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# Permit Renewal Application

**Durham Land Clearing and Inert Debris Landfill**  
**Durham, North Carolina**  
NC Solid Waste Permit No. 32-J

Prepared for:



**Waste Industries, LLC**  
**(a Waste Industries Company)**  
**Durham, North Carolina**

**February 2014**

Prepared by:

NC LIC. NO. C-0828 (ENGINEERING)

**SMITH+GARDNER**

14 N. Boylan Avenue, Raleigh NC 27603 | 919.828.0577



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# Permit Renewal Application

NC Solid Waste Permit No. 32-J

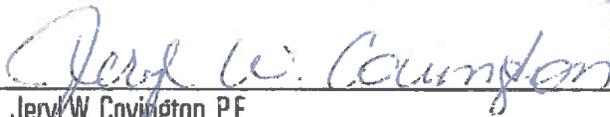
## Durham Land Clearing and Inert Debris Landfill Durham, North Carolina

Prepared For:



**Waste Industries, LLC**  
Durham, North Carolina

**S+G Project No. Durham 14-1**



Jerry W. Covington, P.E.  
Senior Project Engineer





Thomas B. Maier, P.E.  
Project Manager

**February 2014**

NC LIC. NO. C-0828 (ENGINEERING)

# SMITH + GARDNER

14 N. Boylan Avenue, Raleigh NC 27603 | 919.828.0577

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## Applicant Certification

Name of Facility: Durham Land Clearing and Inert Debris Landfill  
Application: Permit Renewal Application

We (the undersigned) certify under penalty of law that this document and all attachments were prepared under our joint direction or supervision and that the information provided in this application is true, accurate, and complete to the best of my knowledge.

We understand that North Carolina General Statute 130A-22 provides for administrative penalties of up to fifteen thousand dollars (\$15,000.00) per day per each violation of the Solid Waste Management Rules. We further understand that the Solid Waste Management Rules may be revised or amended in the future and that the facility siting and operations of this solid waste management facility will be required to comply with all such revisions or amendments.

**Owner:**

 Donald Plessinger 1/7/2014  
Signature Print Name Date

G.M. Waste Industries, LLC  
Title (Waste Industries USA, Inc.)

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**WASTE INDUSTRIES, LLC**

**DURHAM LANDCLEARING AND INERT DEBRIS LANDFILL**

**PERMIT RENEWAL APPLICATION**

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*A guide to specific North Carolina Solid Waste Management (15A NCAC 13B.0560, and .0563 – .0566) rules, Application Guidance for Land Clearing and Inert Debris (LCID) Landfills, and the North Carolina General Assembly Session Law (SB 1492/SL 2007-500) addressed in each section of this document is shown in italics after each section.*

EXECUTIVE SUMMARY

ATTACHMENT A	PERMIT DOCUMENTATION
ATTACHMENT B	LEGAL DESCRIPTION OF PROPERTY ( <i>15A NCAC 13B .0565</i> )
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## EXECUTIVE SUMMARY

### GENERAL

The following Permit Renewal Application has been prepared on behalf of the Waste Industries, LLC facility that owns and operates the Durham Land Clearing and Inert Debris (LCID) Landfill, a wholly owned subsidiary of Waste Industries USA, Inc. This application is for the renewal of the Permits to Construct and Operate the LCID and wood and inert debris recycling operations. The facility is covered under North Carolina Solid Waste Permit No. 32-J. The current permit expires on February 20, 2014. A copy is provided in **Attachment A**. It is the intent of LCID landfill to continue with the facility operations upon approval of this application.

The Durham LCID Landfill facility is located at 148 Stone Park Court in Durham, North Carolina and operated as the Phase III portion of the Durham District Campus facility. The Durham District Campus is approximately 37 acres; the LCID landfill is located on approximately 12 acres within the westernmost portion of the property.

The LCID landfill was originally designed by Sungate Design Group, P.A. and includes two (2) phases. Phase I consists of Cells 1, 2 and 3; Phase II consists of Cells 4 and 5. Currently, only Cells 1 and 2 have been constructed. Phase I is currently utilized for LCID operations and has a design capacity of approximately 375,725 cubic yards. Although waste volumes have decreased, historically, the LCID landfill processed approximately 250 cubic yards per days. Based on approximately 1,000 pounds per cubic yard, this rate is approximately 32,500 tons per year assuming 260 operating days per year.

### Contact Information

All correspondence and questions concerning the operation of the Waste Industries, LLC landfill should be directed to the appropriate site management listed below:

Durham LCID Landfill  
148 Stone Park Court  
Durham, North Carolina 27703  
Phone: (919) 557-9583  
Fax: (919) 557-9523  
Contact: Donald Plessinger, General Manager  
E-mail: [donald.plessinger@wasteindustries.com](mailto:donald.plessinger@wasteindustries.com)

### Regulatory Reference

This submission has been prepared in general accordance with the requirements of the North Carolina Solid Waste Management Rules 15A NCAC 13B .0563-.0566, and applicable sections of the North Carolina General Assembly's Session Law 2007-500 (Solid Waste Management Act of 2007). Included in this submittal is a summary of the following documents [*with applicable rule(s) in italics*] either required by the rules for renewal or provided for general reference.

Property Description ( *15A NCAC 13B .0565*);  
 Local Government Approvals ( *15A NCAC 13B .0565*);  
 Operation Manual ( *15A NCAC 13B .0566*); and  
 Financial Assurance ( *General Statutes Article 9, Chapter 130A-295.2*).

As summarized below, the Durham LCID Landfill complies with the siting criteria for LCID landfills per 15A NCAC 13B .0564.

15A NCAC 13B	.0564(1)	The LCID landfill is not located within a 100-year floodplain.	
	.0564(2), .0564(3), .0564(4), .0564(5)	Correspondence from the North Carolina Natural Heritage Program dated September 15, 1998 documented no records of high quality natural communities, rare species, significant heritage, or scenic areas within a 1.0 mile radius of the site. <sup>1</sup>	
	.0564(6)	The property contains no wetlands.	
	.0564(7)	Based on historical construction estimates and current site topography, it is expected that there will be a surplus of suitable soils.	
	.0564(8)	The original sedimentation and erosion control plan was approved by the City of Durham and DENR and remain unchanged.	
	.0564(9)	The facility maintains adequate buffers to surface waters, property lines, public and private dwellings and buildings, and wells.	
	.0564(10)	The property is zoned Industrial by the City of Durham.	

### **Property Description**

The Durham LCID Landfill operates on the property as described in the table below. Legal descriptions for these properties are included in **Attachment B**.

Guilford County, NC Register of Deeds					
Deed Book	Page No.	Grantor	Grantee	PIN	Acreage
2280	201-203	Cherokee Sanford, Inc.	Waste Industries, Inc.	641-02-051	37.197
2280	204-208	Cherokee Sanford, Inc.	Waste Industries, Inc.		Easement

### **Local Government Approvals**

The LCID landfill was originally issued a building permit from the Durham City-County Planning Department on October 29, 1998. The permit has been subsequently renewed on July 8, 2003

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<sup>1</sup> Richardson Smith Gardner & Associates, Permit Renewal Application Durham LCID Landfill Durham, North Carolina, NC Solid Waste Permit No. 32-J, July 2008, Attachment D.

and as a Temporary Use Permit on May 24, 2013. Copies of the 2003 and 2013 permits are included in **Attachment C**.

### **Operations Manual**

The Operations Manual outlines the protocols for the facility's operations and maintenance and was prepared to provide on-site personnel with a clear understanding of how the Design Engineer assumed that the facility should be operated. Along with the project drawings, the Operations Manual was prepared in general accordance with the requirements as outlined in 15A NCAC 13B .0566. A copy of the Operations Manual is provided in **Attachment D**.

### **Financial Assurance**

In accordance with the North Carolina General Statutes 130A-295.2, financial assurance will be provided for the facility by Waste Industries USA, Inc. An Engineer's Estimate has been prepared to address the financial assurance requirements for remedial activities promulgated by the General Assembly's Session Law 550. The financial assurance estimate directly correlates to the constructed operating areas. A copy of the estimate is provided in **Attachment E**.

### **Project Drawings**

The original project drawings were by prepared by Sungate Design Group, P.A., as provided in drawings entitled "Waste Industries, Inc., Durham District Campus, Temporary LCID Landfill," dated January 1999 and are included in **Attachment F**. Minimally, the original project drawings illustrate:

- Existing Conditions;
- Site Development Base Grades;
- Erosion and Sediment Control Measures; and
- Cross-section.

The project cross-section drawing has been updated and is provided in **Attachment F**.

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**Attachment A**

**Permit Documentation**

**Permit Renewal Application  
Waste Industries, LLC  
NC Solid Waste Permit No. 32-J**

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Facility Permit No: 32-J  
Durham LCID Landfill  
Permit to Operate  
February 20, 2009  
Document ID No. 6817  
Page 1 of 9

**NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES**

Beverly Eaves Perdue  
Governor

Division of Waste Management  
Dexter R. Matthews  
Director

Dee Freeman  
Secretary

**STATE OF NORTH CAROLINA  
DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES  
DIVISION OF WASTE MANAGEMENT  
SOLID WASTE SECTION**

**LAND CLEARING AND INERT DEBRIS LANDFILL  
Permit No. 32-J**

Waste Industries, LLC  
( a wholly owned subsidiary of Waste Industries USA, Inc. )

is hereby issued a

**PERMIT TO OPERATE**

**DURHAM LAND CLEARING AND INERT DEBRIS (LCID) LANDFILL – CELLS 1, 2, AND 3**

and a

**WOOD AND INERT DEBRIS RECYCLING AREA IN CELLS 2, 3, AND 4**

located at 148 Stone Park Court within the Durham District Campus in Durham, Durham County, North Carolina, in accordance with Article 9, Chapter 130A, of the General Statutes of North Carolina and all rules promulgated thereunder and subject to the conditions set forth in this permit. The site is located and described by the legal description of the site or property map contained within the approved application.

---

Edward F. Mussler, III, P.E.,  
Permitting Branch Supervisor  
Solid Waste Section

## ATTACHMENT 1

### PART I: Permitting History

Issuance	Date
Permit to Construct (PTC)	April 16, 1999
Permit to Operate (PTO) – Phase 1, Cell 1	August 18, 1999
PTO Modification – Phase 1, Cells 1 & 2	June 19, 2000
PTO Modification – Added wood recycling on site	November 15, 2002
PTO Amendment – 5 yr – Phase 1, Cells 1, 2, & 3	August 12, 2003
PTO Amendment – 5 yr	February 20, 2009

### PART II: List of Documents for the Approved Plan

1. Approved site plan. Plan received February 10, 1999.
2. Approved permit application. Application received February 10, 1999.
3. Temporary Use Permit issued by Durham County. February 22, 1999.
4. Letter approving Sedimentation and Erosion Control issued by Durham County. April 1999.
5. Letter from Durham County to Nancy Scott addressing temporary use permit and zoning letter. April 12, 1999.
6. Certification letter from design engineer addressing pre-operational issues dealing with construction requirements for Phase 1, Cell 1. August 18, 1999.
7. Letter from John Gardner, P.E., G.N. Richardson & Associates, Inc., Raleigh, NC. Certification that construction of Phase 1, Cell 2 was completed and ready to begin operations. June 13, 2000.
8. Letter from John Gardner, P.E., G.N. Richardson & Associates, Inc., Raleigh, NC. Request to amend operations plan to supplement and clarify anticipated use of processed asphalt, concrete, and wood pallets as required by Orange County. November 6, 2002.
9. Letter from John Gardner, P.E., G.N. Richardson & Associates, Inc., Raleigh, NC. Request for permit renewal. Included change in phasing, installation of concrete pipe for conveyance of storm water along western edge, and copy of Durham City-County Building Permit No. 0302280 issued July 8, 2003 and expiring June 30, 2013. July 21, 2003.

10. Articles of Merger of Waste Industries, Inc. into Waste Industries MergeCo, LLC with surviving entity named Waste Industries, LLC. NC Secretary of State Identification Number 0565738, Doc Id 210899076. March 3, 2001.
11. Restated Articles of Organization of Waste Industries, LLC. NC Secretary of State Identification Number 0565738, Doc Id 220439063. February 14, 2002.
12. *Permit Renewal Application, Durham LCID Landfill, Durham, North Carolina, NC Solid Waste Permit No. 32-J.* Prepared by: Richardson Smith Gardner & Associates, Raleigh, NC. Prepared for: Waste Industries LLC. July 14, 2008 revised through February 10, 2009.

**PART III: Properties Approved for the Solid Waste Facility**

<b>Durham County, N. C. Register of Deeds</b>				
Book	Page	Grantor	Grantee	Acres
2280	201-203	Cherokee Sanford, Inc. (formerly known as Cherokee Sanford Group, Inc.)	Waste Industries, Inc.	37.197
2280	204-208	Cherokee Sanford, Inc.	Waste Industries, Inc.	Easement
Map Book 137	48	Plat, Stone Road Industrial Park, Phase I, Track 2 (LCID occupies approximately 12 acres within the westernmost portion of the property.)		
Total Property Acreage				37.197

The Permit to Construct issued April 16, 1999, was recorded with the Durham County Register of Deeds in Book 2649, pages 249-256.

**PART IV: General Permit Conditions**

1. This permit will expire on February 20, 2014. Pursuant to 15A NCAC 13B .0201(g) and .0563(4), no later than October 20, 2013, the owner or operator must submit a request to the North Carolina Department of Environment and Natural Resources, Division of Waste Management, Solid Waste Section (Section) for permit review and must update pertinent facility plans including, but not limited to, the facility operation and waste screening plans.
2. The persons to whom this permit is issued (“permittee”) are the owners and operators of the solid waste management facility.
3. (Intentionally blank)

4. When this property is sold, leased, conveyed, or transferred in any manner, the deed or other instrument of transfer must contain in the description section in no smaller type than that used in the body of the deed or instrument, a statement that the property has been used as an LCID landfill and a reference by book and page to the recordation of the permit.
5. By receiving waste at this facility the permittee shall be considered to have accepted the terms and conditions of this permit.
6. Operation of this solid waste management facility shall be in accordance with the North Carolina Solid Waste Management Rules, 15A NCAC 13B; Article 9 of the Chapter 130A of the North Carolina General Statutes (NCGS 130A-290, et seq.); the conditions contained in this permit; and the approved plan. Should the approved plan and the rules conflict, the Solid Waste Management Rules shall take precedence unless specifically addressed by permit condition
7. This permit is issued based on the documents submitted in support of the application for permitting the facility including those identified in Attachment 1, Part II, "List of Documents for Approved Plan," and which constitute the approved plan for the facility. Where discrepancies exist, the most recent submittals and the Conditions of Permit shall govern.
8. This permit may be transferred only with the approval of the Section and through the issuance of a new or substantially amended permit in accordance with applicable statutes and rules. In accordance with NCGS 130A-295.2(g), the permittee shall notify the Section thirty (30) days prior to any significant change in the identity or business structure of either the owner or the operator, including but not limited to a proposed transfer of ownership of the facility or a change in the parent company of the owner or operator of the facility.
9. The permittee is responsible for obtaining all permits and approvals necessary for the development of this project including approval from appropriate agencies for a General or Individual National Pollutant Discharge Elimination System (NPDES) Stormwater Discharge Permit. Issuance of this permit does not remove the permittee's responsibilities for compliance with any other local, state or federal rule, regulation, or statute.

- End of Section -

**ATTACHMENT 2**  
**Conditions of Permit to Construct**

(This section is intentionally blank)

*-End of Section-*

## ATTACHMENT 3

### Conditions of Permit to Operate

#### General Operation Requirements

1. This permit authorizes the operation of Phase I, Cells 1, 2, and 3 of the LCID landfill containing an estimated remaining gross capacity of 150,000 cubic yards in accordance with the approved plan, Attachment 1, Part II, Document 12. Gross capacity is the measured distance between the bottom of the waste and the top of final cover. The facility operating rate for disposal and/or processing varies and is estimated from a minimum of a few cubic yards to a maximum of 250 cubic yards per day.

Phase	Remaining Capacity Final Elevation = 384 ft ( cubic yards )
Phase I (Cells 1, 2, and 3)	150,000
Phase II (Cells 4 and 5)	225,725
Total	375,725

2. The facility is permitted to receive waste generated in a service area consisting of Durham, Wake, and Orange counties. Proposed changes to the service area must be approved by the Section and will be considered a modification and subject to the appropriate permitting fee.
3. This facility is permitted to receive land clearing waste; yard trash; untreated and unpainted wood; uncontaminated soil; inert debris such as unpainted rock, brick, concrete, and concrete block; and asphalt in accordance with NCGS 130-294(m). Waste acceptance requirements may be affected by future revisions and amendments to the NC General Statutes, or to the NC Solid Waste Management Rules.
4. Revisions to the design or operation of the facility require written approval of the Section.
5. Amendments or revisions to the NC Solid Waste Management Rules or any violation of ground water standards may necessitate modification of the approved plans or closure of the facility.
6. Solid waste must be restricted to the smallest area feasible, compacted as densely as practical into cells by proper construction equipment.

7. Excavation, grading, and fill material side slopes must not exceed three horizontal to one vertical (3:1).
8. The following requirements must be met prior to receiving solid waste and during the operation life of the site:
  - a. (Intentionally blank )
  - b. A sign must be posted at the entrance showing the contact name and number in case of an emergency and the permit number in accordance with 15A NCAC 13B .0566 (16).
  - c. Site access controls must be installed and operational.
  - d. An attendant must be on duty at all times while the landfill is open for public use to assure compliance with operational requirements and to prevent acceptance of unauthorized wastes.
  - e. Access roads must be of all-weather construction and properly maintained.
9. The concentration of explosive gases generated by the LCID landfill facility must not exceed:
  - a. Twenty-five percent of the lower explosives limit for the gases in the facility structures.
  - b. The lower explosive limit for the gases at the property boundary.
10. Open burning of land clearing waste is prohibited. If a fire occurs, the permittee must provide oral notification to the Section within 24 hours of the occurrence followed by a written report of the details of the fire within 10 working days of the occurrence that includes, but is not limited to: the cause, the location(s) on the premises, the dimensions and volume of material involved, description of the emergency response activities, how the fire was brought under control, and what mitigation measures are implemented to reduce or eliminate conditions leading to the fire. Other conditions may be required based on the severity or nature of the fire.

