

Carmen Johnson
44-01 3/20/12

CONSTRUCTION PLAN
APPLICATION

FOR

LANDFILL NO. 6
CONTINUED DEVELOPMENT
AREA A

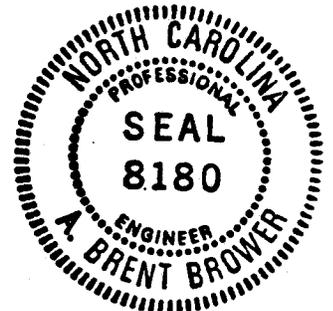
NORTH CAROLINA PERMIT NO. 45-06

NOVEMBER, 1989



CHAMPION INTERNATIONAL CORPORATION
CANTON MILL
CANTON, NORTH CAROLINA

PREPARED BY
SIRRINE ENVIRONMENTAL CONSULTANTS
GREENVILLE, SOUTH CAROLINA



A. Brent Brower
12/8/89

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ATTACHMENTS

1.0 INTRODUCTION

1.1 Overview

In March of 1989, Sirrine Environmental Consultants (SEC) was contracted by the Champion International Corporation to provide engineering and geotechnical services for the development of construction plans and specifications and a construction permit application for expansion of Champion's Canton Mill Landfill No. 6.

The overall site development scheme, developed by Law Engineering and Testing Company for preparation of the Site Plan Application (1981-1982) divides the property into five large areas (A, B, C, D, and E) designated for combined sludge and ash disposal. Lime waste is landfilled separately in smaller adjacent cells. Lime disposal operations have been completed or are in progress at several locations at the site. Disposal of sludge and ash is near completion in Area B. Soils have been excavated and retention dikes have been constructed for Area C and an adjacent disposal area. Undeveloped portions of the Landfill No. 6 site include Areas A, D, and E, although borrow operations have resulted in significant excavation of Area D and a smaller portion of Area A. Based on preliminary meetings during this project between SEC and Champion project personnel, Area A was selected as the next area to be developed at the site.

This report presents a summary of the proposed construction and operating procedures. Specific design and geotechnical details are presented in the Contract Documents and the Geotechnical Report.

1.2 Application Requirements

The landfill site is being developed in conformance with the North Carolina Solid Waste Management Rules. Specific application requirements are delineated in Section .0504(2)(h) of these rules. These requirements and corresponding Sections of this Application are summarized here:

<u>List of Requirements</u>	<u>Section</u>
Legal Description	Attachment
Responsible Authority	1.4
Final Use	3.7
Anticipated Project Lifetime	3.6
Construction Sequencing	3.0
Earthwork Calculations	2.3
Seeding Specifications	2.6
Erosion/Sediment Control	3.1

1.3 Legal Description

The landfill site is located in the Clyde and Beaverdam Townships of Haywood County, North Carolina. The property encompasses an area of 235.051 acres. A legal description of the property is included with this report as Attachment No. 1.

1.4 Responsible Authority

The individual responsible for operation and maintenance of the site is Mr. George Pickard. Correspondence to Mr. Pickard shall be as follows:

George W. Pickard, P.E.
Superintendent-Landfill Operations
P.O. Box C-10
Canton, North Carolina 28716
(704) 646-2653

1.5 Existing Permits

1.4.1 Solid Waste Permit - The State of North Carolina, Department of Human Resources, Division of Health Services issued a permit to Champion to operate Landfill No. 6 (Permit No. 45-06). This permit was issued on March 28, 1984. A copy of this permit is included with this report as Attachment No. 2.

1.4.2 NPDES Permit - Leachate generated at this site is collected and transported to the Champion Mill wastewater treatment facility. This facility is operated under NPDES Permit No. NC 0000272.

1.6 Survey and Elevation Datum

All elevations presented in the Construction Plans and Specifications are referenced in feet to the National Geodetic Vertical Datum (NGVD) formerly known as USC&GS Mean Sea Level Datum of 1929.

The topographic base map was photogrammetrically produced by Hampton, Hintz and Associates of Fletcher, North Carolina from aerial photos taken in October, 1987. Locations and ground surface elevations of all subsurface explorations drilled under the supervision of SEC for this project were surveyed

by Hampton, Hintz and Associates during July and August, 1989. Locations and water surface elevations of springs flowing in Area A were also surveyed and included on the topographic plan of the site.

1.7 Site Location and Topographic Setting

Champion International's Canton Mill Landfill No. 6 is located approximately two (2) miles northwest of the city of Canton in Haywood County, North Carolina. The 240-acre site is situated immediately north of the Pigeon River, within a broad valley between northeast-southwest trending mountain ridges of the Blue Ridge Mountains. Elevations at the landfill site range from approximately El.2600 to El.2800. The Pigeon River flows westerly at an elevation of approximately El.2400 along the southern margin of the landfill property. The site topography slopes steeply along the southern edge down to the Pigeon River over a distance ranging from 100 to 400 feet. Interstate I-40 borders the site on the north.

