



Central Files
Permit No. 42-04
Halifax Co.

State of North Carolina
Department of Environment, Health, and Natural Resources
Division of Solid Waste Management
P.O. Box 27687 · Raleigh, North Carolina 27611-7687

James G. Martin, Governor
William W. Cobey, Jr., Secretary

William L. Meyer
Director

June 5, 1991

Mr. Neal C. Phillips, Manager
County of Halifax
P. O. Box 38
Halifax, North Carolina 27839

RE: Site Suitability for Landfill Expansion
Halifax County Sanitary Landfill
Permit No. 42-04

Dear Mr. Phillips:

The Division has completed its review of the information submitted for the proposed 88-acre expansion of the referenced landfill and hereby approves the use of that area as a coal ash monofill. The issuance of an amendment to permit is contingent upon the subsequent approval of the construction plan.

The construction plan submittal must meet the requirements and performance standards of 15 NCAC 13B, Sections .0503 (2) and .0504(2), and the following site-specific requirements and design standards:

Site-Specific Requirements

- (1) The actual limits of the waste disposal area shall be delineated and must incorporate the following criteria:
 - (a) Site-suitability is issued for approximately 88 acres adjoining the existing Halifax County Landfill.
 - (b) A minimum 100-foot buffer shall be maintained between the waste boundary and the eastern facility boundary. A minimum 300-foot buffer shall be maintained between the waste boundary and all remaining facility boundaries.
 - (c) A minimum 500-foot buffer shall be maintained between the waste boundaries and all private dwellings and wells.
 - (d) The plan shall incorporate all State and Federal requirements with regards to the area delineated as "wetlands" in the site plan.

Additional Subsurface Investigation/Evaluation

- (1) Additional hydrogeological investigation will be required in order to clearly define depth to ground water and ground water flow direction in the northeast corner of the site, specifically on the northeast side of the ridge.
- (2) An evaluation and discussion of the long term seasonal high water table as applicable to landfill and monitoring well design is required.

Design and Construction Standards

- (1) The facility design shall incorporate the following engineered systems:
 - (a) liner system - designed to prevent migration of leachate into the ground water;
 - (b) leachate collection and removal system - designed to drain liquids accumulating within the liner system and;
 - (c) capping system - designed to minimize surface water infiltration and minimize further maintenance of the site.
- (2) The plan shall specify performance requirements for the components of the engineered systems. Design calculations shall be reviewed to verify theoretical system performance.
- (3) A comprehensive CQA plan describing quality assurance measures to insure proper design implementation, along with plans for developing the CQA Report, must be included in the construction plan application.
- (4) A plan to manage leachate shall be provided, including all necessary Local, State, and Federal permits or approvals.
- (5) According to phased development of the facility, an extensive ground and surface water monitoring plan shall be approved by the Solid Waste Section. The monitoring system shall be designed to adequately monitor each phase of development as well as the effect of the proposed facility as a whole. The monitoring plan shall conform to the guidelines established in the NC Water Quality Monitoring Guidance Document.
- (6) A closure and post-closure plan shall be prepared to gauge the long-term performance of the facility.

Mr. Phillips
June 5, 1991
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If you have any questions, or would like to schedule a meeting to discuss the application, please contact Jim Coffey at (919) 733-0692.

Sincerely,

William L. Meyer
William L. Meyer, Director
Solid Waste Management Division

cc: Gregory N. Richardson
Jim Coffey
Terry Dover
Fred Wood



State of North Carolina
Department of Environment, Health, and Natural Resources
Division of Solid Waste Management
P.O. Box 27687 · Raleigh, North Carolina 27611-7687

James G. Martin, Governor
William W. Cobey, Jr., Secretary

William L. Meyer
Director

May 30, 1991

MEMORANDUM

TO: Jim Coffey
FROM: Bobby Lutfy
RE: Hydrogeological Review of the Halifax Ash Monofill Site Plan Application

Upon completion of a review of the above referenced site plan application, it appears that the site is suited for development of an ash disposal landfill facility. Some additional water table information will be necessary in order to properly design the landfill and design an effective ground water monitoring system.

The site has relatively good hydrogeological characteristics for development of an ash monofill. There appears to be an adequate depth to ground water and/or rock to enable the required excavation for the facility. On site soils also appear suitable for use as liner and final cover material.

Some additional information on ground water tables should be included in the Construction Plan Application. Specifically, the depth to ground water and the direction of ground water flow needs to be better defined for the northeast corner of the site, where the ridge is located. There also needs to be some evaluation and comments on the projected long-term seasonal high water table.