### **Site Specific Operation Requirements**

11. The permit authorizes the use of Cells 2, 3, and 4 for the storage and processing of incoming materials and outgoing product consistent with approved plan and as shown in Figure 1 of the Operation Plan (Attachment 1, Part II, Document 12).
12. Markers/posts must be used to delineate the storage areas, shown as shaded areas in Figure 1 of the Operation Plan, and maintained for reference.
13. Wood waste consisting of clean lumber scrap, pallets, plywood, oriented strand board, engineering beams and other non-treated wood may be accepted and processed for boiler

fuel. Treated wood (copper chromate arsenate, salt, pressure, stained, painted, etc.) shall not be collected, stored, or processed.

14. Inert debris consisting of concrete, demolished roadway asphalt, brick and concrete block can be accepted and stored for processing. Painted inert debris shall be sampled to insure that the lead levels are below the 0.5% lead by weight (or 5,000 parts per million) or 1 mg/cm<sup>3</sup> based on Title X of the Housing and Community Development Act and the Toxic Substances Act. Copies of the test results shall be made available upon request to the Section.

### **Cover Material Requirements**

15. Solid waste must be covered with one (1) foot of suitable soil cover at least once per month or when the active area reaches one (1) acre in size, whichever occurs first, or more often when necessary to prevent the site from becoming a nuisance or to mitigate conditions associated with fire, windblown materials, vectors, or excessive water infiltration.
16. Vegetative ground cover sufficient to restrain erosion must be established within 30 working days over areas that do not receive wastes for 30 calendar days or upon completion of any phase of LCID landfill development or as addressed in the approved Sedimentation and Erosion Control permit.
17. Within 120 calendar days after completion of the final disposal operations, the disposal area must be closed and covered with a minimum of one foot of suitable soil cover sloped to allow surface water runoff in a controlled manner. However, ditches located on the landfill debris must have a two (2)-foot thick soil cover as its base and side slopes.

### **Erosion and Sedimentation Control Requirements**

18. All required sedimentation and erosion control measures must be installed and operable to mitigate excessive on-site erosion and to prevent silt from leaving the site of the landfill unit during the service life of the facility.
19. The permittee is solely responsible for maintaining an approved sedimentation and erosion control plan. All earth disturbing activities must be conducted in accordance with the Sedimentation Pollution Control Act of 1973 (15 NCAC 4) and consistent with any other local, state, or federal requirements.

### **Drainage Control and Water Protection Requirements**

20. Facility operations or practices must not cause or result in a discharge of pollution, dredged material, and/or fill material into waters of the state in violation of the requirements under Sections 402 and 404 of the Clean Water Act, as amended

21. Ground water quality at this facility is subject to the classification and remedial action provisions of 15 NCAC 2L.
22. Surface water must be diverted from the operational area.
23. Surface water must not be impounded over or in waste.
24. Solid waste must be placed a minimum of four feet above the seasonal high water table.
25. Solid waste must not be disposed in standing water.
26. Leachate must be properly managed on site through the use of current best management practices.

*- End of Permit Conditions -*

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**Attachment B**

**Legal Description of Property**

**Permit Renewal Application  
Waste Industries, LLC  
NC Solid Waste Permit No. 32-J**

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DURHAM COUNTY

FEB 4 1997

'97 FEB 4 PM 4 45

[REDACTED] AMOUNT

112.00



Real Estate  
Excise Tax

Excise Tax 112.00

WILLIE L. COVINGTON  
REGISTER OF DEEDS  
DURHAM COUNTY, N.C.

Recording Time, Book and Page

Tax Lot No. \_\_\_\_\_ Parcel Identifier No. 641-02-051  
Verified by \_\_\_\_\_ County on the \_\_\_\_\_ day of \_\_\_\_\_, 19\_\_\_\_  
by \_\_\_\_\_

Mail after recording to ~~XXXXXXXX~~ Wyrick, Robbins, Yates & Ponton L.L.P., Post Office Drawer 1780  
Raleigh, North Carolina 27619 (Attn: JJJ)

This instrument was prepared by WYRICK, ROBBINS, YATES & PONTON L.L.P.

Brief description for the Index Tract 2, Stone Road Industrial Park

### NORTH CAROLINA GENERAL WARRANTY DEED

THIS DEED made this 18 day of December, 1996, by and between

GRANTOR

GRANTEE

CHEROKEE SANFORD, INC., formerly known as  
CHEROKEE SANFORD GROUP, INC.,  
a North Carolina corporation

WASTE INDUSTRIES, INC.  
a North Carolina corporation  
  
P.O. Box 20366  
Raleigh, North Carolina 27619

Enter in appropriate block for each party: name, address, and, if appropriate, character of entity, e.g. corporation or partnership.

The designation Grantor and Grantee as used herein shall include said parties, their heirs, successors, and assigns, and shall include singular, plural, masculine, feminine or neuter as required by context.

WITNESSETH, that the Grantor, for a valuable consideration paid by the Grantee, the receipt of which is here acknowledged, has and by these presents does grant, bargain, sell and convey unto the Grantee in fee simple, all the certain lot or parcel of land situated in the City of \_\_\_\_\_, Oak Grove \_\_\_\_\_ Townsh  
Durham \_\_\_\_\_ County, North Carolina and more particularly described as follows:

see attached Exhibit A  
for a more particular description

The property hereinabove described was acquired by Grantor by instrument recorded in Deed Book 269, Page 546, Durham County Registry (Borden Brick and Tile Company)

A map showing the above described property is recorded in Plat Book page

TO HAVE AND TO HOLD the aforesaid lot or parcel of land and all privileges and appurtenances thereto belonging to the Grantee in fee simple.

And the Grantor covenants with the Grantee, that Grantor is seized of the premises in fee simple, has the right to convey the same in fee simple, that title is marketable and free and clear of all encumbrances, and that Grantor will warrant and defend the title against the lawful claims of all persons whomsoever except for the exceptions hereinafter stated. Title to the property hereinabove described is subject to the following exceptions:

- 1997 ad valorem taxes

Easements, restrictions, and rights-of-way of record, if any.



IN WITNESS WHEREOF, the Grantor has hereunto set his hand and seal, or if corporate, has caused this instrument to be signed by its duly authorized officers and its seal to be hereunto affixed by authority of its Board of Directors, the day and year above written.

CHEROKEE SANFORD GROUP, INC.

(Corporate Name)

By: [Signature] Chairman of the Board of Directors

ATTEST: [Signature] Secretary (Corporate Seal)

USE BLACK INK ONLY

SEAL-STAMP

NORTH CAROLINA, [Signature] County

I, a Notary Public of the County and State aforesaid, certify that [Signature] Grantor personally appeared before me this day and acknowledged the execution of the foregoing instrument. Witness my hand and official stamp or seal, this 31 day of [Signature] 99

My commission expires: 4-11-2000 [Signature] Notary Public

SEAL-STAMP

NORTH CAROLINA, \_\_\_\_\_ County.

I, a Notary Public of the County and State aforesaid, certify that \_\_\_\_\_ personally came before me this day and acknowledged that \_\_\_\_\_ he is \_\_\_\_\_ Secretary of Cherokee Sanford Group, Inc. a North Carolina corporation, and that by authority of \_\_\_\_\_ given and as the act of the corporation, the foregoing instrument was signed in its name by its Chairman \_\_\_\_\_, sealed with its corporate seal and attested by \_\_\_\_\_ as its \_\_\_\_\_ Secretary. Witness my hand and official stamp or seal, this \_\_\_\_\_ day of \_\_\_\_\_

Board of Directors

EXHIBIT A

BEGINNING at an existing railroad iron located in the southwestern corner of the property herein described, said iron being the northwestern corner of the property owned now or formerly by Leonard B. Shaffer (Tax Parcel 641-50; Deed Book 1212, Page 48, Durham County Registry "DCR") said iron also being located in the eastern boundary line of the property owned now or formerly by Kathleen M. Rigsbee (Tax Parcel 641-2A; Deed Book 115, Page 539, DCR); thence running along and with said eastern Rigsbee boundary North 03° 24' 22" East 365.13 feet to a point; thence continuing with said eastern Rigsbee boundary North 56° 08' 27" West 96.08 feet to a point; thence running a traverse line across the centerline of a creek (centerline of creek is actual property line) the following courses and distances: North 02° 03' 28" West 75.02 feet to a point; North 59° 40' 07" East 76.66 feet to a point; North 83° 13' 51" East 133.12 feet to a point; North 39° 46' 13" East 86.88 feet to a point; South 88° 50' 02" East 87.75 feet to a point; North 13° 54' 37" East 100.23 feet to a point; North 80° 21' 57" East 83.59 feet to a point; North 50° 30' 37" East 115.83 feet to a point; North 55° 08' 55" East 106.54 feet to a point; North 64° 46' 03" East 178.35 feet to a point; North 71° 28' 51" East 177.60 feet to a point; North 38° 55' 33" East 97.31 feet to a point; North 69° 33' 30" East 108.09 feet to a point; and North 58° 47' 02" East 171.05 feet to an angle iron; thence leaving said angle iron and running South 86° 02' 20" East 1581.17 feet along and with the southern boundary of property owned now or formerly by Joven Five Group (Tax Parcel 639-10; Deed Book 1278, Page 668, DCR) to a point; thence leaving said Joven line and running South 06° 37' 36" West 489.19 feet to a point in the northern margin of the right-of-way of the proposed Stone Park Court; thence running along and with the said right-of-way the following courses and distances: North 80° 04' 57" West 197.97 feet; thence in a curve to the left having a radius of 430.00 feet and an arc length of 247.53 feet and a chord bearing and distance of South 83° 25' 35" West 244.13 feet; thence South 66° 56' 06" West 180.44 feet; thence in a curve to the right having a radius of 670.00 feet, an arc length of 354.40 feet and a chord bearing and distance of South 82° 05' 19" West 350.29 feet; thence in a curve to the right having a radius of 25.00 feet, an arc length of 21.42 feet and a chord bearing and distance of North 58° 12' 36" West 20.77 feet; thence in a curve to the left having a radius of 55 feet, an arc length of 134.90 feet, and a chord bearing and distance of South 76° 04' 22" West 103.54 feet to a point; thence leaving the right-of-way of Stone Park Court and running North 77° 38' 22" West 267.69 feet to a point in southeastern boundary of the existing 50' Public Service Gas company easement; thence running along with said easement South 48° 15' 27" West 653.44 feet to a point; thence continuing with said easement South 48° 06' 06" West 223.37 feet to a point in the northern property line of

Leonard B. Shaffer; thence running with the Shaffer property line  
North 85° 30' 00" West 513.80 feet to the POINT AND PLACE OF  
BEGINNING, containing 37.197 acres and being all of Tract 2, Oak  
Grove Township, Durham County, according to survey by Harold  
"Todd" Smith entitled "Stone Road Industrial Park Phase One,"  
dated June 27, 1996 and recorded in Plat Book 137, Page 48,  
Durham County Registry.

18-203

NORTH CAROLINA

Lee COUNTY

I, the undersigned Notary Public, do hereby certify that John M. Corcoran personally appeared before me this day and acknowledged that he/she is the Secretary of Cherokee Sanford, Inc., a North Carolina corporation, and that by authority duly given and as the act of the corporation the foregoing instrument was signed by its Chairman of the Board of Directors of Cherokee Sanford, Inc., sealed with its corporate seal and attested by him/her as its \_\_\_\_\_ Secretary.

*Handwritten initials*

WITNESS my hand and notarial seal this 31 day of January, 1997.



My Commission Expires: 9-11-2000

Linda O. Guy  
Notary Public

State of North Carolina - Durham County

The foregoing or annexed certificate(s) of Linda O. Guy  
A Notary(Notaries) Public for the Designated Governmental units is(are) certified to be correct.

This the 4 day of Feb AD. 19 97  
WILLIE L. COVINGTON  
Register of Deeds

Sharon A. Druce  
By: Assistant / Deputy  
Register of Deeds



Maile-Wyrick, Robbins, Yates & Pantow  
PO Drawer 17803  
Raleigh, NC 27619  
NORTH CAROLINA BOOK 2280 PAGE 204

FILED  
BOOK 2280 PAGE 204-208  
'97 FEB 4 PM 4 47

WAKE COUNTY

WILLIE L. COVINGTON  
REGISTER OF DEEDS

DURHAM COUNTY, N.C.  
DEED OF EASEMENT AND AGREEMENT

This Deed of Easement and Agreement ("Easement") by and between Cherokee Sanford, Inc. ("Grantor") and Waste Industries, Inc. ("Grantee"):

W I T N E S S E T H

WHEREAS, Grantor is the fee simple owner of those two tracts of land identified for "Future Development" within Stone Road Industrial Park (the "Cherokee Tracts"), as shown on a map recorded in Book of Maps 137 at Page 48, Durham County Registry (the "Map"); and

WHEREAS, Grantee is the owner of Tract 2 (37.197 acres), as shown on the Map (the "Waste Tract"); and

WHEREAS, Grantor desires to grant and convey to Grantee the easement rights set out below for ingress, egress, regress and access to Tract 2 and for construction of all roadways and utility infrastructure, as shown on the Map and in that certain set of construction plans for Stone Road Industrial Park prepared by Sungate Design Group, P.A., dated February, 1996 and last revised October 24, 1996, (as such plans are finally approved by the City of Durham, the "Plans");

NOW, THEREFORE, in consideration of the sum of ten dollars (\$10.00) in hand paid by Grantee to Grantor, the receipt and adequacy of which is acknowledged by Grantor, the granting of the easement rights set out below being a material inducement for Grantee to purchase Tract 2 from Grantor, and in consideration of the covenants and promises contained herein, Grantor hereby agrees as follows:

1. The recitals above are incorporated herein by reference.
2. Grantor hereby grants and conveys to Grantee, its successors and assigns: (i) a permanent non-exclusive easement across and upon the Cherokee Tracts for ingress, egress, regress, and access to and from Tract 2 across and upon Stone Park Court and Cross Park Drive, as shown on the Map (the "Roadway Easement"); (ii) a permanent non-exclusive easement for utility installation within said Roadway Easement and over and upon the Cherokee Tracts as required by the Plans (the "Utility Easement"); and (iii) a temporary non-exclusive construction easement across and upon the Cherokee Tracts as necessary for

1/10/97

construction of all said roadways and utilities. Exhibit A, attached hereto and made a part hereof, sets out the approximate location of any portions of the Utility Easement which will lie outside of the Roadway Easement. Upon completion of construction of the utility improvements, including any drainage improvements, this Easement shall be amended, if necessary, to revise such Exhibit A to show the actual location of any portions of the Utility Easement lying outside the Roadway Easement.

TO HAVE AND TO HOLD the above described easements and all privileges and appurtenances thereto belonging to Grantee forever.

3. The easements and covenants contained herein shall run with the land and shall inure to and benefit Grantee, its successors and assigns, and shall burden the Cherokee Tracts, and shall be binding upon Grantor, its heirs, successors and assigns until such time as said roadways and utilities are dedicated to and accepted for maintenance by the City of Durham.
4. Grantor covenants with Grantee that Grantor is the fee simple owner of the Cherokee Tracts and has the right to convey the easements contained herein, and shall warrant and defend the title to the easements conveyed herein against all persons whomsoever.

[The following page is the signature page]

NORTH CAROLINA

Lee COUNTY

I, the undersigned Notary Public, do hereby certify that John M. Carson personally appeared before me this day and acknowledged that she/he is the \_\_\_\_\_ Secretary of CHEROKEE SANFORD, INC., a North Carolina corporation, and that by authority duly given and as the act of the corporation, the foregoing instrument was signed by its Chairman of the Board sealed with its corporate seal and attested by its \_\_\_\_\_ Secretary.

WITNESS my hand and notarial seal, this 31 day of January, 1997.



Linda O. Gay  
Notary Public

My Commission Expires:

4-11-2000

NORTH CAROLINA

Wake COUNTY

I, the undersigned Notary Public, do hereby certify that JIM W. PERRY personally appeared before me this day and acknowledged that he/she is PRESIDENT of WASTE INDUSTRIES, INC., a North Carolina corporation, and that by authority duly given and as the act of the corporation, the foregoing instrument was signed by its PRESIDENT sealed with its corporate seal and attested by its SECRETARY.  
WITNESS my hand and notarial seal, this 3rd day of ~~January~~ February, 1997.

Connie L. McKown  
Notary Public

My Commission Expires:

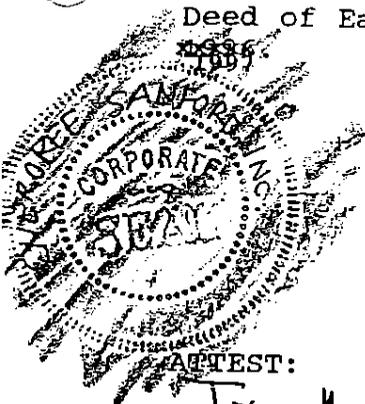
2-25-98



State of North Carolina - Durham County  
The foregoing or annexed certificate(s) of Linda O Gay  
Connie L. McKown  
A Notary(Notaries) Public for the Designated Governmental  
units is(are) certified to be correct.

This the 4 day of Feb AD. 1997  
WILLIE L. COVINGTON  
Register of Deeds  
By: Shirley A. Dwyer  
Assistant / Deputy  
Register of Deeds

IN WITNESS WHEREOF, Grantor and Grantee have executed this Deed of Easement and Agreement as of this 31 day of ~~December~~, January



GRANTOR:

CHEROKEE SANFORD <sup>898</sup> ~~GROVES~~, INC.

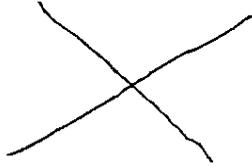
By: [Signature]

Title: Chairman of the Board of Directors

ATTEST:

John M. Corcoran  
Secretary

(AFFIX CORPORATE SEAL)



GRANTEE:

WASTE INDUSTRIES, INC.

By: [Signature]

Title: President



ATTEST:

Albert H. Hagg  
Secretary

(AFFIX CORPORATE SEAL)

STATE OF NORTH CAROLINA

WAKE COUNTY

AGREEMENT

THIS AGREEMENT (the "Agreement") made as of this 31 day of January, 1997 by and between Waste Industries, Inc., a North Carolina corporation (hereinafter "Waste") and Cherokee Sanford, Inc. ("Cherokee").