A site location plan is included in the construction plans prepared and submitted with the Solid Waste Permit Application for this site. The site topography and property limits are shown on drawing number G-9083-1, the Site Location Plan. The approximate limits of Area A are also shown on this figure. Area A occupies a swale with a centerline approximately 2,000 feet in length. Existing ground surface slopes are typically about 3 to 15 percent along the bottom of the draw and along the ridge tops in Area A. Hillside slopes in Area A range from approximately 25 to 50 percent.

2.0 ENGINEERING ELEMENTS

Design details for the development of Area A of the Champion Landfill No. 6 are presented in the Contract Documents for this project dated November, 1989. This section of the application identifies several of the key components and summarizes the materials and construction details of these components.

2.1 Liner System

The liner system is a key element in the cell development. The liner system includes the following components listed from the ground surface up:

- prepared subgrade
- 60 MIL textured HDPE liner
- HDPE drainage net
- 4 oz. geotextile fabric

2.1.1 Subgrade Preparation - The base must be completely free of rocks, stones, roots, or other debris which might puncture the membrane liner. General subgrade preparation for the HDPE liner installation shall include the following. For more specific subgrade preparation requirements, reference the Geotechnical Report.

- Scarify the upper six (6) inches of the subgrade and remove any roots, angular, or sharp rocks larger than three quarter (3/4) inches in diameter.
- Adjust the subgrade moisture content to 1 percent below to 4 percent above the optimum moisture content.

- Compact the subgrade using a minimum of four (4) passes of compaction equipment to a density equivalent to at least 95 percent of the maximum dry density as determined by the standard Proctor compaction test (ASTM D-698).
- Where bedrock is encountered or removed during excavation, a minimum of two (2) feet of properly compacted soils should be placed over the bedrock.
- The subgrade shall be inspected and written approval obtained for the subgrade by the liner manufacturer.

2.1.2 Membrane Liner - The synthetic membrane liner will be a 60 mil textured high density polyethylene (HDPE) liner. HDPE is selected as the industry standard due to its chemical resistance, strength, and low permeability. Sixty (60) mil was selected as the optimum thickness to provide maximum strength while providing flexibility for the irregular cell configuration. A textured liner was selected to provide adequate surface friction since the liner will be installed on 2 horizontal to 1 vertical (2:1) side slopes and intermediate divider dikes will be installed directly on the liner.

2.1.3 Drainage Net - An HDPE geotextile drainage net will be installed directly over the membrane liner to provide conveyance of leachate to the leachate collection system. The drainage net was selected over stone or other drainage media due to its superior drainage characteristics and simple installation procedures.

- 2.1.4 Geotextile Fabric - A 4 oz. geotextile fabric will be installed over the drainage net. The fabric is provided to filter any fines which could clog the leachate collection system and also to provide protection for the liner from possible sharp objects in the sludge.

2.2 Leachate Collection

The leachate collection system will be installed by Champion as part of individual cell development. The system will utilize perforated HDPE pipe. Each cell will be provided with a 6-inch perforated HDPE lateral at the lower end of each cell. The 6-inch laterals will connect to a 12-inch header that runs down the center the length of Area A. The 12-inch header will be perforated HDPE except underneath the intermediate divider dikes where it will be non-perforated HDPE. The perforated HDPE laterals and header will be bedded in a granular drainage blanket. The 12-inch leachate collection header will connect to an existing 12-inch PVC leachate collection pipe which is installed through the existing berm at the Southeast end of Area A. For details of the leachate collection system reference the Contract Documents.

2.3 Cell Configuration

The cell configuration is dictated by existing topography in the area. Final cell configuration will be determined by the amount and location of bedrock that is encountered in the area. The cell configuration was developed with the following design parameters.

- Provide 2 horizontal to 1 vertical (2:1) cell side slopes.
- Maintain 2 foot clearance between the liner and bedrock.

- Maintain the cell bottom a minimum of 4 foot above the ground water high level.

2.4 Underdrain System

Natural springs occur at several low spots of the proposed cell. A drainage system will be required beneath the synthetic membrane liner to intercept and control the flow from these springs. The drainage system design consists of a coarse grained, durable aggregate (ASTM D448, size 57 or equivalent) completely surrounded by a six inch thick layer of fine-grained filter aggregate (ASTM C33 fine aggregate or equivalent). A 12-inch perforated HDPE pipe will be installed within the coarse aggregate to provide the principal conduit for flow.

Actual dimensions of the underdrain system will be determined in the field to conform with the prepared subgrade. The drainage system should be separated from the HDPE liner by a minimum thickness of at least four (4) feet of on-site soils (saprolite or residual soil) placed in nine (9) inch thick lifts (measured prior to compaction) compacted to 95 percent of the standard Proctor maximum dry density. The typical separation between the pipe and the liner will be much greater than 4 feet.

