy property</td>
<td>No</td>
</tr>
<tr>
<td>305.03(b)(5) Notified by rivers coordinator that a proposed activity violates a protection measure under RSA 483:9, 483.9-a, 483.9-b</td>
<td>No</td>
</tr>
<tr>
<td>305.03(b)(6) Application is dormant</td>
<td>No</td>
</tr>
<tr>
<td>305.03(b)(7) Application is for a PBN or Type III permit modification and applicant is unable to provide compliance certification</td>
<td>No</td>
</tr>
<tr>
<td>305.03(b)(8) Application meets any other provision for denial</td>
<td>No</td>
</tr>
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With regards to Env-Sw 305.03(b)(2) – Those items identified during review to not meet the requirements of the Solid Waste Rules due to ambiguous or insufficient information have been remedied with compensating terms and conditions.

- 305.02(c)(1) and (3) – Applications are **approved** and such approval is being issued in accordance with Env-Sw 305.04 and Env-Sw 305.06.

¹ Solid Waste Management, RSA 149-M: 1-60
OTHER LOCAL, STATE, AND FEDERAL REQUIREMENTS
The review and conclusions presented in this permit application review summary pertain solely to solid waste requirements of RSA 149-M and Env-Sw 100 et seq. As noted in Env-Sw 305.04(b), an approval granted relative to these solid waste requirements shall not affect the applicant’s obligation to obtain all requisite federal, state or local permits, licenses or approvals, or to comply with other applicable federal, state, district or local permits, ordinances, laws or approvals or conditions pertaining to the approved activity.
ATTACHMENT A – PUBLIC BENEFIT DETERMINATION

Type I-A Application for Phase IIIA—Permit No. DES-SW-88-029
Androscoggin Valley Regional Refuse Disposal District (AVRRDD)
Mt. Carberry Secure Landfill

The New Hampshire Solid Waste Management Act, RSA 149-M, specifically RSA 149-M:11, requires that NHDES determine whether a proposed solid waste facility provides a substantial public benefit based on the three criteria in RSA 149-M:11,III(a) through (c), as follows.

(a) The short- and long-term need for a solid waste facility of the proposed type, size, and location to provide capacity to accommodate solid waste generated within the borders of New Hampshire, which capacity need shall be identified as provided in paragraph V.

(b) The ability of the proposed facility to assist the state in achieving the implementation of the hierarchy and goals under RSA 149-M:2 and RSA 149-M:3.

(c) The ability of the proposed facility to assist in achieving the goals of the state solid waste management plan, and one or more solid waste management plans submitted to and approved by the department under RSA 149-M:24 and RSA 149-M:25.

Pursuant to RSA 149-M:11,VIII, the applicant for a permit must demonstrate in the application how the proposed facility satisfies the criteria in RSA 149-M,III(a) through (c). All three of the criteria must be satisfied for a proposed facility to receive a determination that it provides a substantial public benefit. If NHDES determines that the applicant has demonstrated that the proposed facility satisfies each of the three criteria listed under RSA 149-M:11,III, the department must state that determination in any permit issued (see RSA 149-M:11,X). If NHDES determines that the applicant has failed to demonstrate that the proposed facility satisfies the three criteria listed under RSA 149-M:11,III, the department must deny the application and provide a written explanation of the reasons for the determination (see RSA 149-M:11,IX).

For any proposed facility designed to accommodate in excess of 30 tons of solid waste per day, NHDES must hold a public hearing in the host municipality, and consider as part of the public benefit determination the concerns of citizens and governing bodies of the host municipality, county, and district, and other affected persons (see RSA 149-M:11,IV(a)), and the economic viability of a proposed facility, including the ability to secure financing (see RSA 149-M:11,IV(b)). See Response to Public Comment issued under separate cover.

NHDES’ assessment and determination of the public benefit criteria is described below. Statutes are presented in quoted “italics.” Information pertaining to NHDES’ related assessments is presented in regular type. NHDES’ determinations are presented in bold italics.

I. Assessment and Determination – RSA 149-M:11, III(a).

RSA 149-M:11,III(a) – “The short and long term need for a solid waste facility of the proposed type, size, and location to provide capacity to accommodate solid waste generated within the borders of New Hampshire, which capacity need shall be identified as provided in paragraph V.”

The assessment of whether the proposed facility (Phase IIIA) satisfies the criteria in RSA 149-M:11,III(a), first requires identification of the state’s solid waste capacity need pursuant to RSA 149-M:11,V.
To the proposed Mt. Carberry Secure Landfill expansion, each of the four components of RSA 149-M:11,V is addressed as follows:

- **RSA 149-M:11, V(a)** – “Project, as necessary, the amount of solid waste which will be generated within the borders of New Hampshire for a 20-year planning period. In making these projections the department shall assume that all unlined landfill capacity within the State is no longer available to receive solid waste.”

  Relative to making the projection required by RSA 149-M:11,V(a), in the Application, AVRRDD has projected the quantity of solid waste to be generated within the borders of New Hampshire, yearly from April 2021 through April 2041 (referred to as the planning period) based on a waste generation rate of 1.4 tons per capita. AVRRDD used the per capita waste generation rate estimated by NHDES in the North Country Environmental Services application review summary dated February 12, 2020, and using population and growth rate estimates from the NH Office of Strategic Initiatives (NH-OSI) and NH Office of Energy and Planning (NH-OEP), respectively. The yearly projections are shown in Table 1 in Section VII of the Application, and range from 1,924,040 tons in 2021 to 2,033,457 tons in 2040.