On page 6-8 of the Site Suitability Study, reference is made to the possibility on "heavy ripping" and "light blasting". Blasting is not permitted at Solid Waste Management facilities. Ripping should be avoided if at all possible. If ripping is found to be necessary, then the amount of ripping should be kept to a minimum and limited to small areas necessary to the construction of the liner system.

Details of the proposed monitoring plan may be included in the Construction Plan Application. Apparently a phased construction of the ash monofill is planned, with several small cells to be constructed for an estimated life of approximately five years each. Therefore, the monitoring system must be designed to adequately monitor each phase of development, as well as the effect of the proposed facility as a whole.

In addition to some changes that may be necessary in the proposed monitoring well locations, a couple of changes should be made in the proposed well design. The "Typical Well Schematic", (figure 13), does not show an inner cap or concrete collar for the proposed wells. A vented inner cap should be provided for each well. Each well should also have a concrete collar to anchor the outer casing and shed surface water from the immediate area of the well. (Refer to "Typical Monitoring Well Schematic" used by the Solid Waste Section.)

There is a discrepancy in the proposed screen lengths in the Site Suitability Study. Table 9 indicates the use of 10 foot screens, while Figure 13 shows 5 foot screens. It is generally best to use 15 foot screens for monitoring wells screened at the water table. This allows for seasonal fluctuations in the water table and ensures that the water table will always fall within the screened interval. Deeper wells, that may be required as part of well nests, should be constructed using 10 foot screens.

Overall, the Site Suitability Study is an excellent report and indicates that this is a good site for the Halifax Ash Monofill. The requested additional water table information and changes in the proposed monitoring plan should be reflected in the Construction Plan Application. Also, proposed surface water monitoring points need to be included as part of the monitoring plan.

cc: Sherri Hoyt



G·N·Richardson & Associates
CONSULTING ENGINEERING

May 24, 1991

Ms. Sherri Hoyt
North Carolina DEHNR
Division Of Solid Waste Management
Solid Waste Section
P.O. Box 27687
Raleigh, N.C. 27611



RE: U.S.A.C.O.E Wetlands Permit
Halifax County Ash Monofill
Amendment to Permit No. 42-04

Dear Ms. Hoyt,

We are forwarding a copy of the Nationwide Permit Verification from the U.S. Army Corps Of Engineers, Wilmington District, dated May 24, 1991. This permit allows the landowner, Halifax County, to develop the property in question as depicted on the "Conceptual Final Contours" plan, figure 11 in the Site Suitability Study submitted to your office by ENSCI Environmental Design Group in March 1991. This Permit was requested by you in the completeness letter we received dated April 16, 1991. If this document is not sufficient, please notify me immediately so I can obtain any further information.

The remaining item in the completeness letter was a legal meets and bounds description of the site. This document is still unavailable at this time, but we should be able to forward it to you prior to May 31, 1991. We discussed this item during a meeting between myself and Mr. John Robins and you and Mr. Bobby Lutfy at your office. At that time, we concluded that this final item could wait until the issuance of the construction permit. I am still attempting to obtain the description for you as soon as possible and will forward it to you as soon as I receive it. If you have any questions regarding this project, please call. Thank you for your patience and prompt attention.

Sincerely,

G.N. Richardson & Associates

John D. Barnard
John D. Barnard
Associate

Enclosures

U.S. ARMY CORPS OF ENGINEERS
Wilmington District

Nationwide Permit Verification

Property Owner/Agent Halifax County Solid Waste Dept. Phone Number _____

Address ATTN: John Kelly, Director
P.O. Box 327
Halifax, NC 27839

Size and Location of Property 88 acre site (2.44 acre tracts)
Loc: South side of SR 1417, approx. 4000 ft. from SR 1418.
On Thelma and Aurelian Springs USGS quads.

The proposed project as described below is regulated by Section 404 of the Clean Water Act (33 U.S.C.) and/or Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403) and is authorized in accordance with paragraph 330.5 of the Regulatory Programs of the Corps of Engineers as published in the Federal Register November 13, 1986.

A. Waterway Unnamed tributary to Bear Swamp

1. Above headwaters 2. Isolated N/A

B. Type of Project Activity Private Commercial Other Public landfill: 5/acre impact on waters of U
Development of site for a landfill as depicted on "Halifax County Ash Manfill" "Conceptual Final Contours"
3/91

C. The described work is authorized by Nationwide Permit Number 26 in accordance with the attached general conditions (where applicable) and the following special conditions: _____

D. Any violation of the general and special conditions described herein may subject the permittee to a work cessation, restoration order, and/or civil or criminal legal action.

E. This Department of the Army Nationwide Permit verification does not relieve the undersigned permittee of the responsibility to obtain any other required approvals. The permittee may need to contact appropriate State and local agencies before beginning work.