The underdrain should at a minimum be extended laterally five (5) feet beyond all springs identified in the field at the time of construction. The approximate lateral extent of the underdrain system is shown on drawing number G-9083-2 of the Contract Documents. The underdrain system will terminate at a junction box which will be constructed at the east end of Area A. This structure will route the underdrain flow into the existing 36 inch pipe through the embankment to the Bowen Branch creek.

2.5 Uncontaminated Stormwater Drainage

The uncontaminated storm drainage system will be installed by Champion as part of individual cell development. A 12-inch HDPE pipe will be provided to remove uncontaminated stormwater from unopened cells. The line will run parallel to the main leachate collection header and will penetrate the cell bottom and discharge through the existing 36-inch pipe located at the southeast end of the cell. The pipe will initially be terminated at the downstream end of Cell IV, until this cell is developed. When this cell is ready to be developed, the 12-inch pipe will be extended into Cell III, upstream of the intermediate divider dike. This operation will be continued until Cell I is ready to be developed, at which time the 12-inch storm drainage pipe will be plugged off and become no longer operational.

2.6 Erosion/Sediment Control

Any land-disturbing activity must comply with requirements defined by the Land Quality Section (LQS) of the North Carolina Department of Natural Resources and Community Development (DNRCD). These requirements are delineated in a sediment and erosion control plan checklist. The following measures are provided to comply with this plan.

- 2.6.1 Cell Exterior - Erosion control on the cell exterior side slopes will be accomplished by installation of silt fences and expeditious side slope seeding. Silt fences will be installed beyond the limits of construction prior to initiating any cell construction. Immediately upon completion of side slope construction, the slopes will be limed, fertilized, seeded, and mulched and any slopes steeper than 3:1 will be provided with a fiber protective mat for additional erosion control.

2.6.2 Cell Interior - Erosion control on the cell interior will be accomplished by providing a sediment control basin and expeditious installation of the cell liner. Existing interior cell drainage is routed through the existing 36-inch pipe through the southeast cell embankment to the Bowen Branch creek. A sediment control basin will be provided at this pipe inlet by providing a perforated 36-inch standpipe. This will create a sediment pond upstream of the pipe. Cell development shall be performed at the upstream end of Area A. Installation of the cell liner shall be coordinated with cell earthwork so the liner is installed as soon as possible after the cell is constructed. This will prevent erosion from developed cells.

2.7 Intermediate Divider Dikes

Three intermediate divider dikes will be provided to segment Area A into four individual cells. Each cell surface area will be approximately 8 acres. Individual cells are provided to simplify landfilling operations and to reduce the amount of stormwater entering the leachate collection system. All leachate is collected in holding ponds prior to being pumped to the wastewater treatment facility. These ponds are sized to handle the runoff from a ten (10) year storm applied to an eight (8) acre open cell.

The intermediate divider dikes will be constructed by Champion as part of individual cell development. Materials of construction and dike geometry will be determined at the time of cell development. Present plans are to construct the dikes out of waste material (lime). Mill modernization is being undertaken which may significantly reduce the amount of waste lime available. If lime is unavailable, the intermediate divider dikes will be constructed from on-site soils.

Dike geometry will be impacted by two factors. The materials of construction will dictate the available berm side slopes. Also, a sludge stability analysis is being performed to determine ways to stabilize and improve the handling of the sludge. For a more detailed discussion of dike geometry, refer to the Geotechnical Report.

2.8 Ground Water Monitoring Wells

The locations of existing ground water monitoring wells are shown on drawing number G-9083-1 of the Contract Documents. Two additional ground water monitoring wells are proposed north of Area A (MW-14 & MW-15). These locations appear to be upgradient from the site. They are recommended, however, due to the presence of domestic supply wells located further to the north. In addition, MW-1 will be relocated to the north to avoid landfilling operations. The revised location of this well, MW-1A, is also to the north of Area A.

3.0 CONSTRUCTION SEQUENCING

The previous section of this report discussed the design details of the various landfill elements. This section will describe the sequence of construction of these elements to provide an orderly progression of construction and landfilling operations.

3.1 Erosion/Sediment Control

Prior to initiating any construction activities, effective erosion and sediment controls must be installed. Silt fences will be installed beyond the limits of construction and a 36-inch standpipe will be installed to create a sediment basin within the cell. When it is time to install the underdrain system, a temporary earthen dam will be constructed upstream of the underdrains to collect the stormwater runoff. This runoff will be pumped around the cell area after allowing time for sediment to settle.

3.2 Cell Construction

After installation of sediment control measures, the Contractor will begin cell construction. The area will be cleared and grubbed, and the topsoil will be stripped and stockpiled for later use. The Contractor will begin cell construction at the upstream, or west end, of the cell. This will be coordinated with the liner manufacturer to begin installation of the liner as soon as possible after portions of the cell are complete.

3.3 Underdrain Installation

Construction of the underdrain system must be coordinated with the cell construction. The underdrain system, junction box, and uncontaminated

stormwater drain system must be installed prior to completing construction at the downstream, or east end of the cell.