  For the 20-year planning period of this decision (May 2022 through May 2042), NHDES uses more recently available 2020 solid waste management data reported by New Hampshire facilities, and the methodology it applied to produce the waste disposal need projections presented in the 2019 NHDES Biennial Solid Waste Report issued in October 2019, and other decisions on applications for landfill capacity. The methodology estimates “amount of NH waste generated” based on increasing the “amount of NH waste disposed of” data reported by facilities for calendar year 2020 by 26% to account for traditional recycling and 15.3% to account for exports, both of which are assumed to have occurred between the point of generation in NH and the point of disposal. NHDES also included a few other solid waste categories reported as diverted in its estimate of solid waste generation. These other diverted solid wastes include wastes managed via composting, construction and demolition debris processing, and soil treatment. NHDES further added alternate daily cover (ADC) to the sum total of solid waste generation. Applying the 2020 census population estimate, NHDES estimates the waste generation rate to be 1.46 tons per capita (or about 8.0 pounds per person per day), which is greater than the rate used by AVRRDD (1.4 tons per capita). This calculation assumes the per capita waste generation rate remains the same year to year during the 20-year planning period. NHDES estimates solid waste generation ranges from 2,031,920 tons in 2022 to 2,217,153 tons in 2042. NHDES’ estimates differ from AVRRDD’s because NHDES has added wastes to the calculation that were previously not included (e.g., diverted construction and demolition debris, composted food wastes, treated soil). In addition, the population estimate in 2020 and the population growth rate from 2010 through 2020 were higher in the 2020 census than those projected by NH-OSI and NH-OEP.

  **In summary as to RSA 149-M:11,V(a), the following factors are potentially relevant to making a determination pursuant to RSA 149-M:11,III(a):**

  - The projections by AVRRDD in the Application may underestimate the total quantity of solid waste to be

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2 AVRRDD projections in 2041 are only calculated through April 2041, and thus are not used to convey annual waste generation rates.
3 Average recycling rate of NH’s municipal transfer stations; presumed to apply to select recyclable materials (e.g., glass, aluminum, cardboard, paper, plastic).
4 Average export rate for 2018 through 2020, plus one standard deviation.
5 Alternate daily cover (ADC) is used at landfills to the cover waste at the end of each operating day. ADC consumes airspace in landfills, and there are very limited diversion options, if any, for ADC.
generated in New Hampshire during the 20-year planning period.
• This is a factor to consider when identifying any shortfall in capacity pursuant to RSA 149-M:11, V(d) and in assessing whether, pursuant to RSA 149-M:11, VIII, the Application demonstrates the proposed expansion satisfies the criteria in RSA 149-M:11, III(a).

 RSA 149-M:11, V(b) – “Identify the types of solid waste which can be managed according to each of the methods listed under RSA 149-M:3 and determine which such types will be received by the proposed facility.”

Relative to addressing the waste identification requirements in RSA 149-M:11, V(b):
• AVRRDD proposes in the Application to have Phase IIIA receive the same types of solid waste that the existing landfill is permitted to receive, namely: MSW, C&D, and various special wastes (e.g., sludge, asbestos, treated infectious wastes, contaminated soils, mill wastes). 
• AVRRDD does not propose in the Application to receive in Phase IIIA any type of solid waste that the existing landfill is prohibited from receiving, namely waste that is banned or otherwise prohibited from landfilling pursuant to Env-Sw 806.12 and RSA 149-M. These wastes include untreated infectious wastes; leaf and yard waste; contained gaseous wastes; liquid wastes; wet cell batteries; video display devices, central processing units, and non-mobile video display devices; mercuric oxide batteries; and mercury added products. 
• AVRRDD does not propose in the application to manage waste received at the proposed facility by any method on the hierarchy other than landfilling. 
• NHDES notes that the types of solid wastes banned from landfilling, which are not proposed for acceptance by AVRRDD, can be and are managed by AVRRDD at its own transfer station/material recovery facility and by others using one or more of the methods higher on the hierarchy identified in RSA 149-M:3. 
• NHDES notes that various components of waste classified as MSW and C&D, which AVRRDD proposes to accept for disposal, can be and are managed by AVRRDD at its transfer station/materials recovery facility and by others using one or more methods higher on the hierarchy in RSA 149-M:3. 
• NHDES notes that asbestos, incinerator ash, certain contaminated soils, and certain other special wastes, which AVRRDD proposes to accept for disposal, may not at this time be practicably managed by methods other than landfilling.

In summary as to RSA 149-M:11, V(b), the following factors are potentially relevant to making a determination pursuant to RSA 149-M:11, III(a):
• The Application presents no proposed changes to current management practices of any type of solid waste to be received by the proposed facility. 
• Therefore, there is nothing new or unique proposed relative to the hierarchy in RSA 149-M:3 to be factored into assessing the short and long-term need for Mt. Carberry’s landfill capacity in New Hampshire to accommodate solid waste generated in New Hampshire pursuant to RSA 149-M:11, III(a).

 RSA 149-M:11, V(c) – “Identify, according to type of solid waste received, all permitted facilities operating in the State on the date a determination is made under this section.”

NHDES has identified the following types of operating facilities in NH:
• Transfer stations – Accept MSW and C&D debris. Provide capacity to divert select recyclables (e.g., glass, aluminum, cardboard, paper, plastic) directly to market. 
• Processing/Treatment Facilities: Composting – Accept food waste, a component of MSW. Provide capacity to divert food waste.
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- Processing/Treatment Facilities: C&D – Accept C&D debris. Provide capacity to divert C&D to reuse.
- Processing/Treatment Facilities: Soil Treatment – Accept petroleum-contaminated soil. Provide capacity to divert treated soil to reuse.
- Processing/Treatment Facilities: Incinerators (with and without energy recovery) – Provide volume reduction of MSW, which reduction is counted as “disposal capacity.”
- Landfills – Accept MSW, C&D and other types of wastes (e.g., asbestos, treated infectious waste, sludges not suitable for land application). Provide disposal capacity.