WHEREAS, Cherokee owns that certain 65 acre tract of land (consisting of a 37.197 acre tract as well as two tracts identified for "Future Development" on the below referenced Map) located in Durham County, North Carolina, as more particularly shown on the map recorded at Book 137, Page 48, Durham County Registry (the "Map"), which Map is incorporated herein by reference ("Entire Property"); and

WHEREAS, Cherokee intends to sell to Waste and Waste intends to purchase from Cherokee the 37.197 acre "Tract 2," as shown on the Map, pursuant to an Offer to Purchase and Contract dated September 3, 1996 (the "Purchase Contract") (hereinafter the "Waste Tract") (The Entire Property, less the Waste Tract, as well as the area within Cross Park Drive and Stone Park Court, as shown on the Map, are hereinafter referred to as the "Cherokee Tracts"); and

WHEREAS, Cherokee and Waste intend to enter into this Agreement (i) in order to provide that Waste shall pay to Cherokee certain additional consideration pursuant to the terms of this Agreement in the event that Waste does not complete certain Improvements, as defined below, on the Cherokee Tracts as provided in this Agreement and (ii) in order to provide certain easement rights across the Cherokee Tracts for the benefit of the Waste Tract;

NOW, THEREFORE, in consideration of Ten Dollars (\$10.00) and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, Waste and Cherokee hereby agree as follows:

1. The recitals above are incorporated by reference into this Agreement.
2. Waste intends to construct on the Waste Tract a solid waste management facility, and, in connection therewith, Waste intends to construct upon a portion of the Entire Property and/or Cherokee Tracts certain road improvements (identified on the Map as Cross Park Drive and Stone Park Court), together with utility improvements, all as shown on the Map and on that certain set of construction drawings for Stone Road Industrial Park prepared by Sungate Design Group, P.A., dated February, 1996 and last revised October 24, 1996 (in such form as finally approved by the City of Durham, the "Plans"), which Plans are incorporated herein by this

reference, which will not only serve the Waste Tract but also the Cherokee Tracts (such road and utility improvements are hereinafter referred to as the "Improvements"). Such Improvements shall be constructed at the sole cost and expense of Waste in substantial compliance with the Map and the Plans.

3. In order to facilitate the construction of the Improvements by Waste, Cherokee shall grant to Waste and its successors and assigns for the benefit of the Waste Tract such rights-of-way, access, ingress, egress, regress, utility, construction and other easements as are shown on the Map and the Plans or as may otherwise reasonably be required by Waste and reasonably approved by Cherokee in order to develop the Waste Tract for the purposes set out herein and in order to construct the Improvements. In connection with the Closing on the conveyance of the Waste Tract to Waste, Cherokee will execute such deeds of easements as are reasonably required by counsel for Waste in order to create for the benefit of the Waste Tract such easement rights. Waste shall indemnify Cherokee from and against any mechanics' and materialmen's liens attaching to the Cherokee Tracts.

4. In the event that at the end of three (3) years from the date of this Agreement (the "Construction Period") Waste has not Substantially Completed, as defined below, the Improvements subject to the terms of this Agreement, Waste shall make a payment to Cherokee in an amount as calculated below (the "Reimbursement Payment.") For purposes of this Agreement, "Substantial Completion" shall be defined as completion of the Improvements in substantial compliance with the Map and the Plans so that they may be dedicated to and accepted by the City of Durham subject to the City's inspection punchlist. Waste may make reasonable and practical changes in the design of the Improvements provided that such changes are approved by the City of Durham and that the overall cumulative effect of such changes does not materially adversely affect the services provided to the Cherokee Tracts by the Improvements (hereinafter, "Changes to Improvements"). Additionally, Waste may make any changes to the design of the Improvements which are required by the City of Durham. In the calculation of any time periods in this Agreement, such time periods shall be extended for up to but not longer than one (1) year by any delays not within the control of Waste, such as inclement weather, riots, strikes, acts of God, war, and other *force majeure*, including without limitation delays caused by or arising out of delays by the City of Durham relating to permits, inspections, and other matters required of the City of Durham, or delays caused by Cherokee. Waste will provide Cherokee with notice of any such delays.

5. The amount of the Reimbursement Payment, if any, shall be calculated as follows:

\$500,000.00

- [hard and reasonable soft costs of Improvements completed or in progress toward completion including work for which Waste has entered into a contract under which Waste has paid for, or is obligated to pay for, materials, labor, or services, provided that such work or materials will be supplied under such contract(s)].

---

= Reimbursement Payment

If, at the time of the Reimbursement Payment, the Deed of Trust from Cherokee to Lindsay C. Warren, Jr., Trustee as recorded in Book 1872, Page 418, Durham County Registry, is still of record, Waste and Cherokee agree that the Reimbursement Payment shall be payable to said Trustee for disbursement in accordance with said Deed of Trust.

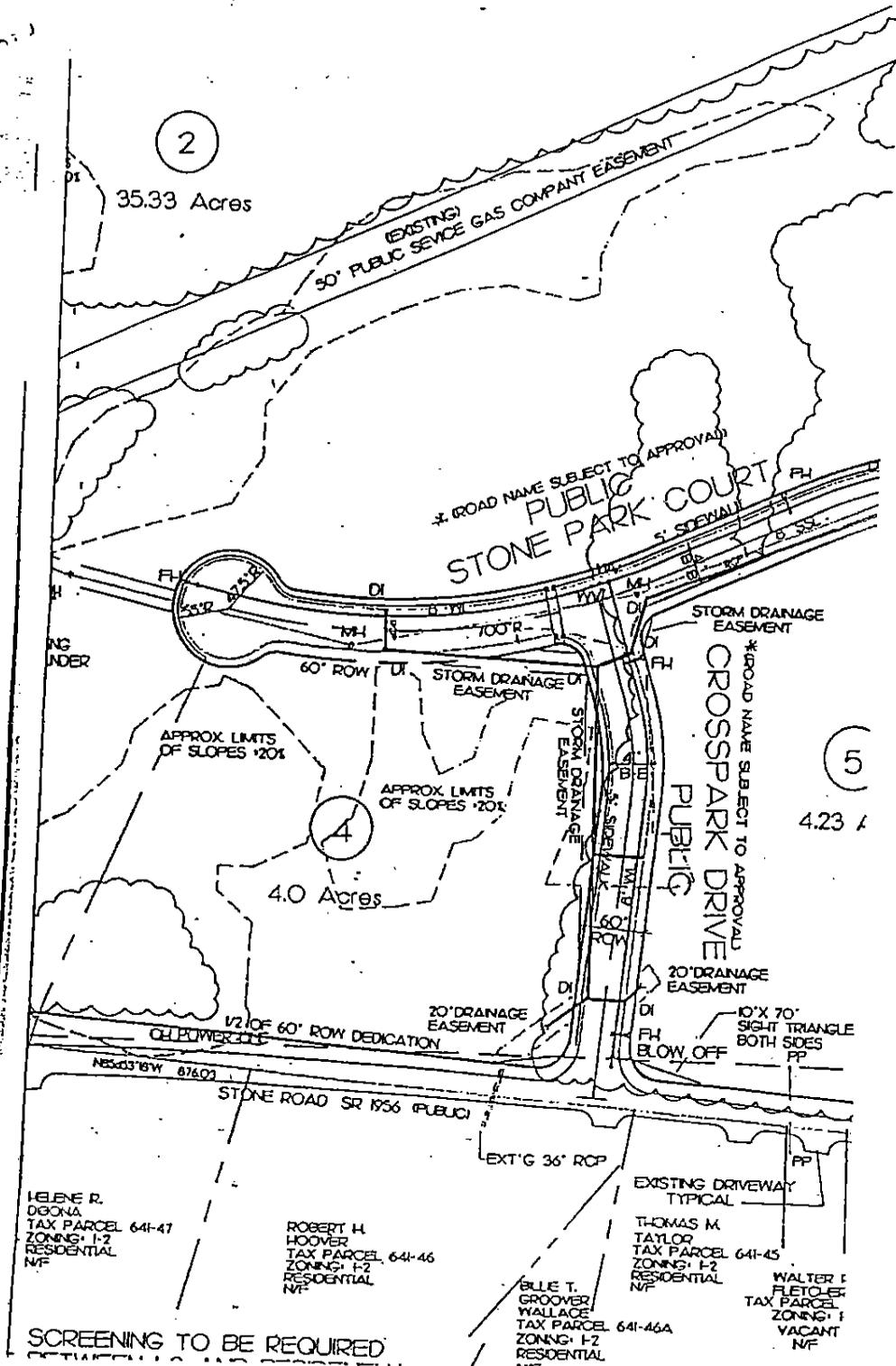
6. Waste and Cherokee enter into this Agreement for the mutual benefit of the Waste Tract and the Cherokee Tracts and agree to cooperate with one another in good faith to give effect to this Agreement.

7. This Agreement shall be construed in accordance with the laws of the State of North Carolina. This Agreement represents the entire agreement of the parties hereto, except for the Purchase Agreement, and all prior agreements and negotiations are merged herein. This Agreement shall inure to the benefit of and shall bind the heirs, successors and assigns of the parties hereto.

8. The determination that any provision of this Agreement shall be unenforceable for any reason shall not affect the enforceability and validity of the other provisions of this Agreement.

[The following page is the signature page]

\* THIS EXHIBIT IS NOT A SURVEY AND IS FOR INFORMATIONAL USE ONLY. NO PARTY MAY RELY ON ITS ACCURACY.



STATE OF NORTH CAROLINA

COUNTY OF DURHAM

INDEMNIFICATION AGREEMENT

THIS INDEMNIFICATION AGREEMENT (the "Indemnification Agreement") is made this the 31 day of January, 1997 by and between CHEROKEE SANFORD, INC. ("Seller") and WASTE INDUSTRIES, INC. ("Buyer").

W I T N E S S E T H:

WHEREAS, Seller intends to sell to Buyer and Buyer intends to buy from Seller all of the property identified as Tract 2, Stone Road Industrial Park, 37.197 acres, Durham, North Carolina (the "Property", as described in Exhibit A attached)

WHEREAS, in connection with such sale, Seller and Buyer do not intend that Buyer will assume any liability for the debts evidenced and secured by the Durham County Tax Collector for tax year 1997, listed under Parcel ID #641-02-051 (64.852 acres), and Seller is responsible for such 1997 Durham County taxes ("Taxes"), except for the amount of \$1522.11, representing the prorated amount of 1997 ad valorem taxes, based on the 1996 value and rate, attributed to the Property ("Buyer's Taxes"); and

WHEREAS, in order to assure Buyer that it shall not assume or become liable for any of the Taxes except Buyer's Taxes, and that Seller shall timely pay the Taxes, Seller desires to provide Buyer with this Indemnification; and

WHEREAS, in order to assure Seller that it shall only be responsible for the Taxes less the amount of Buyer's Taxes and that Buyer shall pay to Seller the amount of Buyer's Taxes at such time as Seller pays the Taxes, Buyer desires to provide Seller with this Indemnification;

NOW, THEREFORE, for and in consideration of the sale of the Property and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, Buyer and Seller hereby agree as follows:

1. Seller shall pay all Taxes before January 5, 1998;
2. Buyer shall pay to Seller upon demand and after notice the amount of the Buyer's Taxes at such time as Seller is prepared to pay the Taxes. In the event that the 1997 tax rate or value attributable to the Property differs from the 1996 tax rate or value, the amount paid by the Buyer shall be adjusted accordingly.
3. Seller indemnifies Buyer from and against any loss, claim or liability arising out of the Taxes (excluding Buyer's

Taxes) including without limitation the payment of any amounts due thereunder and the cost of defending against any such claims, including reasonable attorneys' fees, and Seller agrees that it shall remain fully responsible for payment of any amounts owing under the Taxes (excluding Buyer's Taxes) and for any and all liabilities arising thereunder.

4. Buyer indemnifies Seller from and against any loss, claim or liability arising out of the Buyer's Taxes, including without limitation the payment of any amounts due thereunder and the cost of defending against any such claims, including reasonable attorneys' fees, and Buyer agrees that it shall remain fully responsible for payment of any amounts owing under the Buyer's Taxes and for any and all liabilities arising thereunder.

5. This Indemnification shall survive the sale of the Property and shall remain in full force and effect until such time as the Taxes are paid in full, at which time this Indemnification shall terminate.

IN WITNESS WHEREOF, Buyer and Seller have executed this Indemnification as of the day and year first above written.

SELLER:

CHEROKEE SANFORD, INC.

By: John M. Corcoran

Title: Vice President

BUYER:

WASTE INDUSTRIES, INC.

By: John M. Berry

Title: President

IN WITNESS WHEREOF, the parties hereto have executed this Agreement under seal the day and year first above written.

WASTE INDUSTRIES, INC.

By: John M. Gerry President

ATTEST:

Robert Hibel  
Secretary  
(CORPORATE SEAL)

CHEROKEE SANFORD GROUP, INC.

By: J. F. Hill

ATTEST:

John M. Concoran  
Secretary  
(CORPORATE SEAL)

**Attachment C**

**Local Government Permit**

**Permit Renewal Application  
Waste Industries, LLC  
NC Solid Waste Permit No. 32-J**

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# DURHAM CITY - COUNTY BUILDING PERMIT

PERMIT NO.: 0302280

DATE ISSUED: 07/08/2003

ADDRESS: 0148 STONE PARK CT

TYPE PAYMENT: CASH

ADDRESS DESCRIPTION:

JURISDICTION: CITY

OWNER: WASTE INDUSTRIES

*James A. Morgan*  
\_\_\_\_\_  
Chief Building Inspector

ARCHITECT:

PHONE NUMBER:

TYPE OCCUPANCY: MODERATE HAZARD

TYPE APPLICATION: TEMPORARY USE

## ESTIMATED COST OF CONSTRUCTION

ZONING: I3

HD:

BOA:

GENERAL.....	WASTE INDUSTRIES	COST:		IP: N	LS: N
PLUMBING.....		COST:		CWS: N	FF: N
ELECTRICAL.....		COST:		MTC: N	SB: N
MECHANICAL.....		COST:		FD: N	SP: N
OTHER.....		COST:		WP: N	
TOTAL BUILDING COST:					

NUMBER OF BATHS:	TYPE OF CONSTRUCTION:	TSB OTHER	SET BACK: F:
NUMBER OF BEDROOMS:	TYPE OF HEAT:	NOT APPLICABLE	LS:
NUMBER OF ROOMS:	TYPE OF ROOF:	NOT APPLICABLE	RS:
NUMBER OF STORIES:	SQ. FT. LAND AREA:		R:
NUMBER OF UNITS:	SQ. FT. FLOOR AREA:		HT:
NUMBER OF HANDICAP UNITS:	NO. PARKING SPACES:		
BASEMENT: N	NO. HANDICAP PARKING SPACES:		TOTAL BUILDING PERMIT: 42.00

TAX MAP REFERENCE: 840-03-20-8957

JOB DESCRIPTION: TEMP DEMOLITION LANDFILL- 7/7/03-6/30/13  
INSP: DAVID COWARD- 560-4203

WASTE INDUSTRIES  
3301 BENSON DR  
RALEIGH NC 27609

STATE LICENSE NO.:  
PHONE NUMBER: 919 325 3000

This permit is hereby granted subject to compliance with the North Carolina State Building Code, the Durham City/County Zoning Ordinance, and all other applicable state and local laws.

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RECEIVED MAY - 7 2013

CITY OF DURHAM | DURHAM COUNTY  
 City-County Planning Department  
 101 CITY HALL PLAZA | DURHAM, NC 27701  
 919.560.4137 | F 919.560.4641  
[Planning@DurhamNC.gov](mailto:Planning@DurhamNC.gov)



**TEMPORARY USE PERMIT (TUP) APPLICATION**

Request for: New  Renewal  Amendment

About this Application

ONLY COMPLETE APPLICATIONS WILL BE ACCEPTED

**Submittal:** Temporary Permits are reviewed by the Durham City-County Planning Department. Efforts will be made to process complete applications within five business days. For applications that require multi-department review, the review time may exceed 5 days but will be completed within 30 days. Renewals require an application, documentation, and fee.

Please bring or mail a complete application and fee of \$52.00 to the address above. Make checks payable to "City of Durham." Out of state and starter checks will not be accepted. Cash or credit cards are only accepted in person at City Hall.

A site plan/diagram (11"x 17" maximum) of subject property **MUST BE ATTACHED**. Uses may also require permits through City-County Inspections. Temporary Use Permits apply to property outside the public right-of-way only.

*[Faded text, likely containing application details and contact information.]*

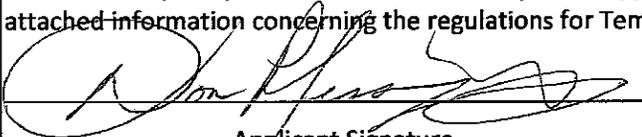
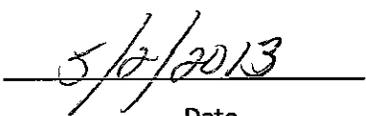
**Contact Information:** If you have any questions about the TUP, please contact the Planning Department between 8:00 a.m. and 5:00 p.m., Monday – Friday at [Planning@DurhamNC.gov](mailto:Planning@DurhamNC.gov) or 919-560-4137. For questions regarding Special Events or Street and Block Parties requiring a street closure, contact Durham Police Department at 919-560-4322.

Other Important Contacts:

Department	Phone	Purpose
Police	919-560-4322	For Police assistance in traffic control, parking direction, route layout.
Fire City and County	City 919- 560-4242 County 919-560-0660	All tents associated with the temporary use permit shall comply with the North Carolina Fire Code.
City-County Inspections	919-560-4144	To apply for building permits for temporary structures as well as for permits for temporary power needed for temporary use.
Parks and Recreation	919-560-4355	To arrange for using City property, such as parks, greenways, Community Centers, etc.
City Transportation	919-560-4366	To review traffic and pedestrian circulation, parking, etc. for temporary structures and uses.
Durham County Health Dept.	919-560-7800	To apply for permits for sales of food.
Solid Waste Management	919-560-4186	To make provisions for waste disposal and recycling.