3.4 Liner Installation

The liner manufacturer will be responsible for installing, seaming, testing, and warranting the 60 mil HDPE liner. The liner manufacturer shall coordinate the installation of the liner with the cell development by the General Contractor. Cell construction shall begin at the upstream, or west end, of the cell. As soon as a portion of the cell is developed, the liner manufacturer shall begin installation of the liner. This shall continue as the cell is developed throughout the remainder of the area. As the liner is being installed testing of the seams will be performed to ensure liner integrity. This will include both destructive and non-destructive testing. Reference the later Section on Quality Control Measures.

3.5 Cell Development

Cell development will be performed by Champion. Major items required for development include the HDPE drainage net and geotextile fabric, leachate collection system, uncontaminated stormwater drainage, and intermediate divider dikes.

- 3.5.1 Drainage Net and Geotextile Fabric - This simple installation will be performed by Champion as the initial effort for cell development. The drainage net and fabric is shipped in rolls and installation involves merely rolling out the materials and seaming the fabric sheet together. This installation should not be performed prior to cell development since prolonged exposure to ultraviolet (UV) radiation will damage the geotextile fabric.

*What about
liner 17*

3.5.2

Leachate Collection System - The leachate collection system and uncontaminated stormwater drainage will be installed concurrently. The 6-inch perforated HDPE lateral will be installed at the lower end of each cell. The 12-inch HDPE header pipe will be extended up the cell beyond the limits of the intermediate divider dike. If the intermediate divider dike is constructed of waste material, another 6-inch perforated HDPE lateral will be required at the upstream end of the divider dike to collect contaminated runoff from the dike. If the dike is constructed of soil, the leachate collection header will be simply terminated upstream of the dike and valved off to prevent any stormwater from entering the leachate collection system.

need stormwater drainage for each cell from day one.

*OK unneeded
not installing dikes at last once*

3.5.3

Uncontaminated Stormwater Drainage - After initial cell construction, the 12-inch uncontaminated stormwater drain will terminate at the downstream end of the cell. All stormwater entering the total cell will flow through this pipe and discharge to Bowen Branch creek. As the first cell is developed, the 12-inch storm drain will be extended up the cell beyond the limits of the intermediate divider dike. All stormwater entering the cell upstream of this point will be routed to this pipe. The pipe will be extended up the landfill as each cell is developed, until the last cell is developed at which time the pipe will be sealed.

3.5.4

Intermediate Divider Dikes - An intermediate divider dike will be constructed after the 60 mil HDPE liner is installed and the leachate collection and uncontaminated stormwater drainage systems are extended. The materials of construction and dike geometry will be determined at the time of cell development. Upon completion of an intermediate divider dike, the cell will be ready for landfilling operations.

3.6 Landfilling Operations

The proposed landfill is to receive solid wastes from Champion International's Mill at Canton, North Carolina. These wastes, which are presently amounting to approximately 1,480 cubic yards each day are comprised of waste treatment sludge (54%), fly ash and cinders (19%) and excess lime mud (27%). The approximate quantities of waste volumes for 1988 are summarized in Table 1. Leachate analysis for the wastes are summarized as Attachment No. 3.

Table 1

Canton Mill Waste Disposal Volumes

1988 Averages

<u>Solid Waste</u>	<u>Average Daily Truckloads</u>	<u>Estimated Cubic Yards Per Truck</u>	<u>Daily Yards</u>
Waste Treatment Sludge	40	20	800
Lime Mud	20	20	400
Fly Ash	11	20	220
Cinders	<u>3</u>	20	<u>60</u>
	74		1,480

The projected lifetime of the total site is approximately 10 years at the current solid waste volumes. However, the mill is presently undergoing a modernization project which may substantially reduce the amount of solid waste generated at the Mill.

3.7 Cell Closure

Cell closure will be accomplished similar to the existing cells. Three (3) feet of compacted soil will be provided as cell cover material. This cover will be seeded as soon as possible after installation. Final use of the cell will be pasture land after landfilling operations are complete.

4.0 QUALITY ASSURANCE/QUALITY CONTROL MEASURES

Quality control monitoring shall be performed to verify that construction is proceeding according to plans and specifications. Specific quality control procedures include the following.

- Construction inspection to verify that subsurface conditions agree with those encountered in the field investigation.
- Construction monitoring for placement and compaction of soils for the general liner foundation, underdrain installation, and embankment construction. Testing shall include compaction density testing at regular lift intervals. The liner manufacturer shall also certify the subgrade is acceptable for liner installation.
- Geomembrane manufacturing QA documentation.
- Non-destructive field testing of all seams in the 60 mil HDPE liner. The seams shall be subject to air testing and any liner penetrations shall be vacuum tested.
- Destructive testing of selected seamed samples for peel and shear strength. Observed mode of failure (seam failure, brittle liner failure, or ductile film tear bond) should be reported along with seam peel and shear strength parameters. The number of destructive tests performed will be limited to avoid the proliferation of failure prone patches.
- Documentation of all construction, testing, and inspection records.