In addition, NHDES provides in the table below a detailed review of five of the state’s operating lined landfills (not including Mt. Carberry) with the last column showing waste types AVRRDD is authorized to receive at Mt. Carberry but the named landfill cannot receive.

<table>
<thead>
<tr>
<th>Landfill</th>
<th>Location</th>
<th>Service Type</th>
<th>Authorized Waste Types</th>
<th>Mt. Carberry Authorized Waste Prohibited at Subject Landfill</th>
</tr>
</thead>
<tbody>
<tr>
<td>North Country Environmental Services, Inc. (NCES)</td>
<td>Bethlehem, NH</td>
<td>Unlimited</td>
<td>MSW, C&amp;D, Pre-approved special wastes (e.g., industrial process waste including WWTP sludge and APC wastes, remediation wastes, contaminated soils and media, off-specification materials, incinerator ash)⁶⁻⁷</td>
<td>Asbestos</td>
</tr>
<tr>
<td>Lower Mount Washington Valley Secure Solid Waste Landfill</td>
<td>Conway, NH</td>
<td>Limited</td>
<td>Solid waste,⁸ WWTP sludge from N. Conway Water Precinct,⁹ MSW, C&amp;D¹⁰</td>
<td>Asbestos, Treated infectious waste, Incinerator ash, Other sludge, Contaminated soils and media, ash</td>
</tr>
<tr>
<td>Lebanon Regional Solid Waste Facility</td>
<td>Lebanon, NH</td>
<td>Limited</td>
<td>MSW, C&amp;D, Bulky waste,¹¹ WWTP sludge from Lebanon,¹² WWTP grit/grease/screenings,¹³ Treated infectious waste¹⁴</td>
<td>Asbestos, Other sludge, Contaminated soils and media, ash</td>
</tr>
<tr>
<td>Four Hills Secure Landfill Expansion</td>
<td>Nashua, NH</td>
<td>Limited</td>
<td>MSW, C&amp;D, asbestos,¹⁵ bulky waste, street sweepings, WWTP sludge/grit/grease¹⁶¹⁷</td>
<td>Contaminated soils and media, ash</td>
</tr>
<tr>
<td>TLR-III Refuse Disposal Facility</td>
<td>Rochester, NH</td>
<td>Unlimited</td>
<td>MSW, C&amp;D, bulky wastes, incinerator ash, asbestos, special wastes (e.g., sludge, industrial process waste, pollution control processes waste, remediation waste, contaminated soils and media, off-specification materials, treated infectious waste, bulked liquid waste)</td>
<td>None</td>
</tr>
</tbody>
</table>

In summary as to RSA 149-M:11,V(c), the following factors are potentially relevant to making a determination pursuant to RSA 149-M:11,III(a):
- The Application presents no proposed changes to the above noted existing disposal options for solid waste generated within the borders of New Hampshire, and all of the waste types received at the Mt. Carberry Secure Landfill can also be received by one other unlimited service area operating landfill in New Hampshire.

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⁹ NHDES. Record of Modification to Solid Waste Management Facility Permit. Approved July 12, 1995.
¹² NHDES. Record of Modification to Solid Waste Management Facility Permit. Approved August 9, 2000.
¹³ NHDES. Record of Modification to Solid Waste Management Facility Permit. Approved December 20, 1999.
¹⁷ NHDES. Record of Modification to Solid Waste Management Facility Permit. Approved February 7, 2003.
• Therefore, there is nothing new or unique proposed relative to waste types managed at the facility to be factored into assessing the short and long-term need for Mt. Carberry Secure Landfill capacity in New Hampshire to accommodate solid waste generated in New Hampshire pursuant to RSA 149-M:11,III(a).

   RSA 149-M:11, V(d) – “Identify any shortfall in the capacity of existing facilities to accommodate the type of solid waste to be received at the proposed facility for 20 years from the date a determination is made under this section. If such a shortfall is identified, a capacity need for the proposed type of facility shall be deemed to exist to the extent that the proposed facility satisfies that need.”

Relative to addressing the requirement in RSA 149-M:11,V(d), AVRRDD estimated a lump sum shortfall in disposal capacity of about 9,622,912 tons during the 20-year planning period (April 2021 through April 2041) if there are no changes in current waste generation and diversion practices. Figure 1 and the preceding unnumbered table in Section VII of the Application presents AVRRDD’s shortfall numbers. AVRRDD further provides a time-based analysis of capacity and disposal need. AVRRDD estimates a capacity need exists starting in 2026 or 2027, with a projected capacity shortfall of 1,392,398 tons in 2040.

NHDES made independent calculations using 2020 data, and estimated the state’s lump sum disposal capacity need at incinerators and lined landfills, presuming no change in current waste generation and diversion practices, to be about 6,665,249 tons for the 20 year planning period (May 2022 through May 2042). NHDES estimates the shortfall starts in 2034, and is about 2.96 million tons less than AVRRDD has estimated. NHDES also independently developed a time-based analysis of capacity and disposal need. NHDES estimates a capacity need exists starting in 2034, with a projected capacity shortfall of 1,206,182 tons in 2040.

However, these estimates presume no change in current solid waste generation and diversion practices. If the 40% waste reduction goal set forth in RSA 149-M:2 (in effect at the time AVRRDD submitted its application) were achieved, the approximate date and quantity of the shortfall would shift. In 2021, the NH legislature updated the goal in RSA 149-M:2. NHDES conducted independent calculations to evaluate this permit application in the context of the updated goal in RSA 149-M:2. NHDES projections of waste disposal capacity, waste disposal need with no change in current practices, and the waste disposal goal in RSA 149-M:2 are presented in the following figure.
AVRRDD states that Phase IIIA will operate at an annual acceptance rate of 305,500 cubic yards per year, and for 16.3 years. AVRRDD is non-specific about the start date of Phase IIIA, and the total life expectancy of the landfill with Phase IIIA included. Based on AVRRDD’s application, Phase IIIA should last through at least December 31, 2041.