Tracking Information (Staff Only)

Case Number: TUP 13027	Date/Time Rec'd: 5/10/13	Rec'd By: [Signature]
Fee: \$52.00 Paid <input checked="" type="checkbox"/>	Previous TUP Case #:	Prev. App/Renewal Date:
COA Required? <input type="checkbox"/> Case#:	COA Approved Date:	COA Conditions:

Type of Temporary Use Proposed (Check All that Apply)			
STRUCTURES	SALES	EVENTS	OTHER
<input type="checkbox"/> Construction Trailer Full-time staffing? Yes <input type="checkbox"/> No <input type="checkbox"/>	<input type="checkbox"/> Outdoor Non-Residential Sales	<input type="checkbox"/> Circus	<input checked="" type="checkbox"/> Demolition Landfill
<input type="checkbox"/> Real Estate Office/ Model Home	<input type="checkbox"/> Christmas Trees Lots-Residential	<input type="checkbox"/> Carnival	<input type="checkbox"/> Other (Please Describe)
<input type="checkbox"/> Temporary Public School Modular Classroom	<input type="checkbox"/> Fireworks	<input type="checkbox"/> Other (Please Describe)	
<input type="checkbox"/> Manufactured Home <i>Reason:</i>	<input type="checkbox"/> (Reserved)		
<input type="checkbox"/> Mobile Communication Tower	<input type="checkbox"/> Other (Please Describe)		
<input type="checkbox"/> Other (Please Describe)			
<b>Temporary Use/Activity Information</b>			
Business Name: Waste Industries		<input type="checkbox"/> Not Applicable (Not a Business)	
Describe Proposed Activities/Items For Sale: Demolition Landfill			
Hours/Days of Operation (Ex: Mon-Sat 10 am-2 pm):			
Planned Start Date: 07/07/2003	Planned End Date: 06/30/2023	Required End Date:	
<b>Property Information</b>			
Name of proposed location (shopping center, school, etc.): Waste Industries Durham District Campus			
Site Address: 148 Stone Park Ct	PID(s): 163431		
Zoning District(s): I	PIN(s): 0840-03-20-3968		
Overlay District(s): None	Tier(s): Suburban		
Current Use(s) at Site: Demolition Landfill	Jurisdiction: City <input checked="" type="checkbox"/> County <input type="checkbox"/> Flood Plain: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
<b>Applicant Information</b>			
Applicant Name: Donald Plessinger	Applicant is Owner: <input checked="" type="checkbox"/> Company: Waste Industries		
Address: 3301 Benson Dr, Suite 601	Phone: (919) 325-3000	Cell:	
City/State/ZIP: Raleigh, NC 27609	Email:		
I hereby certify that the information contained in this application is true to the best of my knowledge and I further certify that this temporary use will be conducted per all applicable state and local laws. I certify that I have received the attached information concerning the regulations for Temporary Uses.			
 Applicant Signature		 Date	

**Property Owner Information (If Different than Applicant):**

Owner Name: \_\_\_\_\_ Company: \_\_\_\_\_

Email: \_\_\_\_\_ Phone: \_\_\_\_\_ Cell: \_\_\_\_\_

Address: \_\_\_\_\_ City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

**Temporary Use On-Site Manager/Contact Information (If Same as Applicant, Please Enter Name Only):**

Manager Name: **Donald Plessinger** Company: \_\_\_\_\_

Email: \_\_\_\_\_ Phone: \_\_\_\_\_ Cell: \_\_\_\_\_

Address: \_\_\_\_\_ City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

**Property Owner Affirmation and Information (For Multiple Owners, Please Provide Separate Sheets):**

Property Owner(s): I, (please print name) \_\_\_\_\_, do hereby grant permission for the Applicant, (please print name) \_\_\_\_\_, to use my property for his/her temporary use or event.

Signature of Property Owner \_\_\_\_\_ Date \_\_\_\_\_

*This authorizes Durham City-County Planning Staff to perform site visits related to the review of this application.*

<b>Sales Only</b>	Have you applied for a Privilege/Business License through the Finance Department? <input type="checkbox"/> Yes <input type="checkbox"/> No	
	Describe items to be sold: _____	
<b>Events Only</b>	Will food be sold? <input type="checkbox"/> Yes <input type="checkbox"/> No	Will alcohol be sold? <input type="checkbox"/> Yes <input type="checkbox"/> No
	Will other goods be sold? <input type="checkbox"/> Yes <input type="checkbox"/> No	Have you applied for ABC License? <input type="checkbox"/> Yes <input type="checkbox"/> No
	Security provided by Durham Police or private agency? <input type="checkbox"/> DPD <input type="checkbox"/> Private	
	Private agency name & phone, if applicable: _____	
	Have Durham Police been notified? <input type="checkbox"/> Yes <input type="checkbox"/> No	Has Durham Fire Department been notified? <input type="checkbox"/> Yes <input type="checkbox"/> No
	The maximum number of people expected: _____	
Will animals be restrained? <input type="checkbox"/> Yes <input type="checkbox"/> No		Fireworks or other? <input type="checkbox"/> Yes <input type="checkbox"/> No

**PLANNING STAFF USE ONLY**

**For Temporary Uses that also need a New Business Verification Process:**

Proposed Use Category: \_\_\_\_\_

Previous Use/Tenant: \_\_\_\_\_

Allowed in Zone?  Yes  No "D" Plan?  Yes  No "D" Case # \_\_\_\_\_ Use Allowed?  Yes  No

Limited Use Standards?  Yes  No Adequate Parking?  Yes  No

Comments: \_\_\_\_\_

Field Investigation by: \_\_\_\_\_ Date: \_\_\_\_\_

Results/Comments: \_\_\_\_\_

Permitted Timeframe per Sec. 5.5: 15 years Renewal Allowed?  Y  N Allowed?  Y  N

Case Number: 101 Approved by: [Signature] Date Approved: 2/24/13

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**Attachment D**

**Operations Manual**

**Permit Renewal Application  
Waste Industries, LLC  
NC Solid Waste Permit No. 32-J**

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# OPERATIONS MANUAL

**Durham Land Clearing and Inert Debris Landfill**  
**Durham, North Carolina**  
NC Solid Waste Permit No. 32-J

Prepared for:



**Waste Industries, LLC**  
**(a Waste Industries Company)**  
**Durham, North Carolina**

**February 2014**

# SMITH+GARDNER

14 N. Boylan Avenue, Raleigh NC 27603 | 919.828.0577



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**OPERATIONS MANUAL**  
**NC Solid Waste Permit No. 32-J**

**Durham Land Clearing and Inert Debris Landfill**  
**Durham, North Carolina**

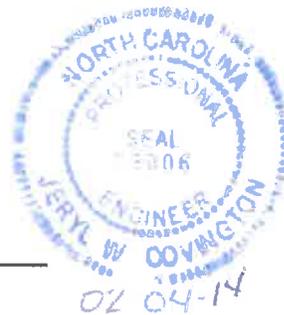
Prepared For:



**Waste Industries, LLC**  
**Durham, North Carolina**

**S+G Project No. DURHAM 14-1**

  
\_\_\_\_\_  
Jeryl W. Covington, P.E.  
Senior Project Engineer



  
\_\_\_\_\_  
Thomas B. Maier, P.E.  
Project Manager

**February 2014**

NC LIC. NO. C-0028 (ENGINEERING)

**SMITH + GARDNER**

14 N. Boyton Avenue, Raleigh NC 27603 | 919.828.0577

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**Durham Land Clearing and Inert Debris Landfill  
NC Solid Permit No. 32-J**

**Operations Manual**

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Appendix B	Waste Screening Form
Appendix C	Paint Filter Liquids Test – EPA Method 9095

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## 1.0 GENERAL FACILITY OPERATION

### 1.1 Overview

This Operations Manual was prepared for the Durham LCID Landfill, which operates as a land clearing and inert debris (LCID) landfill (Permit No. 32-J) and is owned by Waste Industries, LLC. The Durham LCID landfill, located at 148 Stone Park Court in Durham, NC and as shown in **Figure 1**, is currently operated as the Phase III portion of the Durham District Campus facility. The LCID landfill is located on approximately 12 acres within the westernmost portion of the property. This document discusses the operations of the landfill unit and other solid waste management activities:

- LCID landfill;
- Wood and Inert Debris Recycling Area; and
- Scales and Scale House.

Refer to **Figure 2** for the location of existing and proposed landfill units and other solid waste management activities.

The information contained herein was prepared to provide facility with a clear understanding of how the Design Engineer assumed that the completed facility would be operated. While deviations from the operations outlined here may be acceptable, they should be reviewed and approved by the Design Engineer. Please refer to the appropriate permit application for a detailed discussion and calculations for the individual components of each landfill unit, including phasing plans.

All personnel involved with the management or supervision of the facility shall review the documents and update as needed. A copy of this Operations Manual will be kept at the facility and will be available for use at all times.

### 1.2 Contact Information

All correspondence and questions concerning the operation of the Waste Industries, LLC facility should be directed to the appropriate Operator and State personnel listed below. Waste Industries, LLC is a wholly owned subsidiary of Waste Industries USA, Inc. For fire or police emergencies, dial 911.

#### 1.2.1 Waste Industries, LLC

Address: 148 Stone Park Court  
Durham, North Carolina 27703  
Scale House Phone: (919) 596-1363  
Fax: (919) 557-9523

General Manager: Donald Plessinger  
Email: [donald.plessinger@wasteindustries.com](mailto:donald.plessinger@wasteindustries.com)  
Phone: (919) 557-9583

### 1.2.2 Waste Industries USA, Inc.

Address: 3301 Benson Drive, Suite 600  
Raleigh, North Carolina 27609  
Region Manager: David Pepper  
Email: [david.pepper@wasteindustries.com](mailto:david.pepper@wasteindustries.com)  
Phone: (919) 877-2235  
Fax: (919) 557-9523

### 1.2.3 North Carolina Department of Environment and Natural Resources

#### North Carolina DENR - Raleigh Central Office (RCO)

217 West Jones Street  
1646 Mail Service Center  
Raleigh, North Carolina 27699-1646  
Phone: (919) 707-8200  
Fax: (919) 707-8200

#### North Carolina DENR – Winston-Salem Regional Office

585 Waughtown Street  
Winston-Salem, North Carolina 27107  
Phone: (336) 771-5000  
Fax: (336) 771-4630

#### Division of Waste Management (DWM) - Solid Waste Section:

Field Operations Branch Head: Mark Poindexter (RCO)  
Email: [mark.poindexter@ncdenr.gov](mailto:mark.poindexter@ncdenr.gov)  
Western District Supervisor: Jason Watkins (WSRO)  
Email: [jason.watkins@ncdenr.gov](mailto:jason.watkins@ncdenr.gov)  
Environmental Senior Specialist: John Patrone (WSRO)  
Email: [john.patrone@ncdenr.gov](mailto:john.patrone@ncdenr.gov)

#### Division of Energy, Mineral and Land Resources- Land Quality Section

Address: North Carolina DENR – Winston-Salem Regional Office (WSRO)  
585 Waughtown Street  
Winston-Salem, North Carolina 27107  
Phone: (336) 771-5000  
Fax: (336) 771-4630

Regional Engineer: Matthew Gantt, P.E. (WSRO)  
Email: [matthew.gantt@ncdenr.gov](mailto:matthew.gantt@ncdenr.gov)

Environmental Engineer I: Shannon Leonard (WSRO)  
Email: [Shannon.Leonard@ncdenr.gov](mailto:Shannon.Leonard@ncdenr.gov)

### **1.3 Facility Operating Hours**

Normal hours of operation will be 7:00 A.M. to 4:30 P.M. Monday through Friday. The facility will be closed on holidays as designated by the Owner. The Owner may elect to modify these hours from time to time.

### **1.4 Access Control**

Limiting access to the LCID landfill and recycling area is important for the following reasons:

- Unauthorized and illegal dumping of waste materials is prevented.
- Trespassing, and injury resulting therefrom, is discouraged.
- The risk of vandalism is greatly reduced.

Access to active areas of the landfill will be controlled by a combination of fences and natural barriers, and strictly enforced operating hours through the landfill entrance off of Stone Park Court. A scale house attendant will be on duty at all times when the landfill facility is open for public use to enforce access restrictions (see also **Section 1.4.1**).

#### **1.4.1 Physical Restraints**

The site will be accessed by Stone Park Court. Scales and a scale house are located near the entrance along Stone Park Court on the facility's property. All waste will have been weighed prior to being placed in the landfill or discharged in the recycling area.

#### **1.4.2 Security**

The entrance along Stone Park Court has a gate which will be securely locked during non-operating hours. Frequent inspections of gates and fences will be performed by landfill personnel. Evidence of trespassing, vandalism, or illegal operation will be reported to the Owner.

## **1.5 Signage**

A prominent sign(s) containing the information required by the DWM will be placed at the main landfill entrance. This sign(s) will provide information on operating hours, operating procedures, acceptable wastes and/or information as required under the facility permit. Additional signage will be provided as necessary within the landfill complex to distinctly distinguish the roadway to the active landfill phase(s). Service and maintenance roads for use by operations personnel will be clearly marked and barriers (e.g., traffic cones, barrels, etc.) will be provided as required.

### **1.5.1 Waste Limit Markers**

During construction of new phases, expansion of the facility, or following closure of areas, waste limit markers will be used to identify the permitted limits of waste. The waste markers will be constructed of non-degradable material and will clearly state "waste limit" or "edge of liner" in bold lettering. Offsets are acceptable such that all wording is clear to DWM and operational staff. The waste markers will be maintained and replaced when damaged

## **1.6 Communications**

Two way radio communications will be maintained between the landfill and reclamation operations, the landfill manager and the scale house and office. The scale house and site offices have telephones in case of emergency and for the conduct of day-to-day business. Emergency telephone numbers are displayed in these locations. Cellular phones are available for key operating staff (i.e. managers, operators).

## **1.7 Fire Control**

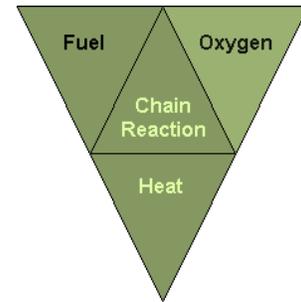
Although no open burning of waste is allowed at the facility, the possibility of fire within the processing and storage areas, the landfill, or a piece of equipment must be anticipated in the daily operation of the facility. Potential fire hazards include both surface conditions and subsurface conditions. Surface conditions include equipment operations and newly placed waste. Subsurface conditions include existing waste previously landfilled.

### **1.7.1 Open Burning**

With the exception of the controlled burning of land clearing debris generated on-site or from emergency clean-up operations, no open burning is allowed at the facility. Controlled burning will occur only if permitted or approval by the DWM, the Division of Air Quality (DAQ), and the local fire department.

### 1.7.2 Fire Tetrahedron<sup>1</sup>

To better understand the properties of fire we can examine the fundamental methods to extinguish it. The fire “tetrahedron” illustrates the rule that in order to ignite and burn, each component represents a property of flaming fire; fuel, oxygen, heat, and chemical chain reaction. A fire is prevented or extinguished by “removing” any one of them. A fire naturally occurs when the elements are combined in the right mixture (e.g., more heat needed for igniting some fuels, unless there is concentrated oxygen). The fire tetrahedron is a more modern adaptation of the traditional fire “triangle” recognizing the chemical reactions that may occur as a component – “the uninhibited chain reaction”. This chain reaction is the feedback of heat to the fuel to produce the gaseous fuel used in the flame. In other words, the chain reaction provides the heat necessary to maintain the fire. These principles are integral in the prevention and management of potential fire situations. *Please note this information is considered as a basis of understanding and may be superseded by the direction and skill of the local Fire Marshall.*



### 1.7.3 Equipment

A combination of factory installed fire suppression systems and/or portable fire extinguishers will be operational on all pieces of heavy equipment at all times. Potential fire hazards are created from the build-up of fine, dry dust particles on and around operational motors and control panels. The presence of these build-ups can cause overheating and potential fire if periodic equipment cleaning and maintenance are not practiced. Portable fire extinguishers should be maintained in a state of readiness on each piece of moving equipment and equipment should be cleaned periodically.

### 1.7.4 General Fire Management Strategies

Each fire situation is site specific; however, general strategies for active fire management include the following (in no particular order):

- Accelerated high temperature combustion (displacing fuel);
- Covering of the landfill burn area with soil (reduce oxygen);
- Covering of the burn area with foams (reduce oxygen);
- Flooding the burn area with water (reduce heat);
- Injecting an inert gas such as CO<sub>2</sub> (reduce oxygen);

---

<sup>1</sup> National Fire Protection Association (www.nfpa.org)

- Excavating the burning material (displacing fuel) and then extinguishing it in small controlled areas; and
- Applying extinguishing agents that will interfere with and inhibit the combustion process at the molecular level (break the chemical reaction).

#### 1.7.5 Fires Within Disposal Areas

Fires within the landfill disposal areas will be limited by the use of periodic cover as a fire break and control of "hot" loads entering the landfill. Trained personnel at the scale house will turn away all trucks containing waste that is suspected to be hot. If a hot load is placed on the working face, then the load will be spread as thin as possible and cover soil will be immediately placed on the waste to extinguish the fire.

In general, fires that break out close to the surface of the disposal area should be excavated and smothered with cover material. Deep fires should be smothered out by placing moist soil on the surface and by constructing soil barriers around the fire. Where the smothering technique fails, the burning material must be excavated and smothered or quenched with water once the burning material is brought to the surface. Water is usually not effective unless it can be directly applied to the burning material.

#### 1.7.6 Notification

The Operator will verbally notify the DWM (see **Section 1.2.3**) within 24 hours of discovery of a fire within any landfill disposal area. In addition, written documentation describing the fire, the actions carried out to extinguish the fire, and a strategy for preventing future occurrences will be provided to the DWM within 15 days following any such occurrence on the **Fire Occurrence Notification Form** included in **Appendix A**.

#### 1.7.7 Coordination With Local Fire Department

A copy of this Operations Manual will be filed with the local fire department including all contact information for the facility.

### 1.8 **SEVERE WEATHER CONDITIONS**

Unusual weather conditions can directly affect the operation of the facility. Some of these weather conditions and recommended operational responses are as follows.

### 1.8.1 Ice Storms

An ice storm can make access to the facility dangerous, prevent movement or placement of cover soil, and, thus, may require closure of the landfill and recycling area until the ice is removed or has melted.

### 1.8.2 Heavy Rains

Exposed soil surfaces can create a muddy situation in some portions of the facility during rainy periods. The control of drainage and use of crushed stone on unpaved roads should provide all-weather access for the site and promote drainage away from critical areas. In areas where the aggregate surface is washed away or otherwise damaged, new aggregate should be used for repair.

Intense rains can affect newly constructed drainage structures such as swales, diversions, cover soils, and vegetation. After such a rain event, inspection by facility personnel will be initiated and corrective measures taken to repair any damage found before the next rainfall.