ATTACHMENTS

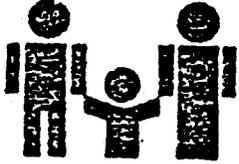
Legal Description
ATTACHMENT NO. 1

Lying and Being in Clyde and Beaverdam Townships of Haywood County, North Carolina, and more particularly described as follows:

BEGINNING on a concrete right of way monument at the point of intersection of the Southern right of way line of Interstate Highway 40, with the Southeastern right of way line of the New Thickety Road, said concrete right of way monument being located South 75 deg. 34 min. 14 sec. West 1683.01 feet from North Carolina Geodetic Survey "Station Culvert" have a Y coordinate of 677542.47 and an X coordinate of 845996.22, said beginning point being further the Northwestern corner of the "First Tract" described in a deed to Champion International Corporation from Brantley M. Davis and wife, Gladys S. Davis, dated January 8, 1981, and recorded in Deed Book 321 at Page 158, in the Office of the Register of Deeds for Haywood County; runs thence from the beginning point thus established and with the Southern right of way line of Interstate Highway 40, 14 calls as follows: North 79 deg. 12 min. East 561.62 feet to a concrete right of way monument; North 25 deg. 06 min. East 36.88 feet to a concrete right of way monument; North 79 deg. 34 min. East 1207.83 feet to a concrete right of way monument; South 38 deg. 31 min. East 56.18 feet to a concrete right of way monument; North 79 deg. 30 min. East 268.26 feet to a concrete right of way monument; North 78 deg. 40 min. East 204.43 feet to a concrete right of way monument; North 76 deg. 18 min. East 309.93 feet to a concrete right of way monument; North 35 deg. 22 min. East 94.51 feet to a concrete right of way monument; North 72 deg. 12 min. East 384.99 feet to a concrete right of way monument; North 69 deg. 25 min. East 255.85 feet to a concrete right of way monument; North 67 deg. 52 min. East 249.62 feet to a concrete right of way monument; North 67 deg. 41 min. East 154.48 feet to a concrete right of way monument; South 39 deg. 50 min. East 31.94 feet to a concrete right of way monument; and on a curve to the right with a radius of 5579.58 feet, an arc distance of 461.78 feet to a concrete right of way monument delineating the intersection of the Southern right of way line of Interstate Highway 40 and the Southern right of way line of the New Thickety Road; thence with the Southern right of way line of the New Thickety Road, six calls as follows: South 45 deg. 07 min. East 44.41 feet to an iron pipe; on a curve to the left with a radius of 285.69 feet, an arc distance of 393.72 feet to a point; North 55 deg. 55 min. East 102.65 feet to a point North 8 deg. 0 min. West 22.27 feet to a point; North 55 deg. 55 min. East 190.14 feet to a point; and on a curve to the right with a radius of 642.29 feet, an arc distance of 95.58 feet to a point on said right of way line; thence leaving the Southern right of way line of the New Thickety Road and running with a hedgerow, the line of the property claimed by Carroll Smith, South 34 deg. 57 min. East 255.48 feet to a point; thence South 24 deg. 03 min. East, with a fence line and the line of the Claude Smith property, 459.74 feet to an iron pipe at a fence corner; runs thence South 3 deg. 42 min. West, generally with a fence and with the line of Thurman R. Robinson, and passing an iron pipe at 1587.42 feet, 1610.42 feet to the Northern margin of the Pigeon River; thence down the Pigeon River, ten calls as follows: South 82 deg. 06 min. West 338.03 feet to a point on the North Bank of the river, at the mouth of Sorrells Cove Branch; South 76 deg. 33 min. West 275.53 feet to an eight inch walnut on the North bank of the river; South 71 deg. 56 min. West 1057.69 feet to an eight inch leaning willow on the North bank of the river, where the channel of said river forks; South 59 deg. 45 min. West 77.79 feet to a point on the South margin of an island in the river; South 73 deg. 54 min. West 221.5 feet to a point on the Southern margin of said island in the river; South 63 deg. 29 min. West 172.99 feet to a point on the Southern margin of said island in the river; South 60 deg. 19 min. West 46.32 feet to a point on the South bank of said island in the river; South 08 deg. 33 min. West 40 feet to a point in the center of the main