In summary as to RSA 149-M:11,V(d), the following factors are potentially relevant to making a determination pursuant to RSA 149-M:11,III(a):

- During the 20-year planning period, there is a projected shortfall in existing permitted disposal capacity to accommodate the total quantity of New Hampshire waste projected to be generated statewide during that time period (May 2022 through May 2042). In this analysis, the projected magnitude of the shortfall differs depending on whether AVRRDD or NHDES waste generation projections are used to make the calculations. AVRRDD’s projections produce a more conservative outcome, i.e., a greater shortfall than projected by NHDES in the Application.
- A statewide shortfall in existing disposal capacity is projected by NHDES to not occur until 2034. AVRRDD projects the shortfall to start in 2026 or 2027.
- The proposed facility expansion of an existing operating landfill would provide disposal capacity for NH generated waste during a time period that the data show the state has excess disposal capacity, as well as a time period when the state has a disposal capacity shortfall.

Therefore, in conclusion pursuant to RSA 149-M:11,V(d), NHDES has determined that a capacity shortfall...
exists during the planning period for the proposed type of facility (i.e., landfill), which is satisfied by the proposed facility for at least seven years based on the applicant’s commitment to operate the facility for 16.3 years. Thus, the proposed facility satisfies a need for disposal capacity within the planning period.

Returning, then, to the assessment and determination required of NHDES pursuant to RSA 149-M:11,III(a), the department must determine whether there is a “…short- and long-term need for a solid waste facility of the proposed type, size, and location to provide capacity to accommodate solid waste generated within the borders of New Hampshire, which capacity need shall be identified as provided in paragraph V.”

The type, size, and location of the facility for which this determination is made, is as follows:

Facility Type: Lined solid waste landfill, with an unlimited service area;
Size: New Footprint = Approximately 24.1 acres;
Expansion Capacity = 4,992,000 cubic yards or roughly 3,618,980 tons;
Fill rate = 305,500 cubic yards per year (averaged over a rolling 3 years)
Life Expectancy: About 16.3 years, or through December 31, 2041
Location: Success, NH

To summarize, AVRRDD seeks a permit for new landfill capacity to be operated during a period of time that the state initially has excess permitted disposal capacity and extending for seven years into the period of time that the state is projected to have disposal capacity need. AVRRDD proposes to hold its disposal rate the same as the facility’s current waste disposal rate, accepting 305,500 cubic yards per year.

**Determination re—RSA 149-M:11,III(a):** NHDES finds that the proposed facility – a landfill in Success, NH operating at a rate of 305,500 cubic yards per year through December 31, 2041, providing about 4,992,000 cubic yards of capacity during a time period that the state is projected to have a disposal capacity need – meets the criterion in RSA 149-M:11,III(a).

To ensure that capacity provided by the expansion remains available to satisfy the capacity need, NHDES has established permit conditions that limit the annual airspace usage to 305,500 cubic yards per year (rolling three year average) and that require the facility to remain operational through December 31, 2041. Based on experience, most disposal facilities in NH exceed the minimum permitted lifespan requirement. Therefore, the rolling average airspace usage provision has been included to ensure continued capacity regardless of the final operational date of the facility.

An example calculation of the first five years of the rolling three year average airspace usage is provided in the table below.

<table>
<thead>
<tr>
<th>Year No.</th>
<th>Operating Year</th>
<th>Annual Airspace Usage (CY)</th>
<th>Rolling Three Year Average Airspace Usage (CY)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2023</td>
<td>304,500</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>2</td>
<td>2024</td>
<td>306,500</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>3</td>
<td>2025</td>
<td>305,500</td>
<td>305,500</td>
<td>Average of Year 1, Year 2, and Year 3</td>
</tr>
<tr>
<td>4</td>
<td>2026</td>
<td>304,000</td>
<td>305,333</td>
<td>Average of Year 2, Year 3, and Year 4</td>
</tr>
<tr>
<td>5</td>
<td>2027</td>
<td>306,000</td>
<td>305,167</td>
<td>Average of Year 3, Year 4, and Year 5</td>
</tr>
</tbody>
</table>
II. **Assessment and Determination – RSA 149-M:11, III(b).**

RSA 149-M:11,III(b) specifies the second of the three public benefit criterion, namely the “Ability of the proposed facility to assist the State in achieving the implementation of the hierarchy and goals under RSA 149-M:2 and RSA 149-M:3.”

In its demonstration of public benefit in Section VII of the Application, AVRRDD identifies that it is part of an integrated waste management system, implementing waste management methods higher on the hierarchy than landfilling; and lists the various services its integrated system provides. AVRRDD’s integrated system includes a commercial transfer station (TS) and material recovery facility (MRF). AVRRDD hosts an annual household hazardous waste day. Further AVRRDD uses alternate daily cover (ADC), which moves the material destined for disposal to a useful purpose. In addition, AVRRDD identifies the public benefit conditions in its Stage 12 approval as assisting advancement of the hierarchy and goals.

The Application does not propose any change in current landfilling practices at the facility that would specifically advance the hierarchy or diversion of waste from landfilling. Landfilling is the least preferred method of solid waste management in the hierarchy described in RSA 149-M:3, and landfilling does not, by itself, support source reduction or waste diversion as identified in RSA 149-M:2.

*Determination re-RSA 149-M:11,III(b):* Based on a review of AVRRDD’s public benefit demonstration, NHDES finds that the proposed expansion provides disposal capacity, as part of an integrated solid waste management system, which supports the goals and hierarchy under RSA 149-M:2 and RSA 149-M:3. For example, the landfill provides disposal capacity for wastes for which there are no, or limited, alternative management methods available in New Hampshire.