### 1.8.3 Electrical Storms

The open area of a landfill is susceptible to the hazards of an electrical storm. If necessary, facility activities will be temporarily suspended during such an event. Refuge will be taken as necessary in the on-site buildings or in rubber-tired vehicles.

### 1.8.4 Windy Conditions

Facility operations during a particularly windy period may require that the working face be temporarily shifted to a more sheltered area. When this is done, the previously exposed face will be immediately covered with cover materials.

### 1.8.5 Violent Storms

In the event of hurricane, tornado, or severe winter storm warning issued by the National Weather Service, facility operations may be temporarily suspended until the warning is lifted. Equipment will be properly secured. A radio capable of tuning to NOAA Weather Radio-Providence shall be periodically monitored by landfill personnel.

## 1.9 EQUIPMENT REQUIREMENTS

The Operator will make available as needed the equipment required to perform the necessary facility activities. Periodic maintenance of all equipment and minor and major repair work will be performed at designated maintenance zones.

The anticipated equipment requirements for operation and maintenance of the site are listed in the following table. These may vary based upon volume coming into the facility for recycling or disposal.

**Table 1: Equipment Requirements**

<b>Description</b>	<b>Primary Function (Allocation)</b>
1) Excavator (1)	LCID landfill sorting, general site work, loading and placement of cover materials, and sediment control cleanup
2) Front End Loader (1)	Stripping and grading of borrow areas, fine grading, slope work, and site cleanup
3) Grinder (1)	Grind stumps and wood waste
4) Screening Equipment (1)	Process, and separate ground materials
5) Dump Truck (1)	Hauling soils and other materials
6) Water Truck (1)	Dust control
7) Other Equipment	As needed.

## 1.10 PERSONNEL REQUIREMENTS

At least one responsible individual trained and certified in facility operations will be present at all times during all operating hours of the facility. An attendant will be present to oversee the unloading of waste. Annually, a supervisor, certified as a Manager of Landfill Operations (MOLO) by the Solid Waste Association of North America (SWANA) will train each facility employee. As part of this training, personnel learn to recognize loads which may contain prohibited wastes.

The anticipated personnel requirements for operation and maintenance of the site are listed in the following table. The numbers of site personnel can be adjusted based upon volume of waste received for disposal.

**Table 2: Personnel Requirements**

<b>Description</b>	<b>Primary Function (Allocation)</b>
1) General Manager (1)	Overall management of the facility
2) Operations Manager (1)	Manage facility operations
3) Scale house Attendant (1)	Receiving screening, and weighing incoming loads
4) Operators (2)	Management of workface, inspect site, cover placement
5) Temp Labor (as needed)	General labor and operational staff around the site

### **1.11 HEALTH AND SAFETY**

All aspects of the facility operations were developed with the health and safety of the operating staff, customers, and neighbors in mind. Prior to commencement of operations of the facility, a member of the operating staff will be designated site safety officer. This individual, together with the facility's management will modify the site safety and emergency response program to remain consistent with SWANA and Occupational Safety and Health Administration (OSHA) guidance.

Safety equipment provided includes equipment rollover protective cabs, seat belts, audible reverse warning devices, hard hats, safety shoes, and first aid kits. Facility personnel will be encouraged to complete the American Red Cross Basic First Aid Course. Other safety requirements as designated by the Owner and Operator will also be implemented.

Facility employees will be routinely trained in health and safety by supervisory staff. All training will be documented. The following are some general recommendations for the health and safety of workers:

#### **1.11.1 Personal Hygiene**

The following items are recommended as a minimum of practice:

- Wash hands before eating, drinking, or smoking.
- Wear personal protective equipment as described in **Section 1.11.2**.
- Wash, disinfect, and bandage ANY cut, no matter how small it is. Any break in the skin can become a source of infection.
- Keep fingernails closely trimmed and clean (dirty nails can harbor pathogens).

### 1.11.2 Personal Protective Equipment

Personal Protective Equipment (PPE) must be evaluated as to the level of protection necessary for particular operating conditions and then made available to facility employees. The list below includes the PPE typically used and/or required in a solid waste management facility workplace.

- Safety shoes with steel toes.
- Noise reduction protection should be used in areas where extended exposures to continuous high decibel levels are expected.
- Disposable rubber latex or chemical resistant gloves for handling and/or sampling of waste materials.
- Dust filter masks.
- Hard hats (in designated areas).

Following use, PPEs' should be disposed of or adequately cleaned, dried, or readied for reuse.

### 1.11.3 Mechanical Equipment Hazard Prevention

All equipment should be operated with care and caution. All safety equipment such as horns, backup alarms, and lights should be functional. A Lockout-Tagout program will be used to identify equipment in need or under repair and insure that operation is "off-limits" prior to maintenance or repair. All operators will be trained in the proper operation of equipment.

### 1.11.4 Employee Health and Safety

Some general safety rules are:

- Consider safety first when planning and conducting activities.
- Review the equipment O&M manual(s) prior to attempting repairs/changes.
- Remember the buddy system for repair of mechanical equipment.
- Post emergency contact phone numbers.
- Provide easy and visible access to the Right to Know materials.
- Provide easy and visible access to first aid kits and fire extinguishers.

### 1.11.5 Physical Exposure

Facility personnel may come in contact with the fluids, solids, and airborne constituents found at the facility. Routine training should be conducted regarding the individual and collective materials used at the facility and their associated hazards. Training concerning safe work practices around these

potential exposures should cover the use of equipment and proper disposal procedures.

#### 1.11.6 Safety Data Sheets

Safety Data Sheets (SDS) will be collected on every waste (if available and appropriate) that enters the facility. Information will also be made available for all chemicals stored on site for use at the facility. SDS sheets will be stored in a location with all other Right to Know information for the site.

### 1.12 UTILITIES

Electrical power, water, telephone, and restrooms will be provided at the scale house and the site offices.

### 1.13 RECORD KEEPING PROGRAM

The Operator will maintain the following records in an operating record at the landfill:

- A. Current permit(s) (Permit to Construct, Permit to Operate, etc.);
- B. Current operations manual/plan and engineering plan;
- C. Inspection reports;
- D. Audit and compliance records;
- E. Annual landfill reports (including survey and other documentation related to airspace usage);
- F. Waste inspection records (see **Section 2.4.1**);
- G. Daily tonnage records and disposal records maintained at the scale house - including source of generation;
- H. Waste determination records;
- I. Quantity, location of disposal, generator, and special handling procedures for all special wastes disposed of at the site (if applicable);
- J. List of generators and haulers that have attempted to dispose of restricted wastes;
- K. Employee training procedures and records of training completed;
- L. All ground water monitoring and surface water quality information including:
  - 1. Monitoring well construction records;
  - 2. Sampling dates and results;
  - 3. Statistical analyses; and
  - 4. Results of inspections, repairs, etc.
- M. Gas monitoring results and remedial measures as required.
- N. All closure and post-closure information, where applicable, including:
  - 1. Notification of intent to close;
  - 2. Testing;
  - 3. Certification; and
  - 4. Recording.

- O. Cost estimates or financial assurance documentation;
- P. A notation of the date and time of final cover placement;

The operating record will be kept up to date by the Operator or his designee. It will be presented upon request to the DWM for inspection. A copy of this Operations Manual will be kept at the facility and will be available for use at all times.

## 2.0 WASTE HANDLING OPERATIONS

### 2.1 Overview

This section describes the required waste handling operations for the Durham LCID landfill facility.

### 2.2 Acceptable Waste

The Durham LCID Landfill facility will only accept waste that is generated from the approved service areas as shown in **Figure 3**, is consistent with the North Carolina solid waste regulations and the general conditions established in the operating permit. The acceptance of waste materials must satisfy the following definitions:

- Inert Debris Waste: as defined in G.S. 130A-290 (a)(14) means solid waste which consists solely of material that is virtually inert and that is likely to retain its physical and chemical structure under expected conditions of disposal, materials such as unpainted rock, brick, concrete, concrete block, uncontaminated soil, rock, and gravel.
- Land Clearing and Inert Debris Waste: as defined in G.S. 130A-290 (a)(15) means solid waste that is generated solely from land-clearing activities, such as yard trash, stumps, and tree trunks.
- Asphalt: in accordance with G.S. 130-294 (m).
- Other Waste: other solid waste as approved by the Solid Waste Section of the Division of Waste Management.

### 2.3 Prohibited Wastes

In accordance with 15A NCAC 13B .0542(e), municipal solid waste (MSW), and liquid or industrial waste will not be accepted at the facility. Hazardous waste as defined by 15A NCAC 13A including hazardous waste from conditionally exempt small quantity generators will not be accepted at the facility. Barrels and drums shall not be accepted unless they are empty and perforated with no materials or wastes contained within. In addition, no polychlorinated biphenyl (PCB) waste will be accepted. The Durham LCID Landfill will implement a waste screening program described in **Section 2.4**, to prohibit these types of waste.

The Durham LCID Landfill will not knowingly dispose of LCID waste from areas by which local government ordinances prohibit the disposal of LCID waste.

### 2.4 Waste Screening Programs

To assure prohibited wastes are not entering the facility, screening programs have been implemented. Waste received at the scale house entrance and directed to the working face is inspected by trained personnel. These individuals have been trained to spot

indications of unacceptable and suspicious wastes, including: hazardous placarding or markings, liquids, powders or dusts, sludges, bright or unusual colors, drums or commercial size containers, and "chemical" odors. Screening programs for visual and olfactory characteristics of prohibited wastes are an ongoing part of the facility operation.

#### 2.4.1 Waste Receiving and Inspection

All vehicles must stop at the scale house located near the entrance of the facility and visitors are required to sign-in. All waste transportation vehicles are weighed and the content of the load assessed. The scale attendant(s) requests from the driver of the vehicle a description of the waste it is carrying to ensure that unacceptable waste is not allowed into the facility. The attendant(s) then visually checks the vehicle as it crosses the scale. Signs informing users of the acceptable and unacceptable types of waste are posted at the scale house or in the vicinity of the entrance to the site. The facility receives segregated loads of LCID and sorted loads of LCID from the adjacent transfer station in 30 cubic yard dumpsters. The operating permit authorizes landfill operations in Phase 1, Cell Nos. 1, 2, and 3 and process/grinding operations atop future Phase 2, Cell Nos. 2, 3, and 4.

Materials received from the transfer station are screened and sorted prior to placement in the landfill. Vehicles carrying segregated loads of LCID are randomly selected for screening on a regular basis, depending on personnel available. At least one vehicle per week, but not less than 1% by weight of the waste stream entering the facility (based on the annual average), will be randomly selected by inspection personnel. A random truck number and time will be selected (e.g., the tenth load after 10:00 a.m.) on the day of inspections. However, if something looks suspicious is spotted in any waste load, that load is inspected further.

Random inspections for vehicles transporting waste to the landfill are directed to an area adjacent to the working face where the vehicle will be unloaded. Waste is carefully spread using suitable equipment. An attendant trained to identify wastes that are unacceptable at the landfill, inspects the waste discharged at the screening site. If unacceptable waste is found, including wastes generated from outside of the service area, the load will be isolated and secured by flagging, barrels, cones, or flags around the area. For unacceptable wastes that are non-hazardous, the Operator will then notify officials of the DWM (see **Section 1.2.3**) within 24 hours of attempted disposal of any waste the landfill is not permitted to receive in order to determine the proper course of action. For unacceptable wastes that are hazardous, the Hazardous Waste Contingency Plan outlined in **Section 2.4.2** will be followed. Within 15-days following the incident, the facility will submit written notification to DWM. The hauler is responsible for removing unacceptable waste from the facility's property.

If no unacceptable waste is found, the load will be pushed to the working face and incorporated into the daily waste cell. All random waste inspections will be documented by landfill staff using the waste screening form provided in **Appendix B**.

In addition to random waste screening described above, waste unloaded on the active face will be inspected by the equipment operators, trained to spot unacceptable wastes, before and during spreading and compaction. Any suspicious looking waste is reported immediately to the designated primary inspector for further evaluation.

Random inspections for vehicles transporting waste to the grinding and processing area are unloaded and screened prior to processing. The waste is carefully spread using suitable equipment. An attendant trained to identify wastes that are unacceptable for processing or landfill disposal inspects the waste discharged at the screening area. If unacceptable waste is found, the load will be isolated, reloaded, and the generator/hauler will be logged and escorted out of the facility. For unacceptable wastes that are non-hazardous, the Operator will notify the DWM (see **Section 1.2.3**) within 24-hours of attempted disposal of any waste the facility is not permitted to receive to determine the proper course of action. Within 15-days following the incident, the facility will submit written notification to DWM. The hauler is responsible for removing unacceptable waste from the facility's property.

For unacceptable wastes that are hazardous, the Hazardous Waste Contingency Plan outlined in **Section 2.4.2** will be followed. To determine the liquid content of the waste, a liquid determination will be performed by the paint filter test (see **Appendix C** for apparatus and procedures). The hauler is responsible for removing unacceptable waste from the landfill property. If no unacceptable waste is found, the load will be pushed to the working face and incorporated into the daily waste cell.

#### 2.4.2 Hazardous Waste Contingency Plan

In the event that identifiable hazardous waste or waste of questionable character is detected at landfill or grinding and processing area, appropriate equipment, protective equipment, personnel, and materials as necessary will be employed to isolate the wastes. DWM will be notified immediately (see **Section 1.2.3**) that an attempt was made to dispose of hazardous waste at the facility. If the vehicle attempting disposal of such waste is known, all attempts will be made to prevent that vehicle from leaving the site or, if the vehicle has left the site, immediate notice will be served on the owner of the vehicle that hazardous waste, for which they have responsibility, has been disposed of at the facility.

The facility staff will assist DWM as necessary and appropriate in the removal and disposition of the hazardous waste and in the prosecution of responsible parties. If needed, the hazardous waste will be covered with either on-site soils or other tarping material until such time when an appropriate method can be implemented to properly handle the waste. The cost of the removal and disposing of the hazardous waste will be charged to the owner of the vehicle involved. Any vehicle owner or operator who knowingly dumps hazardous waste in the landfill may be barred from using the landfill.

Should an incident where hazardous waste is found at the landfill occur, the event will be documented by landfill staff using the waste screening form provided in **Appendix B**.

Records of information gathered as part of the waste screening programs will be maintained at the facility during its active life and as long as required by Waste Industries, LLC and DWM.

## **2.5 Waste Disposal**

### 2.5.1 Access

The location of access roads during waste placement will be determined by operations personnel in order to reflect waste placement strategy. A waste placement grid is provided as **Figure 4**.

### 2.5.2 General Procedures

Waste transportation vehicles will arrive at the working face at random intervals. There may be a number of vehicles unloading waste at the same time, while other vehicles are waiting. In order to maintain control over the unloading of waste, a certain number of vehicles will be allowed on the working face at a time. The actual number will be determined by the truck spotter or equipment operator. This procedure will be used in order to minimize the potential of unloading unacceptable waste and to control disposal activity. Operations at the working face will be conducted in a manner which will encourage the efficient movement of transportation vehicles to and from the working face, and to expedite the unloading of waste.

The approach to the working face will be maintained such that two or more vehicles may safely unload side by side. A vehicle turn-around area large enough to enable vehicles to arrive and turn around safely with reasonable speed will be provided adjacent to the unloading area. The vehicles will back to a vacant area near the working face to unload. Upon completion of the unloading operation, the transportation vehicles will immediately leave the working face area. Personnel will direct traffic necessary to expedite safe movement of vehicles.

Waste unloading at the landfill will be controlled to prevent disposal in locations other than those specified by site management. Such control will also be used to confine the working face to a minimum width, yet allow safe and efficient operations. The width and length of the working face will be maintained as small as practical in order to maintain the appearance of the site, control windblown waste, and minimize the amount of cover required each day. Normally, only one working face will be active on any given day, with all deposited waste in other areas covered by either periodic or final cover, as appropriate.

The procedures for placement and compaction of solid waste include: unloading of vehicles, spreading of waste into 2 foot lifts, and compaction on relatively flat slopes (i.e. 5H:1V max.) using a minimum number of three full passes. The use of portable signs with directional arrows and portable traffic barricades will facilitate the unloading of wastes to the designated disposal locations. These signs and barricades will be placed along the access route to the working face of the landfill or other designated disposal areas which may be established.

### 2.5.3 Periodic Cover

Solid waste must be covered with one (1) foot of suitable soil cover at least monthly or when the active area reaches one (1) acre in size whichever occurs sooner. Cover materials should be placed more frequently as needed and is intended to control vectors, fire, odors, and blowing debris, and excess water infiltration.

## 2.6 Severe Weather Conditions

Unusual weather conditions can directly affect the operation of the facility. Some of these weather conditions and recommended operational responses are as follows.

### 2.6.1 Ice Storms

An ice storm can make access to the landfill dangerous, prevent movement or placement of periodic cover, and, thus, may require closure of the facility until the ice is removed or has melted.

### 2.6.2 Heavy Rains

Exposed soil surfaces can create a muddy situation in some portions of the landfill during rainy periods. The control of drainage and use of crushed stone on unpaved roads should provide all-weather access for the site and promote drainage away from critical areas. In areas where the aggregate surface is washed away or otherwise damaged, new aggregate should be used for repair.

Intense rains can affect newly constructed drainage structures such as swales, diversions, cover soils, and vegetation. After such a rain event, inspection by landfill personnel will be initiated and corrective measures taken to repair any damage found before the next rainfall.

### 2.6.3 Electrical Storms

The open area of a landfill is susceptible to the hazards of an electrical storm. If necessary, landfilling activities will be temporarily suspended during such an event. To guarantee the safety of all field personnel, refuge will be taken in the on-site buildings or in rubber-tired vehicles.

### 2.6.4 Windy Conditions

The proposed operational sequence minimizes the occurrence of unsheltered operations relative to prevailing winds. If this is not adequate during a particularly windy period, work will be temporarily shifted to a more sheltered area. When this is done, the previously exposed face will be immediately covered with cover materials. In addition, laborers will pick up wind-blown debris as needed after episodes of strong wind.

### 2.6.5 Violent Storm

In the event of hurricane, tornado, or severe winter storm warning issued by the National Weather Service, landfill operations may be temporarily suspended until the warning is lifted. Cover material will be placed on exposed waste and buildings and equipment will be properly secured.

## 2.7 Height Monitoring

The landfill staff will monitor landfill top and side slope elevations, when such elevations approach the grades shown in the permitted design prepared by Sungate Design Group, P.A., as provided in drawings entitled "Waste Industries, Inc., Durham District Campus, Temporary LCID Landfill," dated January 1999.