channel of the river; South 67 deg. 02 min. West 255.75 feet to a point in the main channel of the river; and South 55 deg. 46 min. West 170 feet to a point in the center of the main channel of the river; runs thence North 01 deg. 43 min. East 60 feet to a point on the Northern edge of the Pigeon River; thence with the North bank of the Pigeon River, twelve calls as follows: South 57 deg. 32 min. West 168.50 feet to an eighteen inch sycamore; South 43 deg. 22 min. West 354.67 feet to a point; South 73 deg. 36 min. West 196.84 feet to an eighteen inch sycamore; North 78 deg. 57 min. West 116.62 feet to a forked maple; South 85 deg. 37 min. West 50.33 feet to a six inch forked bean tree; South 69 deg. 24 min. West 213.22 feet to a twelve inch locust; South 78 deg. 47 min. West 117.36 feet to a twelve inch sycamore; North 88 deg. 45 min. West 83.07 feet to an eight inch sycamore; North 83 deg. 14 min West 90.49 feet to a ten inch sycamore; North 81 deg. 52 min. West 192.91 feet to a twelve inch locust; South 89 deg. 16 min. West 142.72 feet to a twenty inch walnut; and South 87 deg. 45 min. West 113.37 feet to a point on the bank of said river, in the Eastern boundary line of the property of George H. Cogburn, Jr.; runs thence with the Eastern and Northeastern boundary line of the Cogburn property, three calls as follows; North 02 deg. 24 min. East 1434.14 feet to an iron pipe in a fence stump in a fence corner; North 33 deg. 04 min. West 752.69 feet to a post in a maple stump; and, generally with a branch, South 41 deg. 18 min. West 203.57 feet to an iron pipe in the center of said branch at the Easternmost corner of a tract of land conveyed by James L. Henderson and wife, to Casmer A. Belniak and wife, by deed dated August 12, 1974, and recorded in Deed Book 270 at Page 423, Records of Haywood County runs thence with the Northern and Northwestern boundary line of the Belniak tract, four calls as follows: North 60 deg. 29 min. West 337.85 feet to an iron pipe in the center of a sixty foot private road right of way; North 60 deg. 03 min. West 57 feet to an iron pipe in the center of said private road right of way; South 29 deg. 47 min West 201.58 feet to a hub; and South 14 deg. 11 min. West 155.06 feet to a hub in a fence line; thence leaving the Belniak line, and running North 66 deg. 04 min. West 288.55 feet to an iron pipe on the Southeastern right of way line of the New Thickety Road: thence with said right of way, three calls as follows: on a curve to the left with a radius of 755.94 feet, an arc distance of 206.87 feet to an iron pipe; on another curve to the left with a radius of 465.63 feet, an arc distance of 258.76 feet to an iron pipe; and North 30 deg. East 83.72 feet to the place of BEGINNING, according to a survey by Webb A. Morgan, R.L.S., containing 235.051 acres.

ATTACHMENT NO. 2

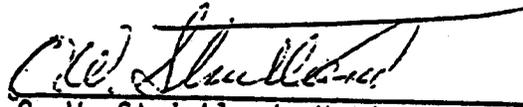


Ronald H. Levine, M.D., M.P.H.
STATE HEALTH DIRECTOR

DIVISION OF HEALTH SERVICES
P.O. Box 2091
Raleigh, N.C. 27602-2091

CERTIFIED COPY OF SOLID WASTE PERMIT

I do hereby certify that the attached PERMIT is an exact and true copy
of Permit No. 45-06.



O. W. Strickland, Head
Solid & Hazardous Waste Management Branch
Environmental Health Section

North Carolina

Wake County

I, Dale Z. Sellers, a Notary Public for said
County and State, do hereby certify that O. W. Strickland
personally appeared before me this day and acknowledged the due
execution of the foregoing instrument.

Witness my hand and official seal, this the 25th day of
March, 19 84.

(official seal)



Notary Public

My commission expires July 24, 1985.

PERMIT NO. 45-06

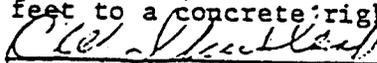
DATE ISSUED 3/28/84

STATE OF NORTH CAROLINA
DEPARTMENT OF HUMAN RESOURCES
Division of Health Services
P.O. Box 2091 Raleigh 27602

SOLID WASTE PERMIT

CHAMPION PAPERS is hereby issued a permit to
operate a SANITARY LANDFILL (No. 6 Areas A-G)
located ON S.R. 1550 & I-40 IN HAYWOOD COUNTY,
in accordance with Article 13B of the General Statutes of North Carolina and all
rules promulgated thereunder and subject to the conditions set forth in this
permit. The facility is located on the below described property.

BEGINNING on a concrete right of way monument at the point of intersection of the Southern right of way line of Interstate Highway 40, with the Southeastern right of way line of the New Thickety Road, said concrete right of way monument being located South 75 deg. 34 min. 14 sec. West 1683.01 feet from North Carolina Geodetic Survey "Station Culvert" have Y coordinate of 677542.47 and an X coordinate of 845996.22, said beginning point being further the Northwestern corner of the "First Tract" described in a deed to Champion International Corporation from Brantley M. Davis and wife, Gladys S. Davis, dated January 8, 1981, and recorded in Deed Book 321 at Page 158, in the Office of the Register of Deeds for Haywood County; runs thence from the beginning point thus established and with the Southern right of way line of Interstate Highway 40, 14 calls as follows: North 79 deg. 12 min. East 561.62 feet to a concrete right of way monument; North 25 deg. 06 min. East 36.88 feet to a concrete right of way monument; North 79 deg. 34 min. East 1207.83 feet to a concrete right of way monument; South 38 deg. 31 min. East 56.18 feet to a concrete right of way monument; North 79 deg. 30 min. East 268.26 feet to a concrete right of way monument; North 78 deg. 40 min. East 204.43 feet to a concrete right of way monument; North 76 deg. 18 min. East 309.93 feet to a concrete right of way