To assure the permittee operates the facility in accordance with this determination, NHDES has placed conditions in the facility’s permit to ensure that operation of the landfill will assist the state in achieving the implementation of the hierarchy and goals under RSA 149-M:2 and RSA 149-M:3. For example, the public benefit permit condition relates to reducing disposal of MSW and C&D debris. In addition, the condition requires AVRRDD to, yearly, assist no fewer than 5 solid waste generators with improving waste management practices consistent with the hierarchy and goals. It is the intention of NHDES that over the additional operating life of the facility, this provision will enable NH municipalities and other NH waste generators that currently rely on landfilling, to obtain the assistance they need to move toward more sustainable waste management practices that can reduce their dependency on landfilling long-term.

III. **Assessment and Determination – RSA 149-M:11, III(c).**

RSA 149-M:11,III(c) establishes the third and last criterion that must be satisfied in order to demonstrate a public benefit, namely the “Ability of the proposed facility to assist in achieving the goals of the State solid waste management plan, and one or more solid waste management plans submitted to and approved by the department under RSA 149-M:24 and RSA 149-M:25.”

In the Application, AVRRDD states that the proposed facility assists in achieving the five below stated goals of the
State of New Hampshire Solid Waste Plan, dated April 2003, as follows:

1. Reduce the volume of the solid waste stream – AVRRDD operates a TS/MRF, its member municipalities have recycling programs, and AVRRDD uses alternative daily cover (e.g., wood chips, autoshredder fluff).

2. Reduce the toxicity of the solid waste stream – AVRRDD’s TS/MRF collects and diverts batteries, fluorescent lamps, mercury-containing devices, electronics, propane tanks, tires, and used oil. AVRRDD also hosts a Household Hazardous Waste collection day.

3. Maximize diversion of residential and commercial/industrial solid wastes – AVRRDD encourages its member communities to have recycling programs. At the AVRRDD MRF, brush is chipped and sent for biomass energy, and waste oil is burned in an on-site furnace for heat.

4. Assure disposal capacity for New Hampshire – AVRRDD states in the application that it views landfill capacity as a valuable resource for the District, and works to extend the life of the landfill to the extent practicable.

5. Assure that solid waste management activities are conducted in a manner protective of human health and the environment – AVRRDD states that it works with its customers and haulers to ensure inappropriate wastes are not disposed in the landfill. Further, AVRRDD asserts that the facility is designed and operated to be protective of area groundwater, surface water and air.

In the Application, AVRRDD also identifies how the proposed facility assists in achieving the goals of the District:

1. Provide facilities and/or contract for services to provide for management of waste which can be recycled, reused or otherwise managed in a beneficial manner and to minimize the amount of waste being disposed of (landfilled) consistent with the State of New Hampshire hierarchy of management of waste.

   AVRRDD states that it operates an integrated system (e.g., TS/MRF, Landfill), and the AVRRDD MRF diverts waste from disposal. Landfill operations also include use of daily cover, which assists in diversion.

2. Provide facilities and/or contract for services to provide for proper management of special wastes which require separate handling to ensure these wastes are properly managed and disposed of in a safe manner.

   AVRRDD’s MRF provides for management of special wastes (e.g., batteries, fluorescent lamps) and the Landfill provides for disposal of special wastes that cannot be reused, such as asbestos.

3. Provide facilities and/or contract for services to provide for proper management of solid wastes which cannot be managed by the preferred methods identified above, in accordance with state and federal requirements.

   AVRRDD states that the landfill provides disposal capacity for wastes that cannot be managed using one of the more preferred methods in the hierarchy. AVRRDD also states that its arrangements with the local paper mill, for the landfill to accept its wastes and for the mill to use landfill gas generated by Mt. Carberry, is vital to the local economy.

4. Manage District operations in a manner to provide for long term and cost-effective management of solid wastes in an environmentally sound way. Consistent with this goal and where practical, extend such services on a more regional basis to provide economies of scale.

   AVRRDD states that the facility is purposefully managed to provide for long-term disposal capacity. Further, AVRRDD notes that the landfill provides waste disposal capacity for northern NH, serving a regional need, which provides better economics for waste generations – avoiding the need to ship certain wastes (e.g., asbestos) to TLR-III Refuse Disposal Facility in Rochester, NH. AVRRDD further identifies that the nearest landfill, NCES in Bethlehem, NH, typically serves northwestern and central NH. AVRRDD acknowledges that its need to operate as a commercial facility is to “make ends meet” financially. Finally, AVRRDD notes that its planning period is longer than the 20-years identified in statute and this allows it to better manage its operations to meet long-term waste management needs.

The Application does not propose any change in current landfilling practices at the facility, that might change current solid waste management practices in New Hampshire relative to achieving state and district solid waste
management planning goals.

**Determination re- RSA 149-M:11,III(c):** Based on a review of AVRRDD’s public benefit demonstration, NHDES finds that the integrated services provided by AVRRDD assist the state in achieving the goals of the State solid waste management plan and AVRRDD’s district goals.

NHDES has placed conditions in the facility’s permit to ensure that during operation of the landfill the permittee will continue to assist the state in achieving the implementation of the hierarchy and goals of the State solid waste management plan as well as its district plan.

Specifically, as also noted above, the public benefit condition requires the permittee to assist at least 5 New Hampshire solid waste generators per year with establishing or improving programs that assist in the implementation of the goals and hierarchy under RSA 149-M:2 and M:3. The permittee’s assistance may take many different forms including, but not limited to, those presented in the permittee’s public benefit statement.