## 2.8 Recordkeeping

The facility will maintain an accurate record of the amount of solid waste received at the landfill. On or before January 1 annually, the operator will submit a facility report to the DWM and to each county from which waste was received. Minimally, the facility report will document the tons of waste received on a monthly basis, the origin of the waste, the type of waste received, the tons diverted, and the tons disposed. A measurement of the volume utilized in the landfill cells must be performed during the first and second quarter of each calendar year.

### **3.0 RECYCLING AREA OPERATIONS**

The facility's recycling operation is intended to reclaim and/or process reusable materials from the site's waste stream and temporarily store and process these materials within the permitted facility. The material recycling operation will take place on Phase 2, Cells 2, 3 and 4 (as shown on **Figure 2**). Materials that will be recycled include:

- Wood waste, clean lumber scraps, pallets, plywood, non-treated wood, and
- Concrete, asphalt, brick, block.

Treated wood will not be collected, stored, or processed. Painted inert debris will be sampled to insure that the lead levels are below the 0.5% lead by weight (or 5,000 parts per million) or 1 mg/cm<sup>3</sup> based on Title X of the Housing and Community Development Act and the Toxic Substances Act. Copies of the test results will be maintained on-site and will be made available to DWM upon request.

#### **3.1 Access**

Traffic will be clearly directed to the appropriate recycling area. Rutting of gravel roadway surfaces must be repaired by the placement of additional gravel on the roadway and not solely by grading the rut. This will maintain the separator geotextile placed below most gravel roadway surfaces.

#### **3.2 Grinding/Chipping**

Grinding and/or chipping activities will be conducted on an as needed basis to facilitate the landfill operations. Employees conducting the grinding/chipping activities will operate and maintain the equipment in a safe manner and according to the manufacturer's recommendation and guidance.

#### **3.3 Screening**

Screening will occur adjacent to the grinding and chipping activities on an as-needed basis. Screening activities will occur after the grinding and/or chipping operations. The screening will separate materials into usable and unusable product. Usable product will be sold off-site or used for on-site mulching, road aggregate, and erosion control. Unusable material will be disposed in the landfill.

#### **3.4 Safety**

All equipment operating in the recycling area will be equipped with back-up alarms. All appropriate Personal Protective Equipment will be worn by workers in the recycling area, including two-way radios between the workers and equipment operators.

### **3.5 Equipment**

Anticipated equipment to be used in and around the recycling area will include:

- rubber-tired loader,
- grinder and/or chipper and
- screener.

Other equipment may be added as needed.

### **3.6 Personnel**

Based on permitted site tonnage, up to three (3) site personnel are anticipated for operations within the recycling area of the site.

### **3.7 Recordkeeping**

The facility will maintain accurate records of daily waste and recycling material activities. Daily records will document the weight of waste received and recovered and the origins of the loads. Additionally, the operator will maintain monthly records of the amount of recycled materials sold or used on-site and the amount of waste transported for disposal. Documentation of end-users of the recycled materials will be maintained on-site.

On or before January 1 annually, the operator will submit a facility report to the DWM and to each county from which waste was received. Minimally, the facility report will document the tons of waste received on a monthly basis, the origin of the waste, the type of waste received, the tons diverted, and the tons disposed.

### **3.8 Recovered Materials End Uses**

Heavy equipment and screeners will assist with materials separation, as needed. Materials will be placed into containers or stockpiles, processed, transported for disposal, and either re-used on-site or sold. Recovered materials will not be stored speculatively. The anticipated end uses of the recovered wastes the following:

**Table 3: Recovered Materials End Uses**

<b>RECOVERED WASTE</b>	<b>GENERAL OPERATION</b>	<b>ANTICIPATED END USES</b>
Clean Wood Waste (no painted, stained, or otherwise contaminated wood)	Segregated with loader or placed into roll-off box; wood will be chipped and/or ground on-site or shipped off-site for grinding.	Sold off-site, or used for on-site mulching, erosion control.
Clean Concrete, Brick, Concrete Block	Segregated with loader; directly delivered to landfill or stockpiled on-site.	Used for on-site road aggregate, delivered to landfill, or sold off-site.

## 4.0 ENVIRONMENTAL MANAGEMENT

### 4.1 Overview

This section reviews the overall environmental management tasks required for the successful operation of the Durham LCID Landfill.

### 4.2 Erosion and Sedimentation Control

A separate erosion and sedimentation control plan is provided in the Temporary LCID Landfill S&E Plan prepared by prepared by Sungate Design Group, P.A., as provided in drawings entitled "Waste Industries, Inc., Durham District Campus, Temporary LCID Landfill," dated January 1999. This plan identifies the engineered features and practices for preventing erosion and controlling sedimentation at this site and diverting surface water from the operational area. The erosion and sediment control system consists of the following major components:

1. Drainage Channels,
2. Diversion Berms (Side Slope Swales and Cap Diversion Berm),
3. Down Pipes, and
4. Sediment Basins/Traps.

The landfill side slopes are designed with 3H:1V slopes and diversion berms placed along the slope. The berms are designed to keep water volumes and velocities low enough to minimize erosion of the landfill cover. Vegetative ground cover will be established within 30 working days over areas that do not receive waste for 30 days or upon the completion of any phase of the LCID landfill. Maintenance of the cover system will involve periodic mowing and repair of any erosion problems and bare spots. These items will be inspected at least once a month and after any significant rainfall events.

The down pipes are designed to carry concentrated flows of surface water off of the landfill. The down pipes will be inspected at least once a month and after any significant rainfall event.

Additional erosion control measures have been taken within the drainage channels and at points of stormwater discharge. Within 120 calendar days after the completion of the final disposal operations, the disposal area must be covered with a minimum of one (1) foot of suitable soil sloped to control surface water runoff. All final cover should be inspected regularly for erosion damage and promptly repaired.

Stormwater run-off from the LCID landfill is conveyed to sediment basins and traps. These structures should be inspected regularly for sediment build-up or erosion damage and should be cleaned out when sediments fill the lower half of each structure.

#### 4.2.1 Stormwater Diversion in Constructed Cells

Waste shall not be placed in standing water. All collected stormwater within the cell shall be removed by pumping in low areas.

#### 4.3 Litter Control

The vegetative trees/brushes act as a barrier to keep litter contained within the site and a litter control crew will pick up litter around the site and on access roads routinely as required.

#### 4.4 Vector Control

Due to the nature of the waste disposed in this landfill, vector control is not expected to be of concern.

#### 4.5 Odor Control

Due to the nature of the waste disposed in this landfill, odor is not expected to be of concern.

#### 4.6 Dust Control

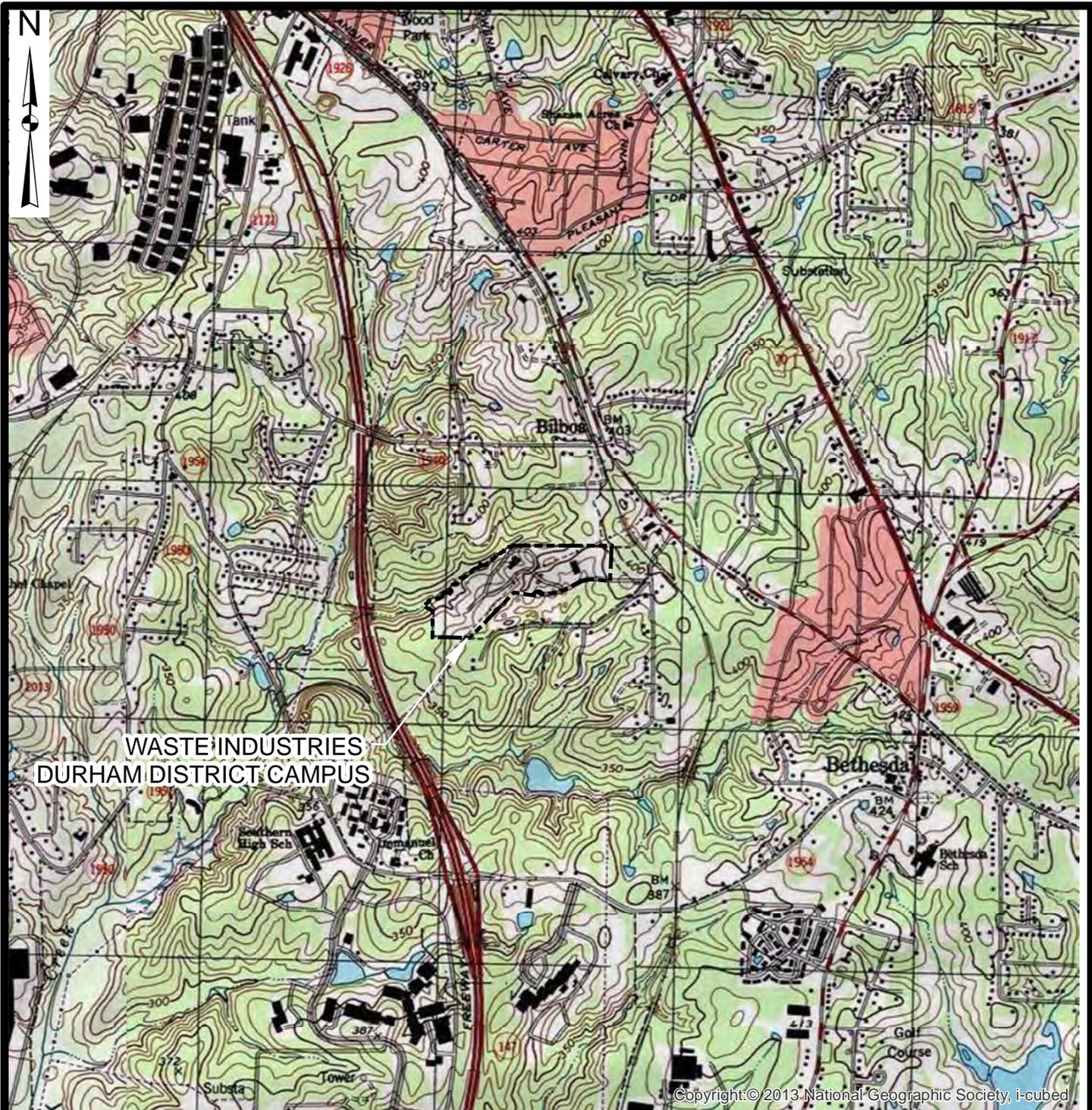
Dust related to waste hauler traffic on the access roads will be minimized by using a water truck to limit dust on the gravel portion of the road. Dust generated by excavation of cover soil will be limited by watering the cut soil areas if accessible to the water truck.

#### 4.7 Cover Monitoring

Routine inspections of the entire site will include monitoring the landfill covers to ensure the adequacy of the vegetative protective cover and to identify potential erosion concerns. Corrective actions will be taken to address any identified areas of concern.

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REFERENCE: TOPOGRAPHY FROM U.S.G.S. 7.5 MIN. QUADRANGLE "SOUTHEAST DURHAM", PHOTOREVISED 1993, 2002.



WASTE INDUSTRIES, LLC  
 DURHAM LCID LANDFILL  
 148 STONE PARK CT, DURHAM, NORTH CAROLINA  
 SITE MAP

NC LIC. NO. C-0828 (ENGINEERING)

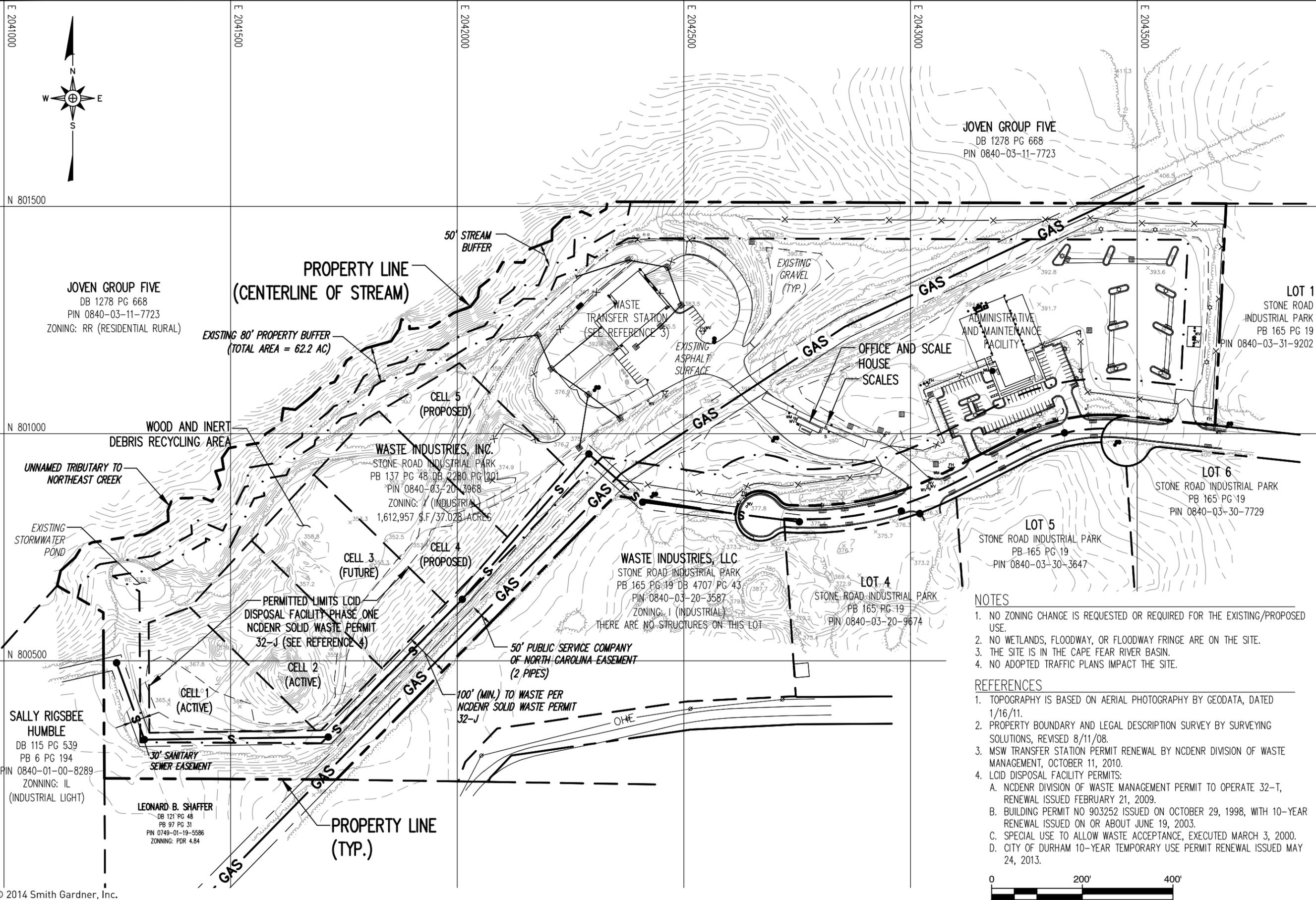
# SMITH + GARDNER

14 N. Boylan Avenue, Raleigh NC 27603 | 919.828.0577

DRAWN: J.A.L.	APPROVED: J.W.C.	SCALE: AS SHOWN	DATE: Jan. 2014	PROJECT NO.: DURHAM 14-1	FIGURE NO.: 1
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**JOVEN GROUP FIVE**  
DB 1278 PG 668  
PIN 0840-03-11-7723  
ZONING: RR (RESIDENTIAL RURAL)

**PROPERTY LINE  
(CENTERLINE OF STREAM)**

**EXISTING 80' PROPERTY BUFFER  
(TOTAL AREA = 62.2 AC)**

**WOOD AND INERT  
DEBRIS RECYCLING AREA**

**UNNAMED TRIBUTARY TO  
NORTHEAST CREEK**

**EXISTING  
STORMWATER  
POND**

**WASTE INDUSTRIES, INC.**  
STONE ROAD INDUSTRIAL PARK  
PB 137 PG 48 DB 2280 PG 201  
PIN 0840-03-20-3968  
ZONING: I (INDUSTRIAL)  
1,612,957 S.F./37.028 ACRES

**CELL 3  
(FUTURE)**

**CELL 4  
(PROPOSED)**

**PERMITTED LIMITS LCID  
DISPOSAL FACILITY PHASE ONE  
NCDENR SOLID WASTE PERMIT  
32-J (SEE REFERENCE 4)**

**CELL 2  
(ACTIVE)**

**CELL 1  
(ACTIVE)**

**SALLY RIGSBEE  
HUMBLE**  
DB 115 PG 539  
PB 6 PG 194  
PIN 0840-01-00-8289  
ZONING: IL  
(INDUSTRIAL LIGHT)

**LEONARD B. SHAFFER**  
DB 121 PG 48  
PB 97 PG 31  
PIN 0749-01-19-5586  
ZONING: PDR 4.84

**PROPERTY LINE  
(TYP.)**

**WASTE INDUSTRIES, LLC**  
STONE ROAD INDUSTRIAL PARK  
PB 165 PG 19 DB 4707 PG 43  
PIN 0840-03-20-3587  
ZONING: I (INDUSTRIAL)  
THERE ARE NO STRUCTURES ON THIS LOT

**LOT 4**  
STONE ROAD INDUSTRIAL PARK  
PB 165 PG 19  
PIN 0840-03-20-9674

**LOT 5**  
STONE ROAD INDUSTRIAL PARK  
PB 165 PG 19  
PIN 0840-03-30-3647

**LOT 6**  
STONE ROAD INDUSTRIAL PARK  
PB 165 PG 19  
PIN 0840-03-30-7729

**JOVEN GROUP FIVE**  
DB 1278 PG 668  
PIN 0840-03-11-7723

**LOT 1**  
STONE ROAD INDUSTRIAL PARK  
PB 165 PG 19  
PIN 0840-03-31-9202

**NOTES**

1. NO ZONING CHANGE IS REQUESTED OR REQUIRED FOR THE EXISTING/PROPOSED USE.
2. NO WETLANDS, FLOODWAY, OR FLOODWAY FRINGE ARE ON THE SITE.
3. THE SITE IS IN THE CAPE FEAR RIVER BASIN.
4. NO ADOPTED TRAFFIC PLANS IMPACT THE SITE.