O. W. Strickland, Head
Solid & Hazardous Waste Management
Branch
Environmental Health Section

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monument; North 35 deg. 22 min. East 94.51 feet to a concrete right of way monument; North 72 deg. 12 min. East 384.99 feet to a concrete right of way monument; North 69 deg. 25 min. East 255.85 feet to a concrete right of way monument; North 67 deg. 52 min. East 249.62 feet to a concrete right of way monument; North 67 deg. 41 min. East 154.48 feet to a concrete right of way monument; South 39 deg. 50 min. East 31.94 feet to a concrete right of way monument; and on a curve to the right with a radius of 5579.58 feet, an arc distance of 461.78 feet to a concrete right of way monument delineating the intersection of the Southern right of way line of Interstate Highway 40 and the Southern right of way line of the New Thickety Road; thence with the Southern right of way line of the New Thickety Road, six calls as follows: South 45 deg. 07 min. East 44.41 feet to an iron pipe; on a curve to the left with a radius of 285.69 feet, an arc distance of 393.72 feet to a point; North 55 deg. 55 min. East 102.55 feet to a point; North 8 deg. 0 min. West 22.27 feet to a point; North 55 deg. 55 min. East 190.14 feet to a point; and on a curve to the right with a radius of 642.29 feet, an arc distance of 95.58 feet to a point on said right of way line; thence leaving the Southern right of way line of the New Thickety Road and running with a hedgerow, the line of the property claimed by Carroll Smith, South 34 deg. 57 min. East 255.48 feet to a point; thence South 24 deg. 03 min. East, with a fence line and the line of the Claude Smith property, 459.74 feet to an iron pipe at a fence corner; runs thence South 3 deg. 42 min. West, generally with a fence and with the line of Thurman R. Robinson, and passing an iron pipe at 1587.42 feet, 1610.42 feet to the Northern margin of the Pigeon River; thence down the Pigeon River, ten calls as follows: South 82 deg. 06 min. West 338.03 feet to a point on the North Bank of the river, at the mouth of Sorrells Cove Branch; South 76 deg. 33 min. West 275.53 feet to an eight inch walnut on the North bank of the river; South 71 deg. 56 min. West 1057.69 feet to an eight inch leaning willow on the North bank of the river, where the channel of said river forks; South 59 deg. 45 min. West 77.79 feet to a point on the South margin of an island in the river; South 74 deg. 54 min. West 221.50 feet to a point on the Southern margin of said island in the river; South 63 deg. 29 min. West 172.99 feet to a point on the Southern margin of said island in the river; South 60 deg. 19 min. West 46.32 feet to a point on the South bank of said island in the river; South 08 deg. 33 min. West 40 feet to a point in the center of the main channel of the river; South 67 deg. 02 min. West 255.75 feet to a point in the main center of the main channel of the river; and South 55 deg. 46 min. West 170 feet to a point in the center of the main channel of the river; runs thence North 01 deg. 43 min. East 60 feet to a point on the Northern edge of the Pigeon River; thence with the North bank of the Pigeon River, twelve calls as follows: South 57 deg. 32 min. West 168.50 feet to an eighteen inch sycamore; South 43 deg. 22 min. West 354.67 feet to a point; South 73 deg. 36 min. West 196.84 feet to an eighteen inch sycamore; North 78 deg. 57 min. West 116.62 feet to a forked maple; South 85 deg. 37 min., West 50.33

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Property Description (Continued):