**IV. Determination – RSA 149-M:11,III**

Based on the information provided and the projected disposal capacity needs and shortfalls for New Hampshire generators, NHDES finds that the proposed facility provides a substantial public benefit based on the criteria specified in RSA 149-M:11,III, subject to the public benefit condition in the permit modification. To maintain status as providing a substantial public benefit, AVRRDD must comply with the public benefit requirements of the permit and discuss how it satisfied public benefit in its annual facility reports pursuant to Env-Sw 1105.13(k).

**V. Assessment and Determination—RSA 149-M:11,IV(a).**

RSA 149-M:11,IV(a) states “The department shall also consider as part of its public benefit determination: The concerns of the citizens and governing bodies of the host municipality, county, and district and other affected persons. For any proposed solid waste facility, including transfer stations, designed to accommodate in excess of 30 tons of solid waste per day, the department shall hold at least one public hearing in the host municipality, or in the case of an unincorporated town or unorganized place in the host county, in order to take testimony to identify those concerns.”

NHDES hosted a public hearing, inclusive of a public comment period, as described in this Application Review Summary under the section entitled, “Public Hearing and Comment Process.” Public comments and NHDES’ response to public comments are summarized under separate cover.

**Assessment & Determination—RSA 149-M:11,IV(a):** NHDES held a public hearing and accepted public comments regarding this application. See Response to Public Comments issued under separate cover and the permit modification. In making its public benefit determination and stating such in the permit as required by RSA 149-M:11,X, NHDES considered the public comments received. Many of the concerns expressed by commenters helped form the conditions of this permit modification relevant to the permittee’s requirements for providing a public benefit. NHDES fulfilled the requirement of RSA 149-M:11, IV(a) for this application.

**VI. Assessment and Determination—RSA 149-M:11,IV(b).**
<table>
<thead>
<tr>
<th>Facility</th>
<th>Mt. Carberry Secure Landfill</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location</td>
<td>Bean Brook Road, Success, NH</td>
</tr>
<tr>
<td>Permittee</td>
<td>Androscoggin Valley Regional Refuse Disposal District (AVRRDD)</td>
</tr>
<tr>
<td>Application No.</td>
<td>2020-48625</td>
</tr>
<tr>
<td>Date Completed</td>
<td>April 22, 2022</td>
</tr>
</tbody>
</table>

RSA 149-M:11,IV(b) states “The department shall also consider as part of its public benefit determination: The economic viability of the proposed facility, including but not limited to, its ability to secure financing.”

The applicant provided a preliminary closure cost and post-closure cost estimate. NHDES has on file the financial assurance mechanism that ensures funds exist to close the facility and perform post-closure care. In addition, NHDES has no information to suggest that the facility would be unable to secure financing for construction or operations.

**Assessment & Determination—RSA 149-M:11,IV(b):** Based on a review of the information provided and available in the facility file, NHDES believes that the permittee has the financial resources necessary to continue operating the facility inclusive of Phase IIIA, to close the facility (Phases I through IIIA), and to maintain the facility after closure.

--- END OF ATTACHMENT A ---
ATTACHMENT B – EVALUATION OF CRITERIA FOR ISSUANCE OF WAIVER

Type I-A Application for Phase IIIA—Permit No. DES-SW-88-029
Androscoggin Valley Regional Refuse Disposal District (AVRRDD)
Mt. Carberry Secure Landfill

AVRRDD is seeking a waiver for three rules; Env-Sw 804.03(e) relative to setback of the landfill from wetlands, Env-Sw 805.05(j) relative to penetrations in the base liner system, and Env-Sw 805.07(b)(1) relative to the leak detection and locations systems.

The New Hampshire Solid Waste Rules, Env-Sw 100 et seq., specifically Env-Sw 202, Waiver of Solid Waste Rules, require that NHDES grant a waiver if the criteria in Env-Sw 202.04 are met. NHDES reviewed the waiver criteria specified in the Rules as follows.

I. Env-Sw 804.03(e) relative to wetlands setbacks

Summary: The applicant has requested a waiver of Env-Sw 804.03(e) which states, “The footprint of a landfill shall not be located within 200 feet upgradient and 100 feet downgradient of a wetland within the jurisdiction of RSA 482-A, excluding any drainage appurtenances related to the site, that is not allowed to be filled under the authority of RSA 482-A.”

The term “footprint” as it relates to a permitted landfill, is defined in Env-Sw 103.05(a) to mean: “...the area in which solid waste actually exists or formerly existed, or is proposed to be placed, as authorized in the permit, regardless of whether solid waste has actually been deposited.”

The permittee proposes to maintain the Phase III footprint originally permitted in 1989. The Phase III footprint is located approximately 112 feet upgradient of a wetland delineated at an existing drainage pipe outlet. Approximately 0.31 acres of wetlands are located within the 200 foot setback currently required.

Env-Sw 202.04 – Criteria

• 202.04(a) “Subject to (b), below, a request for a waiver shall be granted if:
  (1) Exemption from complying with the rule will:
    a. Not result in an adverse effect to the environment or natural resources of the state, public health or to public safety;”

The applicant asserts that the facility will be constructed with double liner system to protect groundwater resources and the adjacent wetland. A permanent litter fence is proposed to minimize litter impacts to the wetland. Granting the waiver would allow for a more efficient liner connection between Phases II and IIIA, ensuring the liner systems are connected effectively, and minimizing potential erosion and improve management of stormwater runoff at the Phase II/Phase IIIA tie-in.

NHDES concurs with the applicant’s assertion and has determined that granting the waiver request is unlikely to result in adverse effects to the environment or natural resources of the State, public health or to public safety if the facility is designed and operated as proposed.
b. “Not result in an impact on abutting properties that is more significant than that which would result from complying with the rule; and”

The applicant asserts that there will be no significant impact to the wetland and as such, there will not be any impact to abutting properties. The closest abutter is an undeveloped property about 3,500 ft away from the wetland and the nearest abutting residence is approximately 4,000 ft away.