**REFERENCES**

1. TOPOGRAPHY IS BASED ON AERIAL PHOTOGRAPHY BY GEODATA, DATED 1/16/11.
2. PROPERTY BOUNDARY AND LEGAL DESCRIPTION SURVEY BY SURVEYING SOLUTIONS, REVISED 8/11/08.
3. MSW TRANSFER STATION PERMIT RENEWAL BY NCDENR DIVISION OF WASTE MANAGEMENT, OCTOBER 11, 2010.
4. LCID DISPOSAL FACILITY PERMITS:
  - A. NCDENR DIVISION OF WASTE MANAGEMENT PERMIT TO OPERATE 32-T, RENEWAL ISSUED FEBRUARY 21, 2009.
  - B. BUILDING PERMIT NO 903252 ISSUED ON OCTOBER 29, 1998, WITH 10-YEAR RENEWAL ISSUED ON OR ABOUT JUNE 19, 2003.
  - C. SPECIAL USE TO ALLOW WASTE ACCEPTANCE, EXECUTED MARCH 3, 2000.
  - D. CITY OF DURHAM 10-YEAR TEMPORARY USE PERMIT RENEWAL ISSUED MAY 24, 2013.



PREPARED FOR: **WASTE INDUSTRIES, LLC**  
 148 STONE PARK CT, DURHAM, NORTH CAROLINA  
 FACILITY MAP

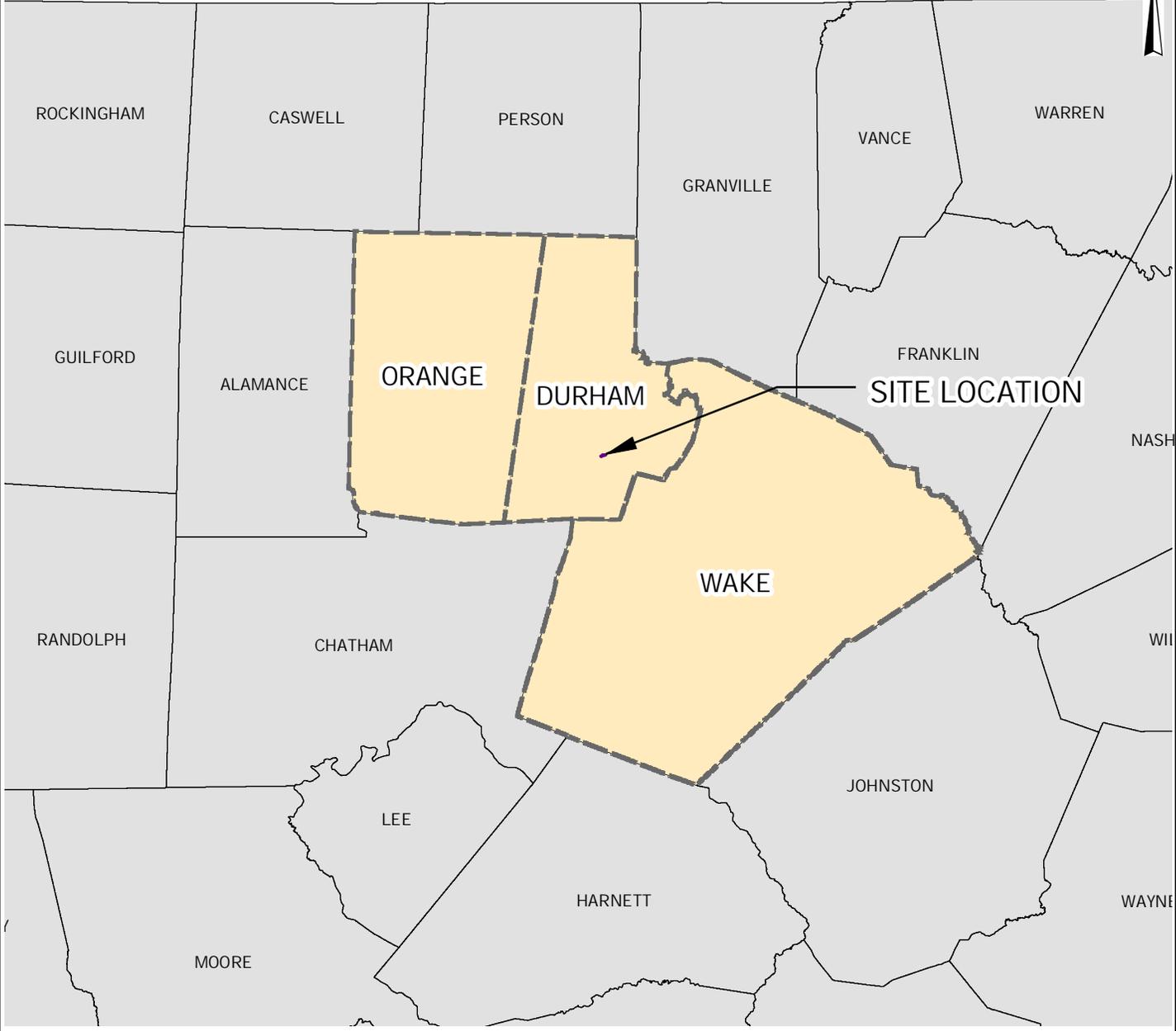
PREPARED BY: **SMITH+GARDNER**  
 NC LIC. NO. C-0828 (ENGINEERING)  
 14 N. Boylan Avenue, Raleigh NC 27603 | 919.828.0577

SCALE:	AS SHOWN
APPROVED:	J.W.C.
DRAWN:	J.A.L.
FIGURE NO.:	2
PROJECT NO.:	
DATE:	Jan 2014
FILENAME:	DURHAM-B0078

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# LEGEND

 SERVICE AREA



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WASTE INDUSTRIES, LLC  
 DURHAM LCID LANDFILL  
 148 STONE PARK CT, DURHAM, NORTH CAROLINA  
 SERVICE AREA MAP

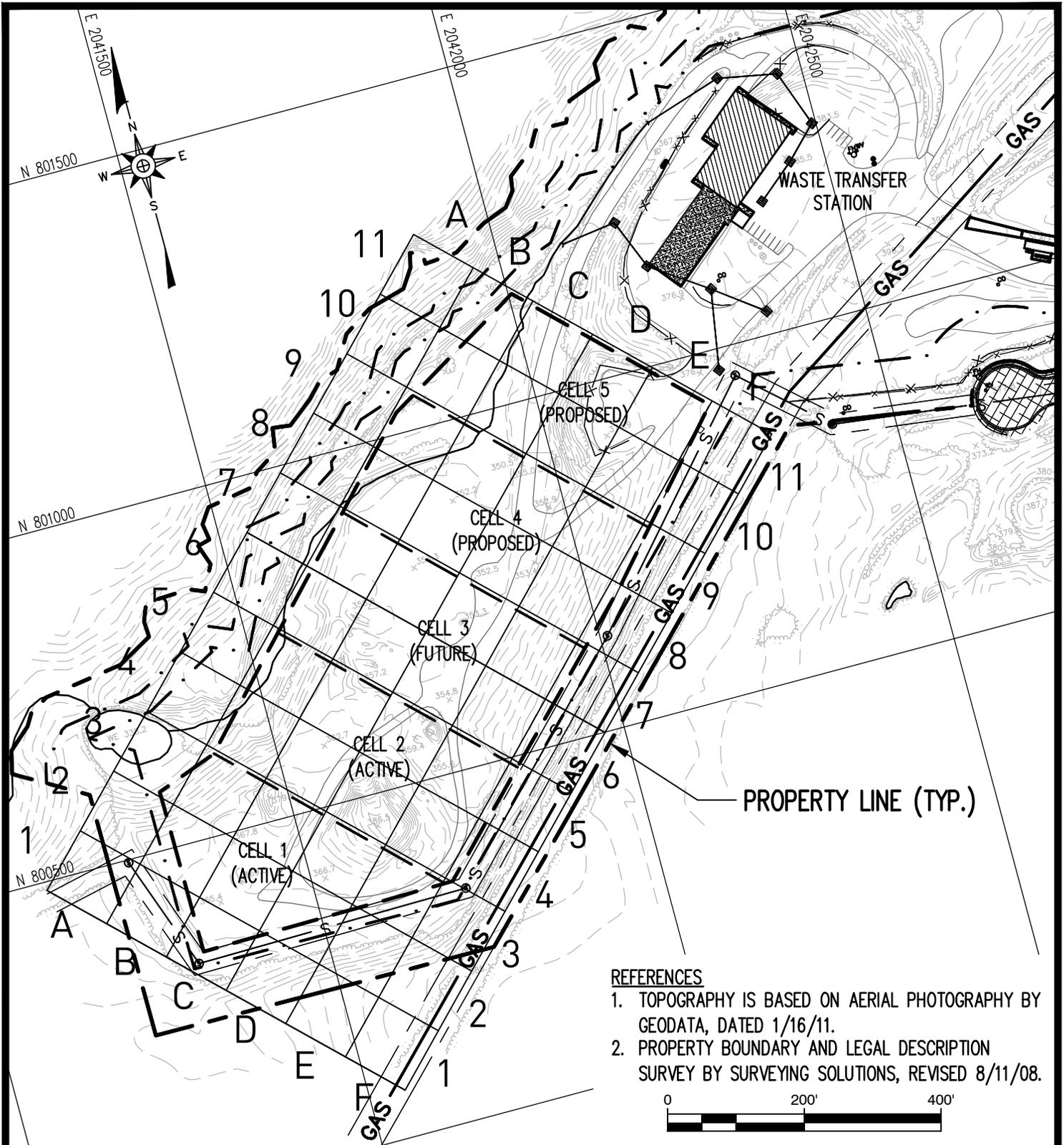
NC LIC. NO. C-0828 (ENGINEERING)

## SMITH+GARDNER

14 N. Boylan Avenue, Raleigh NC 27603 | 919.828.0577

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PREPARED FOR:

**WASTE INDUSTRIES, LLC**  
**DURHAM LCID LANDFILL**  
**148 STONE PARK CT, DURHAM, NORTH CAROLINA**  
**WASTE PLACEMENT GRID**

PREPARED BY:

NC LIC. NO. C-0828 [ENGINEERING]

**SMITH+GARDNER**

14 N. Boylan Avenue, Raleigh NC 27603 | 919.828.0577

DRAWN:	APPROVED:	SCALE:	DATE:	PROJECT NO.:	FIGURE NO.:	FILE NAME:
J.A.L.	J.W.C.	AS SHOWN	Jan 2014	DURHAM 14-1	4	DURHAM-A0077

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## **Appendix A**

### **Fire Occurrence Notification Form**

**Operations Manual  
Waste Industries, LLC  
NC Solid Waste Permit No. 32-J**

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**SOLID WASTE MANAGEMENT FACILITY  
FIRE OCCURRENCE NOTIFICATION  
NC DENR Division of Waste Management  
Solid Waste Section**



Notify the Section verbally within 24 hours and submit written notification within 15 days of the occurrence.  
(If additional space is needed, use back of this form.)

NAME OF FACILITY: \_\_\_\_\_ PERMIT # \_\_\_\_\_

DATE AND TIME OF FIRE: \_\_\_\_\_ @ \_\_\_\_\_

HOW WAS THE FIRE REPORTED AND BY WHOM:  
\_\_\_\_\_

LIST ACTIONS TAKEN:  
\_\_\_\_\_

WHAT WAS THE CAUSE OF THE FIRE:  
\_\_\_\_\_

DESCRIBE AREA, TYPE, AND AMOUNT OF WASTE INVOLVED:  
\_\_\_\_\_

WHAT COULD HAVE BEEN DONE TO PREVENT THIS FIRE:  
\_\_\_\_\_

DESCRIBE PLAN OF ACTIONS TO PREVENT FUTURE INCIDENTS:  
\_\_\_\_\_

NAME: \_\_\_\_\_ TITLE: \_\_\_\_\_ DATE: \_\_\_\_\_

\*\*\*\*\*

THIS SECTION TO BE COMPLETED BY SOLID WASTE SECTION REGIONAL STAFF  
DATE RECEIVED \_\_\_\_\_

List any factors not listed that might have contributed to the fire or that might prevent occurrence of future fires:

FOLLOW-UP REQUIRED:  
 NO     PHONE CALL     SUBMITTAL     MEETING     RETURN VISIT    BY: \_\_\_\_\_ (DATE)

ACTIONS TAKEN OR REQUIRED:  
\_\_\_\_\_

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## **Appendix B**

### **Waste Screening Form**

**Operations Manual  
Waste Industries, LLC  
NC Solid Waste Permit No. 32-J**

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Waste Industries, Inc.  
Durham Land Clearing and Inert Debris Landfill  
Permit No. 32-J  
(919) 596-1363

**WASTE SCREENING FORM**

Day / Date: \_\_\_\_\_ Time Weighed in: \_\_\_\_\_  
Truck Owner: \_\_\_\_\_ Driver Name: \_\_\_\_\_  
Truck Type: \_\_\_\_\_ Vehicle ID / Tag No: \_\_\_\_\_  
Weight: \_\_\_\_\_ Tare: \_\_\_\_\_  
Waste Generator / Source: \_\_\_\_\_

Reason Load Inspected: Random Inspection \_\_\_\_\_ Staff Initials \_\_\_\_\_  
Detained at Scales \_\_\_\_\_ Staff Initials \_\_\_\_\_  
Detained by Operating Staff \_\_\_\_\_ Staff Initials \_\_\_\_\_

Inspection Location: \_\_\_\_\_

Approved Waste Determination Form Present? Yes \_\_\_\_\_ No \_\_\_\_\_ N/A \_\_\_\_\_

Description of Load: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Load Accepted (signature) \_\_\_\_\_ Date \_\_\_\_\_  
Load Not Accepted (signature) \_\_\_\_\_ Date \_\_\_\_\_

Reason Load Not Accepted (complete only if load not accepted)

Description of Suspicious Contents:  
Color: \_\_\_\_\_ Hazardous Waste Markings: \_\_\_\_\_  
Texture: \_\_\_\_\_  
Drums Present: \_\_\_\_\_ Smell: \_\_\_\_\_  
Est. Cubic Yards in Load: \_\_\_\_\_  
Est. Tons in Load: \_\_\_\_\_

City of Durham Emergency Management Contacted? Yes \_\_\_\_\_ No \_\_\_\_\_

Company or Authority Contacted? \_\_\_\_\_  
Hazardous Materials Present: \_\_\_\_\_

Hauler Notified (if waste not accepted) Phone: \_\_\_\_\_ Time Contacted: \_\_\_\_\_  
Other Observations: \_\_\_\_\_

Final Disposition  
Signed: \_\_\_\_\_ Date \_\_\_\_\_  
Waste Screening Inspector or Landfill Manager

Attach related correspondence to this form.  
File completed form in Operating Record.

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## **Appendix C**

### **Paint Filter Liquids Test EPA Method 9095**

**Operations Manual  
Waste Industries, LLC  
NC Solid Waste Permit No. 32-J**

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# METHOD 9095 PAINT FILTER LIQUIDS TEST From EPA SW-846

## 1.0 SCOPE AND APPLICATION

1.1 This method is used to determine the presence of free liquids in a representative sample of waste.

1.2 The method is used to determine compliance with 40 CFR 264.314 and 265.314.

## 5. SUMMARY OF METHOD

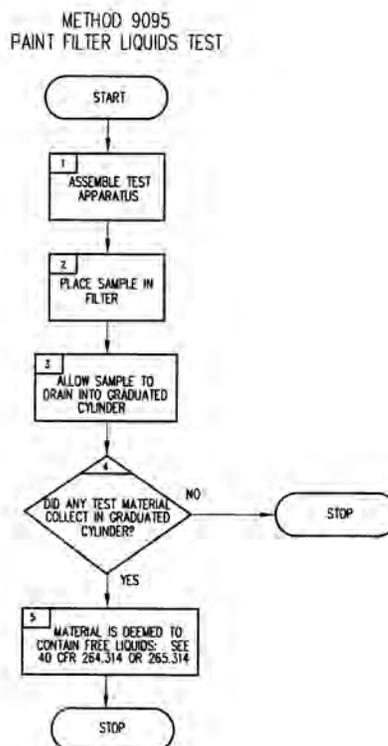
2.1 A predetermined amount of material is placed in a paint filter. If any portion of the material passes through and drops from the filter within the 5 minute test period, the material is deemed to contain free liquids.

## 6. INTERFERENCES

3.1 Filter media were observed to separate from the filter cone on exposure to alkaline materials. This development causes no problem if the sample is not disturbed.

## 7. APPARATUS AND MATERIALS

4.1 Conical paint filter:  
Mesh number 60 (fine meshed)



size). Available at local paint stores such as Sherwin-Williams and Glidden for an approximate cost of \$0.07 each.

4.2 Glass funnel: If the paint filter, with the waste, cannot sustain its weight on the ring stand, then a fluted glass funnel or glass funnel with a mouth large enough to allow at least 1 inch of the filter mesh to protrude should be used to support the filter. The funnel is to be fluted or have a large open mouth in order to support the paint filter yet not interfere with the movement, to the graduated cylinder, of the liquid that passes through the filter mesh.

4.3 Ring stand and ring or tripod.

4.4 Graduated cylinder or beaker: 100-mL.

## 8. REAGENTS

5.1 None.

## 9. SAMPLE COLLECTION, PRESERVATION, AND HANDLING

6.1 All samples must be collected according to the directions in Chapter Nine of EPA SW-846.

6.2 A 100 mL or 100 g representative sample is required for the test. If it is not possible to obtain a sample of 100 mL or 100 g that is sufficiently representative of the waste, the analyst may use larger size samples in multiples of 100 mL or 100 g, i.e., 200, 300, 400 mL or g. However, when larger samples are used, analysts shall divide the sample into 100-mL or 100-g portions and test each portion separately. If any portion contains free liquids, the entire sample is considered to have free liquids.

## 10. PROCEDURE

7.1 Assemble test apparatus as shown in **Figure 1**.

7.2 Place sample in the filter. A funnel may be used to provide support for the paint filter.

7.3 Allow sample to drain for 5 minutes into the graduated cylinder.

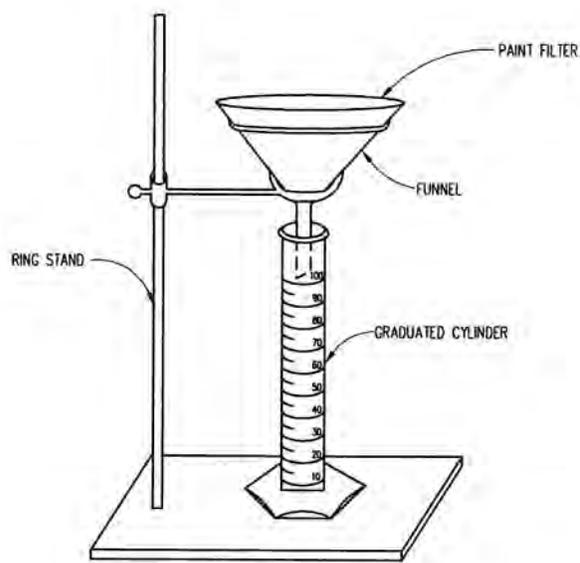


FIGURE 1. PAINT FILTER TEST APPARATUS.