feet to a six inch forked bean tree; South 69 deg. 24 min. West 213.22 feet to a twelve inch locust; South 78 deg. 47 min. West 117.36 feet to a twelve inch sycamore; North 88 deg. 45 min. West 83.07 feet to an eight inch sycamore; North 83 deg. 14 min. West 90.49 feet to a ten inch sycamore; North 81 deg. 52 min. West 192.91 feet to a twelve inch locust; South 89 deg. 16 min. West 142.72 feet to a twenty inch walnut; and South 87 deg. 45 min. West 113.37 feet to a point on the bank of said river, in the Eastern boundary line of the property of George H. Cogburn, Jr.; runs thence with the Eastern and Northeastern boundary line of the Cogburn property; three calls as follows: North 02 deg. 24 min. East 1434.14 feet to an iron pipe in a fence stump in a fence corner; North 33 deg. 04 min. West 752.69 feet to a point in a maple stump; and, generally with a branch, South 41 deg. 18 min. West 203.57 feet to an iron pipe in the center of said branch at the Easternmost corner of a tract of land conveyed by James L. Henderson and wife, to Casmer A. Belniak and wife, by deed dated August 12, 1974, and recorded in Deed Book 270 at Page 423, Records of Haywood County; runs thence with the Northern and Northwestern boundary line of the Belniak tract, four calls as follows: North 60 deg. 29 min. West 337.85 feet to an iron pipe in the center of a sixty foot private road right of way; North 60 deg. 03 min. West 57 feet to an iron pipe in the center of said private road right of way; South 29 deg. 47 min. West 201.58 feet to a hub; and South 14 deg. 11 min. West 155.06 feet to a hub in a fence line; thence leaving the Belniak line, and running North 66 deg. 04 min. West 288.55 feet to an iron pipe on the Southeastern right of way line of the New Thickety Road; thence with said right of way, three calls as follows: on a curve to the left with a radius of 755.94 feet, an arc distance of 206.87 feet to an iron pipe; on another curve to the left with a radius of 465.63 feet, an arc distance of 258.76 feet to an iron pipe; and North 30 deg. East 83.72 feet to the place of BEGINNING, according to a survey by Webb A. Morgan, R.L.S., containing 235.051 acres.

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Conditions of Permit:

1. This permit may be subject to review at an administrative hearing upon petition of anyone whose legal rights, privileges and duties may have been affected by the issuance thereof.
2. This permit shall not be effective unless the certified copy is filed in the register of deeds' office, in the grantor index under the name of the owner of the land in the county or counties in which the land is located. After recordation, the certified copy shall be returned to the Solid & Hazardous Waste Management Branch and shall have indicated on it the page and book number, date of recordation and registrar's seal.
3. The following requirements shall be met prior to receiving solid waste at the site:
 - a. Site preparation shall be in accordance with construction plan.
 - b. Site inspection shall be made by a representative of the Division of Health Services.
4. This solid waste disposal site is permitted to receive solid waste as defined in 10 NCAC 10G, .0101(31), except that hazardous waste, liquid waste and any other wastes that may pose a threat to the environment or the public health are prohibited from disposal at this site unless prior authorization is obtained from the Division of Health Services.
5. This permit is for construction according to plans prepared by Law Engineering Testing Co. dated January, 1983. Any modification or deviation from the approved plans shall be approved by the N.C. Solid and Hazardous Waste Management Branch.
6. Ground water monitoring wells are installed per the DHS monitoring well standard.

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Conditions of Permit:

7. The northwest corner of area E shall be limited to 50' south of the existing stream unless the stream, after proper approval is obtained, is relocated so that it is outside landfill construction activity.
8. The groundwater and surface water sampling plan is adequate with the exception of the following items:

1. Sampling frequency should be no less than annually.
2. Parameters to be evaluated are:

A. EPA Interim Primary Drinking Water Standards*

Arsenic
Barium
Cadmium
Chromium
Fluoride
Lead
Mercury
Nitrite (as N)
Selenium
Silver

*Maximum allowable concentrations can be found in the May 19, 1980 Federal Register, Appendix III, page 33257.

B. Groundwater Quality Parameters*

Chloride
Iron
Manganese
Sulfate
Phenols

*Allowable concentrations based on 1962 Drinking Water Standards and background water quality data.
DHS Form 2871 (Rev. 1/82) Standards and background water quality data.
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Conditions of Permit:

C. Groundwater Contamination Indicators*

pH
Specific conductance
Elevation of groundwater surface
Total organic carbon
Total organic halogen
Total dissolved solids

*Allowable concentrations determined by background comparison, see Part 265.93(b) Appendix B.

ATTACHMENT NO. 3

TABLE II

Primary Sludge and Secondary Sludge/Fly Ash

Combination Subjected to Hazardous Wastes Criteria (RCRA)

• **EP TOXICITY** (mg/l of the extract)

<u>Contaminant</u>	<u>Primary Sludge</u>	<u>Secondary Sludge/Fly Ash</u>	<u>Federal Maximum Allowable Concentration 100 X Drinking Water Standard</u>
Arsenic (mg/l)	0.005	0.759	5.0
Barium	1.17	0.81	100.00
Cadmium	0.01	0.01	1.0
Chromium	0.22	0.17	5.0
Lead	1.53	0.13	5.0
Mercury	0.001	0.001	0.2
Selenium	0.001	0.001	1.0
Silver	0.001	0.001	5.0
Endrin	0.0003	0	0.02
Lindane	0	0.00005	0.4
Methoxychlor	0	0	10.0
Toxaphene	0	0	0.5
2, 4-D	0.00029	0.0002	10.0
2, 4, 5-TP Silvex	0.00005	0.00003	1.0

- CORROSIVITY - None
- IGNITABILITY - None
- REACTIVITY - None

Note: Neither sludge type contains to the best of our knowledge any of the listed hazardous chemicals.

Flyash is no longer used as a dewatering aid for secondary sludge.