**NHDES concurs with the applicant’s assertion and has determined that granting the waiver request is unlikely to result in impacts on abutting properties that are more significant than that which would result from complying with the rule.**

c. “Be in keeping with the intent and purpose of the rule being waived; and”

The applicant asserts that the intent of Env-Sw 803.04(e) is to prohibit lateral expansion into wetlands and to protect wetlands. Further, the applicant states that construction and facility operations within the setback area will be minimized. The facility is designed to direct stormwater from landfill sideslopes to stormwater treatment basins, and fencing will be used to minimize litter impacts to the wetland.

**Considering that the applicant proposes to direct stormwater to retention basins instead of the existing culvert and wetland, and use fencing to minimize litter impacts to the wetland, NHDES has determined that the proposal is in keeping with the intent and purpose of the rule being waived.**

(2) “One or more of the following conditions is satisfied:

a. Strict compliance with the rule will result in an adverse effect on the environment, public health and safety;”

**The applicant provided no response to this condition, therefore, no determination was made.**

b. “Strict compliance with the rule will result in a circumvention of the goals and objectives of the state’s solid waste management program, as specified in RSA 149-M:1-3 and the state solid waste management plan; or”

**The applicant provided no response to this condition, therefore, no determination was made.**

c. “Strict compliance with the rule will provide no benefit to the public and will cause an operational or economic hardship to the applicant.”

The applicant asserts that strict compliance with the rule would require a jog in the anchor trench where it ties into the adjacent Phase II. This would negatively impact the liner system connection and the design and construction of the capping system, challenge stormwater management, and add risk of erosion both during operations and closure. Strict compliance would increase construction, operation, closure costs, and would result in a reduction in landfill capacity.

A potential alternative to meet the requirements of the wetland setback requirements of Env-Sw 804.03(e) would be to fill the wetlands in question to create the required 200-foot setback. This would meet the rules, but would result in loss of wetlands with no attendant benefit. Doing so would serve no valid purpose.
NHDES determined that strict compliance with the rule would provide no benefit to the public and will cause an operational or economic hardship to the applicant.

**Overall NHDES Determination**

*Based on a review of the information provided, the waiver request meets the requirements of Env-Sw 202.04 and NHDES is therefore approving waiver of Env-Sw 804.03(e).*

II. Env-Sw 805.05(j) relative to liner penetrations

**Summary:** The applicant has requested a waiver of Env-Sw 805.05(j) which states, “Liner systems shall not be penetrated by any appurtenances including pipes in low areas or in any location where leachate might collect.”

The proposed Phase IIIA expansion includes vertical expansion over the existing Phases I and II. The permittee proposes to maintain the permitted Phase I and Phase II leachate collection and removal systems which have liner penetrations in low areas to allow for gravity to drain leachate from the liner systems. These systems were designed and constructed prior to adoption of the liner penetration rule. No new liner penetrations are proposed.

**Env-Sw 202.04 – Criteria**

- 202.04(a) “Subject to (b), below, a request for a waiver shall be granted if:
  
  (1) Exemption from complying with the rule will:

    a. Not result in an adverse effect to the environment or natural resources of the state, public health or to public safety;”

The applicant asserts that the existing pipe boots and penetrations are working as designed and there are no indications of leakage. The existing liner boot penetrations have been in place for close to 30 years. Daily leak detection measurements from the secondary leak detection/collection system between January 1, 2019 and August 30, 2020 have been within the required leak detection parameters and do not indicate any issues with the primary liner boot penetrations. Analytical data from downgradient and crossgradient wells and a surface water sampling location (dating back to 1996 at some locations) indicate there is no contamination by the liner penetration boots from the landfill. Also, no indications of leakage in excavations during recent upgrades to the leachate piping outside the landfill footprint.

**NHDES concurs with the applicant’s assertion and has determined that granting the waiver request is unlikely to result in adverse effects to the environment or natural resources of the State, public health or to public safety if the facility is designed, operated and maintained as proposed.**

b. “Not result in an impact on abutting properties that is more significant than that which would result from complying with the rule; and”

The applicant asserts that strict compliance with the rule would require excavation of waste and reconfiguration of the leachate collection system to remove the liner penetrations, and such reconstruction efforts would pose a greater risk to the abutting properties through potential odor issues from waste relocation. Alternatively, the applicant asserts that an overlay liner system would be required over existing
waste, and such overlay liner would be costly, and complicate both construction and operations.

The applicant did not address the option to avoid placing Phase IIIA waste over the existing liner system; however, NHDES understands there is an efficiency gain from a waste mass configuration that places waste over the existing system. Further, NHDES concurs with the applicant’s concerns and has determined that granting the waiver request is unlikely to result in impacts on abutting properties that are more significant than that which would result from complying with the rule by reconfiguration of the leachate collection systems.

c. “Be in keeping with the intent and purpose of the rule being waived; and”

The applicant asserts that the intent of Env-Sw 805.05(j) is to prevent leachate related impacts resulting from weak liner boot penetrations, minimize risks associated with liner systems, and is intended to primarily apply to design and construction of new landfill cells. The existing primary liner boots and secondary liner boots have been in place for many years with no indication of leachate related impacts or leakage.

Considering that the applicant proposes to continue operation of the existing leachate collection and liner systems with continued monitoring of secondary leachate leak detection flows and groundwater monitoring in accordance with the existing permit and operational approvals, regardless of the Phase IIIA decision, NHDES has determined that the proposal is in keeping with the intent and purpose of the rule being waived.

(2) “One or more of the following conditions is satisfied:

a. Strict compliance with the rule will result in an adverse effect on the environment, public health and safety;”

The applicant asserts that reconstruction of the liner system would increase the risk of leachate related impacts to the environment during construction, relocation of mostly old paper mill sludge waste would present concerns with stability and odor issues during construction, and the risk of additional liner welds would still hold the possibility of leachate leakage.

