

Design Certification – CCR Design Criteria

Brickhaven No.2 Mine Tract “A” Structural Fill

This demonstration is based on the following documents and referenced permits. This document provides a demonstration that the design of the Brickhaven No.2 Mine Tract “A” Structural Fill meets the design requirements of 40 CFR part 257 for a new CCR landfill with respect to the design criteria.

- Brickhaven No.2 Mine Tract “A” Structural Fill Permit Application, approved June 5, 2015
- Permit 1910 StructFill PTC-PTO DIN23655, issued June 5, 2015
- Brickhaven No.2 Mine Tract “A” Mine Permit Application, approved June 5, 2015
- Permit 19-25 Mining Permit, issued June 5, 2015
- Brickhaven No.2 Mine Tract “A” Structural Fill CCR Compliance Supplement, dated July 2015 – includes the Design Criteria Documentation
- Permit 1910 Technical Specification Updates DIN24794, approved July 27, 2015
- Permit 1910 GW and Basegrade Updates approved DIN24779, approved July 27, 2015
- NCDENR 401 Permit No.4026, issued July 31, 2105
- Permit 19-25 Rail Spur Modification, Brickhaven, approved September 1, 2015
- USACE 404 Permit No.SAW-2014-02254, issued September 3, 2015
- NCDEQ Pump and Haul Permit, Brickhaven, approved September 22, 2015
- Permit 1910 Brickhaven Water Quality Monitoring Plan, updated October 2015
- Permit 1910, Brickhaven Operations Plan, revised October 2015

This documents and certifies the following:

- The design of the composite or alternate composite liner system for the new CCR landfill unit meets the requirements of 40 CFR 257.70
- The design of the leachate collection and removal system for the new CCR landfill unit meets the requirements of 40 CFR 257.70

I have prepared or supervised the preparation of the referenced documentation; it has been prepared in general accordance with industry standards and practices; and the information contained therein is truthful and accurate to the best of my knowledge.

I certify that the demonstration meets the requirements of the design criteria section of 40 CFR part 257.

Exceptions:

1. CCR Rule §257.70 (d) (1) requires the leachate collection and removal system be designed and operated to maintain less than a 30-centimeter depth of leachate over the composite liner or alternative composite liner. The leachate system adheres to this rule except under one condition. HELP model analyses were performed for varying ash

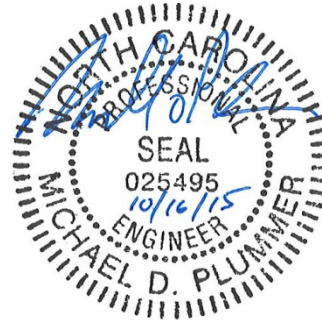
thicknesses over the base liner system (0 to 60 feet). The one scenario that exceeds the 30-centimeter rule for a short duration occurs when the site receives a 25-year, 24-hour design storm on the day a six-acre subcell (the largest subcell size based on the design) is opened for ash placement. During this “no waste” scenario, the head on the liner will exceed 30 centimeters. HDR’s design will reduce the head on the liner system within 72 hours. The 72-hour timeframe is allowed by North Carolina Department of Environmental Quality Rule 15A NCAC 13B.1624(b)(2)(A)(ii) and General Statute 130A-294 to account for the no waste condition. Additional detail is provided in Appendix II of the Brickhaven CCR Compliance Supplement.

2. Notification of this certification is not being sent to the relevant State Director at this time.
3. This certification has not been posted to an operator-maintained publicly accessible internet site.



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Construction Certification – CCR Design Criteria

Brickhaven No.2 Mine Tract “A” Structural Fill – Cell 1, Subcell 1A

This demonstration is based on HDR’s observations during construction, as-built documents, Construction Certification Report for Brickhaven No.2 Mine Tract “A” Structural Fill – Cell 1, Subcell 1A, revised October 6, 2015, Brickhaven No.2 Mine Tract “A” Structural Fill CCR Compliance Supplement, dated July 2015 and other relevant certifications. This document provides a demonstration that construction of the Brickhaven No.2 Mine Tract “A” Structural Fill – Cell 1, Subcell 1A meets the requirements of 40 CFR part 257 for a new CCR landfill with respect to the design criteria.

This documents and certifies the following:

- The construction of the alternate composite liner system for the new CCR landfill unit (Cell 1, Subcell 1A) is designed to meet the requirements of 40 CFR 257.70
- The construction of the leachate collection and removal system for the new CCR landfill unit (Cell 1, Subcell 1A) is designed to meet the requirements of 40 CFR 257.70

I have prepared or supervised the preparation of the referenced documentation, that it has been prepared in general accordance with industry standards and practices, and that the information contained therein is truthful and accurate to the best of my knowledge.

I certify that the demonstration meets the requirements of the design criteria section of 40 CFR part 257 for Cell 1, Subcell 1A.

Exceptions:

1. CCR Rule §257.70 (d) (1) requires the leachate collection and removal system be designed and operated to maintain less than a 30-centimeter depth of leachate over the composite liner or alternative composite liner. The leachate system adheres to this rule except under one condition. HELP model analyses were performed for varying ash thicknesses over the base liner system (0 to 60 feet). The one scenario that exceeds the 30-centimeter rule for a short duration occurs when the site receives a 25-year, 24-hour design storm on the day a six-acre subcell (the largest subcell size based on the design) is opened for ash placement. During this “no waste” scenario, the head on the liner will exceed 30 centimeters. HDR’s design will reduce the head on the liner system within 72 hours. The 72-hour timeframe is allowed by North Carolina Department of Environmental Quality Rule 15A NCAC 13B.1624(b)(2)(A)(ii) and General Statute 130A-294 to account for the no waste condition. No HELP model analyses were performed specifically for Cell 1 Subcell 1A; however it is assumed that the results of previous HELP model analyses still apply. Additional detail is provided in Appendix II of the Brickhaven CCR Compliance Supplement.
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