F. By signature the applicant certifies an understanding and acceptance of all terms and conditions of this permit.

[Signature]
Property Owner/Agent's Signature

[Signature]
Field Coordinator's Signature

5/24/91
Date

1/13/92
Expiration Date



G·N·Richardson & Associates
CONSULTING ENGINEERING



May 22, 1991

Ms. Sherri Hoyt
North Carolina Department of Environment,
Health, and Natural Resources
Division Of Solid Waste Management
Solid Waste Section
P.O. Box 27687
Raleigh, N.C. 27611

RE: Archaeological Survey Results
Halifax County Ash Monofill
Amendment to Permit No. 42-04

Dear Ms. Hoyt,

We are forwarding a copy of a letter from the Department of Cultural Resources dated May 20, 1991 regarding the archaeological survey performed for the referenced project. This letter was requested by you in the completeness letter we received dated April 16, 1991. The remaining two items are still unavailable at this time, but we should be able to forward them to you in the near future. If you have any questions regarding this project, please call. Thank you for your patience and prompt attention.

Sincerely,

G.N. Richardson & Associates

John D. Barnard
Associate

Enclosures



North Carolina Department of Cultural Resources

James G. Martin, Governor
Patric Dorsey, Secretary

Division of Archives and History
William S. Price, Jr., Director

May 20, 1991

Mr. John D. Barnard
G. N. Richardson & Associates, Inc.
12600 Shooting Club Road
Raleigh, N.C. 27613

Re: Solid Waste Landfill, Halifax County
GS 91-0055, ER 91-8032

Dear Mr. Barnard:

Thank you for your letter of April 18, 1991, transmitting the archaeological survey report by David M. Van Horn, Ph.D., concerning the above project.

During the course of the survey no prehistoric or historic period sites were located within the project area. Due to the absence of significant archaeological resources, Dr. Van Horn has recommended that no further archaeological investigation be conducted in connection with this project. We concur with this recommendation since this project will not involve significant archaeological resources.

The above comments are made pursuant to Section 106 of the National Historic Preservation Act of 1966 and the Advisory Council on Historic Preservation's Regulations for Compliance with Section 106, codified at 36 CFR Part 800.

Thank you for your cooperation and consideration. If you have questions concerning the above comment, please contact Renee Gledhill-Earley, environmental review coordinator, at 919/733-4763.

Sincerely,

A handwritten signature in cursive script that reads "David Brook".

David Brook
Deputy State Historic Preservation Officer

DB:slw





G·N·Richardson & Associates
CONSULTING ENGINEERING

May 2, 1991

North Carolina Department of Environment,
Health, and Natural Resources
Post Office Box 27687
Raleigh, North Carolina 27611-7687

Attention: Mr. Bobby Lufty
Hydrogeologist
Solid Waste Section

Reference: Halifax County Ash Monofill
Site Suitability Application Corrections
GNRA Project Number 90-001

Dear Bobby;

I am enclosing copies of corrections to two Tables and two Well Construction Records from the Site Suitability Application for the Halifax County Ash Monofill that we submitted to your office on March 22, 1991. The Tables that were corrected are "Table 5 - Summary of Groundwater Level Data" located in the Table section of the Appendix, and an unnumbered table entitled "Summary of Groundwater Level Data" located in "Appendix A - Field Investigation". The two Well Construction Records are for Piezometers MW-8 and MW-9 and are located in Appendix A. Since four copies of the report were forwarded to your office, I have enclosed four full sets of the corrections. Please direct these corrections to those individuals holding copies of the report so that they can be inserted into the appropriate sections.

Additionally, I have enclosed a copy of the report from Law Engineering from July 1981, detailing the construction of the monitoring wells from the current sanitary landfill. The numbering system of the wells that Law used in their report was different than that used in the permit. A copy of the sketch used in the permit is enclosed to show you the locations and numbers of the wells as presented in the permit. Additionally, we have made a table to correlate the well number from the permit (shown on the sketch) to the well number shown in the Law report.

Halifax County Ash Monofill
Site Application Corrections
May 2, 1991

The following table equates the well numbers used in the permit to those used in the Law report:

Permit Well Number	Law Well Number
MW-1	MW-1
MW-2	MW-4
MW-3	MW-5
MW-4	MW-6
MW-5	MW-2
MW-6	MW-3

If you have any questions please contact at us.

Very Truly Yours,
G.N. Richardson and Associates

John C. Robins, PE
Associate

Enclosures

CC: 1- File GNRA 91-001
2- Sherri Hoyt, Engineer
Solid Waste Section