The applicant did not address the option to construct an overlay liner, or to avoid placing Phase IIIA waste over the existing liner system. NHDES understands that an overlay liner would create potential and unnecessary instability of the system. NHDES understands that not placing waste over the existing liner system means a reduction in landfill capacity, and the need for capacity elsewhere (at the site or others). NHDES determined that strict compliance with the rule may result in an adverse effect on the environment, public health and safety.

b. “Strict compliance with the rule will result in a circumvention of the goals and objectives of the state’s solid waste management program, as specified in RSA 149-M:1-3 and the state solid waste management plan; or”

The applicant provided no response to this condition, therefore, no determination was made.

c. “Strict compliance with the rule will provide no benefit to the public and will cause an operational or economic hardship to the applicant.”
The applicant asserts that the existing base liner systems have not had any indication or signs of leakage or failure, reconstruction efforts would pose a greater risk to the abutting properties, and reconstruction would add considerable expense. Also, construction of an overlay liner on top of the existing waste mass would involve added risk and challenges to construction and operations, and would not be practical for the additional capacity at significant cost and effort.

*NHDES determined that strict compliance with the rule would provide no benefit to the public and will cause an operational or economic hardship to the applicant.*

**Overall NHDES Determination**
*Based on a review of the information provided, the waiver request meets the requirements of Env-Sw 202.04 and NHDES is therefore approving the waiver of Env-Sw 805.05(j).*

### III. Env-Sw 805.07(b)(1) relative to 24-hour leak detection time

**Summary:** The applicant has requested a waiver of Env-Sw 805.07(b)(1) which states, “Convey liquids to an observation point for detection, based on a maximum time of concentration equal to 24-hours under saturated hydraulic conditions.”

The proposed Phase IIIA expansion includes vertical expansion over the existing Phases I and II. The permittee proposes to maintain the permitted Phase I and Phase II leak detection systems. The Phase I and Phase II leak detection systems were designed and constructed prior to adoption of the minimum time of concentration requirement and do not meet the current requirements. The Phase IIIA leak detection system design includes drainage geocomposite to meet the minimum time of concentration requirement.

**Env-Sw 202.04 – Criteria**
- 202.04(a) “Subject to (b), below, a request for a waiver shall be granted if:
  1. Exemption from complying with the rule will:
     a. *Not result in an adverse effect to the environment or natural resources of the state, public health or to public safety;*

The applicant asserts that Phase IIIA is about 160 vertical feet above the existing base liner system and will have no impact on the function of the existing leak detection systems. As such, there will be no adverse effect to the environment or natural resources of the state, public health or to public safety. The existing base liner systems have not had any indication or any signs of leakage or failure.

*NHDES concurs with the applicant’s assertion and has determined that granting the waiver request is unlikely to result in adverse effects to the environment or natural resources of the State, public health or to public safety if the facility is designed and operated as proposed.*

b. “*Not result in an impact on abutting properties that is more significant than that which would result from complying with the rule; and*”

The applicant asserts that strict compliance with the rule would result in reconstruction efforts that would...
pose a greater risk to the abutting properties through potential odor issues from waste relocation.

**NHDES concurs with the applicant’s assertion and has determined that granting the waiver request is unlikely to result in impacts on abutting properties that are more significant than that which would result from complying with the rule.**

c.  “Be in keeping with the intent and purpose of the rule being waived; and”

The applicant asserts that the intent of Env-Sw 805.07 (b)(1) is to quickly identify leaks and liner impairments following construction and during early waste placement, and is intended to primarily apply to design and construction of a new landfill cells. After the initial depths of waste are placed, the risk of damage to the liners is greatly reduced and therefore the need to detect them quickly (within 24 hours) is also greatly reduced. The Phase IIIA overfilling is well above the base liner system and will have almost no possibility of affecting the integrity of the base liner system. All available information indicates the current system is adequately monitoring the performance of the landfill liner systems.

**Considering that the applicant proposes to continue operation of the existing leachate collection and liner systems with continued monitoring of secondary leachate leak detection flows and groundwater monitoring in accordance with the existing permit and operational approvals, NHDES has determined that the proposal is in keeping with the intent and purpose of the rule being waived.**

(2) “One or more of the following conditions is satisfied:

a. Strict compliance with the rule will result in an adverse effect on the environment, public health and safety;”

The applicant asserts that reconstruction of the liner system would require a new landfill site for disposal of the large percentage of the landfill’s waste mass, would pose odor issues and stability risks with adjacent stages, and would greatly increase the risk of damaging the base liner system.

**NHDES determined that strict compliance with the rule would result in an adverse effect on the environment, public health and safety.**

b. “Strict compliance with the rule will result in a circumvention of the goals and objectives of the state’s solid waste management program, as specified in RSA 149-M:1-3 and the state solid waste management plan; or”

**The applicant provided no response to this condition, therefore, no determination was made.**

c. “Strict compliance with the rule will provide no benefit to the public and will cause an operational or economic hardship to the applicant.”

The applicant asserts that full reconstruction of the existing base liner system would pose a greater risk to the abutting properties, and reconstruction would be a considerable expense. Also, construction of an overlay liner on top of the existing waste mass would involve added risk and challenges to construction and operation of a liner system, and would not be practical for the additional capacity at significant cost and effort.
NHDES determined that strict compliance with the rule would provide no benefit to the public and will cause an operational or economic hardship to the applicant.

**Overall NHDES Determination**

*Based on a review of the information provided, the waiver request meets the requirements of Env-Sw 202.04 and NHDES is therefore approving the waiver of Env-Sw 805.07(b)(1).*

--- END OF ATTACHMENT B ---