7.4 If any portion of the test material collects in the graduated cylinder in the 5-min. period, then the material is deemed to contain free liquids for purposes of 40 CFR 264.314 and 265.314.

## **11. QUALITY CONTROL**

8.1 Duplicate samples should be analyzed on a routine basis.

## **12. METHOD PERFORMANCE**

9.1 No data provided.

## **13. REFERENCES**

10.1 None required.

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**Attachment E**

**Financial Assurance**

**Permit Renewal Application  
Waste Industries, LLC  
NC Solid Waste Permit No. 32-J**

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**Waste Industries, LLC (NC Solid Waste Permit No. 32-J)  
Engineer's Post Closure Cost Estimate**

Item	Quantity	Unit	Comments
<b>Final Cover Management</b>			
Area of maintenance	4.5	acres	Extends to area immediately around landfill.
Mowing	\$100	per acre	S+G estimate
Erosion and sediment control maintenance	\$200	per acre	S+G estimate
Topdressing (seed & fertilizer)	\$150	per acre	S+G estimate
Vector and rodent control	\$10	per acre	S+G estimate
Maintenance Mobilization	\$1,000	per year	S+G estimate
<b>Subtotal Cost</b>	<b>\$3,070</b>	<b>per year</b>	
<b>Administration, Inspections, and Reporting</b>			
Administration and record keeping	\$2,000	per year	S+G estimate
Inspection	\$1,000	per year	S+G estimate
Miscellaneous engineering	\$1,500	per year	S+G estimate
<b>Subtotal Cost</b>	<b>\$4,500</b>	<b>per year</b>	
<b>Subtotal Post-Closure Costs</b>			
Estimated Average Annual Costs	\$7,570	per year (2014\$)	
Number of Years for Post-Closure	30	years	
Cost per Acre	\$1,682.22	per year	
<b>Subtotal Post Closure Costs</b>	<b>\$227,100</b>	(2014\$) (See Notes 1 & 2)	
<b>Potential Assessment and Corrective (Remedial) Action</b>			
Minimum amount required by NCDENR Division of Waste Management	\$2,000,000	lump sum	Regulatory requirement (Session Law 2011-262)
<b>Subtotal Remedial Cost</b>	<b>\$2,000,000</b>	<b>lump sum</b>	
<b>Total Post Closure and Remedial Costs</b>	<b>\$2,227,100</b>	(2014\$) (See Notes 1 & 2)	
<b>Total Closure, Post Closure, and Remedial Costs</b>	<b>\$2,411,605</b>	(2014\$) (See Notes 1 & 2)	

Notes:

- All costs are presented in current dollars and should be increased at an inflation rate prescribed by the NCDENR Division of Waste Management per <http://portal.ncdenr.org/web/wm/sw/financialassurance> if additional review is not performed annually.
- This ESTIMATE has been prepared for financial assurance purposes only and shall not be considered a replacement for an actual bid from a licensed contractor and is considered acceptable within a +/- 10% of the Total Estimate value.

 Denotes values calculated in spreadsheet.

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**Waste Industries, LLC (NC Solid Waste Permit No. 32-J)  
Engineer's Closure Construction Cost Estimate**

Item No.	Item Description	Unit	Contractor			Comments
			Quantity	Unit Price	Total Price	
<b>Closure Area (Horizontal Plan) -----&gt;</b>		<b>AC</b>	4.5			
<b>1.0</b>	<b>Pre-Construction</b>			<b>Subtotal</b>	<b>\$17,250.00</b>	
1.1	Construction Documents & Bidding	AC	5	\$15k + \$500/AC	\$17,250.00	S+G Estimate
<b>2.0</b>	<b>Construction</b>				<b>\$141,555.00</b>	References 1 & 2
2.1	Surveys and Layout	AC	5	\$1,000.00	\$4,500.00	S+G Historical Estimate
2.2	Mobilization	AC	5	\$5,000.00	\$22,500.00	~4% of Construction Cost
2.3	Site Preparation (repairs to intermediate cover layer)	AC	5	\$500.00	\$2,250.00	Assumed estimate for repair of erosion rills.
2.4	12" On-site Low Permeability Soil	CY	7,260	\$8.00	\$58,080.00	S+G Historical Estimate for On-Site Materials.
2.5	Landfill Gas Venting System	AC	5	\$1,750.00	\$7,875.00	S+G Historical Estimate
2.6	Cap Drainage Structures (berms, piping, etc.)	AC	5	\$7,500.00	\$33,750.00	S+G Historical Estimate
2.7	Erosion & Sediment Control (grading, silt fence, maintenance, etc.)	AC	5	\$800.00	\$3,600.00	S+G Historical Estimate
2.8	Revegetation	AC	5	\$2,000.00	\$9,000.00	S+G Historical Estimate
<b>3.0</b>	<b>Quality Assurance, Certification, &amp; Deed Notation</b>				<b>\$20,075.00</b>	
3.1	Field Monitoring	AC	5	\$3,000.00	\$13,500.00	S+G Estimate
3.2	Engineering Certification	AC	5	\$5k + \$250/AC	\$6,125.00	S+G Estimate
3.3	Surveying and Deed Notation	AC	5	\$100.00	\$450.00	S+G Historical Estimate
<b>4.0</b>	<b>Miscellaneous Costs to Close</b>				<b>\$5,625.00</b>	
4.1	Erosion and Stormwater Control (outside landfill footprint)	AC	5	\$1,000.00	\$4,500.00	S+G Historical Estimate
4.2	Engineering and Reporting	AC	5	\$250.00	\$1,125.00	S+G Historical Estimate
<b>5.0</b>	<b>Total Closure Costs</b>					
<b>Construction Estimate -----&gt;</b>					<b>\$184,505</b>	(2014\$)
<b>Cost per Acre -----&gt;</b>					<b>\$41,001</b>	
<b>Total Estimate -----&gt;</b>					<b>\$184,505</b>	(2014\$) (See Notes 1 & 2)

Notes:

- All costs are presented in current dollars and should be increased at an inflation rate prescribed by the NCDENR Division of Waste Management per <http://portal.ncdenr.org/web/wm/sw/financialassurance> if additional review is not performed annually.
- This ESTIMATE has been prepared for financial assurance purposes only and shall not be considered a replacement for an actual bid from a licensed contractor and is considered acceptable within a +/- 10% of the Total Estimate value.

 Denotes values calculated in spreadsheet.

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**Attachment F**

**Project Drawings**

**Permit Renewal Application  
Waste Industries, LLC  
NC Solid Waste Permit No. 932-J**

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# PROJECT: WASTE INDUSTRIES, INC. DURHAM DISTRICT CAMPUS TEMPORARY L.C.I.D. LANDFILL

OWNER:

WASTE INDUSTRIES, INC.  
3949 BROWNING PLACE  
RALEIGH, NC 27609  
919-782-0095

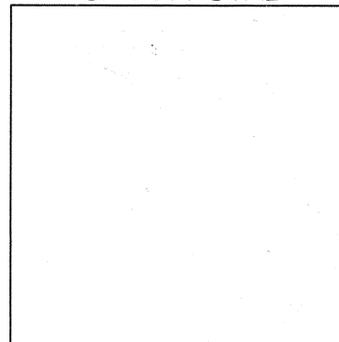
DESIGNER:

SUNGATE DESIGN GROUP, P.A.  
915A JONES FRANKLIN ROAD  
RALEIGH, NC 27606  
919-859-2243

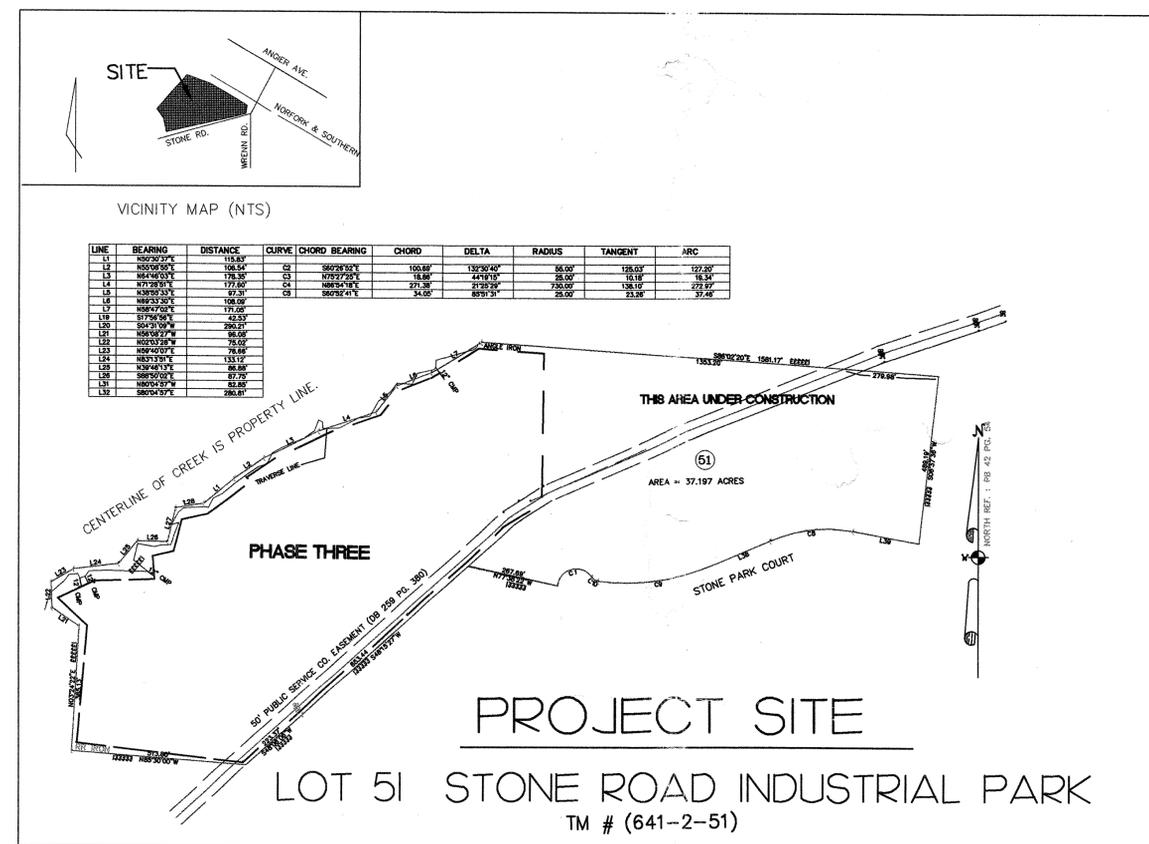
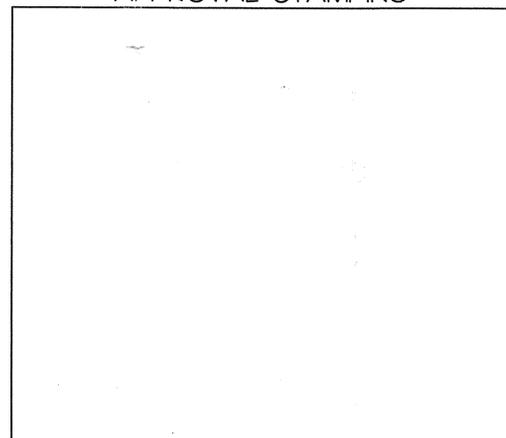
## CONTENTS

SHEET	ELEMENT
MP-1	MASTER PLAN
G-1	EXCAVATION PLAN
G-2	RESTORATION PLAN
PP-1	CROSS SECTION PLAN
SE-1	SEDIMENTATION and EROSION CONTROL PLAN
SE-2	S&E DETAILS
L-1	LANDSCAPE PLAN
S-1	LOCATION MAP

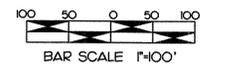
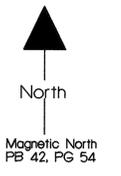
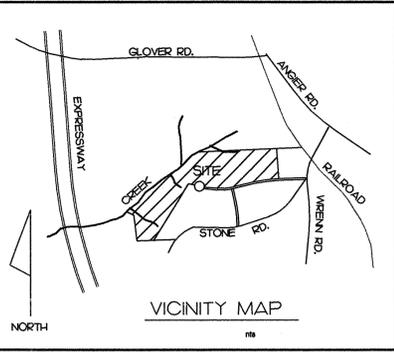
SPECIAL CONDITIONS  
OF APPROVAL



APPROVAL STAMPING



DURHAM CITY/COUNTY PLANNING  
CASE # D98-389, TM. # 641-2-51



PHASE THREE BOUNDARY OVERLAPS WITH PHASE TWO BOUNDARY TO ALLOW ACCESS

JOVEN FIVE GROUP  
DB 1278 PG 668  
TAX PARCEL 639-10  
ZONING: RD  
VACANT

JOVEN FIVE GROUP  
DB 1278 PG 668  
TAX PARCEL 639-10  
ZONING: RD  
VACANT

CHEROKEE SANFORD GROUP, INC.  
DB 269 PG 546  
TAX PARCEL 64H-02-5I  
ZONING: IND-3  
VACANT

CHEROKEE SANFORD GROUP, INC.  
DB 269 PG 546  
TAX PARCEL 64H-02-5I  
ZONING: IND-3  
VACANT

CHEROKEE SANFORD GROUP, INC.  
DB 269 PG 546  
TAX PARCEL 64H-02-5I  
ZONING: IND-3  
VACANT

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ZONING: IND-3  
VACANT

CHEROKEE SANFORD GROUP, INC.  
DB 269 PG 546  
TAX PARCEL 64H-02-5I  
ZONING: IND-3  
VACANT

WETLAND DATA  
CREEK AS REFERENCED PROPERTY LINE ARE WATERS OF THE UNITED STATES AS CERTIFIED BY THE UNITED STATES ARMY CORPS OF ENGINEERS ON A SURVEY BY LEWIS, BRENNAN AND ASSOCIATES, DATED 1/3/98.

STREAM BUFFERS:  
25 FOOT WIDE UNDISTURBED STREAM BUFFER EACH SIDE OF STREAM, MEASURED FROM TOP OF BANK, NO CLEARING OR GRADING OTHER THAN SELECTIVE THINNING AND ORDINARY MAINTENANCE OF EXISTING VEGETATION PERMITTED.  
BOUNDARIES OF STREAM BUFFER MEASURED 25 FT. FROM EDGE OF EACH SIDE OF THE STREAM, MEASURED PERPENDICULARLY FROM THE STREAM EDGE.

40 FT. REQUIRED BUFFER BETWEEN I-3 AND RD ZONED PROPERTIES

MATERIALS INSPECTION & PROCESSING

SOLID WASTE BUFFER  
50 FEET FROM THE WASTE BOUNDARY TO SURFACE WATERS, 100 FEET FROM THE DISPOSAL AREA TO PROPERTY LINES, RESIDENTIAL DWELLINGS, COMMERCIAL OR PUBLIC BUILDINGS AND WELLS.

NOTE:  
ITEMS DESIGNATED AS UNDER CONSTRUCTION ARE PART OF WASTE INDUSTRIES DISTRICT CAMPUS PHASE ONE BY OTHERS OR STONE ROAD INDUSTRIAL PARK CONSTRUCTION PLANS BY OTHERS.

BUFFER RELATIONSHIP  
THE 40' ZONING BUFFER INCLUDES THE 25' STREAM BUFFER. THE 100' SOLID WASTE BOUNDARY WILL PROVIDE A 60' SEPARATION BETWEEN THE ACTIVE DISPOSAL AREA AND THE REQUIRED LOCAL GOVERNMENTAL BUFFERS.

SANITARY SEWER EASEMENTS:  
CENTERLINE OF 30 FOOT WIDE CITY OF DURHAM SANITARY SEWER EASEMENT, SUBJECT TO TERMS STATED IN THE DECLARATION IN REAL ESTATE BOOK 150, PAGE 958. NO STRUCTURES, FILL, EMBANKMENTS, TREES OR OBSTRUCTIONS PERMITTED WITHIN THE EASEMENT EXCEPT ACCORDING TO THOSE TERMS.

LEONARD B. SHAFFER  
PB 97 PG 31  
DB 122 PG 48  
TAX PARCEL 64H-50  
ZONING: I-2  
VACANT

KATH-LEEN RIGSBEE  
DB 15 PG 539  
TAX PARCEL 64H-2A  
ZONING: I-2  
VACANT

PHASE TWO (PROPOSED)

PHASE ONE (UNDER CONSTRUCTION)

PHASE THREE

SITE DATA	
SUBDIVISION/LOT	LOT 51 STONE ROAD INDUSTRIAL PARK
ZONING	HEAVY INDUSTRIAL I-3 (DURHAM COUNTY) TM# (64H-2-5)
LOT SIZE	37.197 ACRES
RECORD DATA	BOOK 137, PAGE 48
PHASE ONE (UNDER CONSTRUCTION)	
AREA	14.18 ACRES
LANDUSE	DISTRICT OFFICE AND TRUCK TERMINAL
PHASE TWO (PROPOSED)	
AREA	11.20 ACRES
LANDUSE	PROCESSING AND RECYCLING CENTER
PHASE THREE (THIS SUBMITTAL)	
AREA	10.30 ACRES
LANDUSE	TEMPORARY LCID & DEMOLITION LANDFILL
AREA	15 ACRES
LANDUSE	WOODWASTE PROCESSING
PHASE 3 IMPERVIOUS COVERAGE	
GRAVEL HALL ROAD SF	2,996 SF
PERCENTAGE OF PHASE AC.	4.28%

REV. NO.	DESCRIPTIONS	DATE
1	SEWER EASEMENT WIDTH TO 40' (M# #14 - M# #15) PER CITY OF DURHAM REQUEST	5/22/98



DESIGNED: SDG  
DRAWN: SDG  
CHECKED: SDG  
PROJ. ENG. WHW

DATE: 2/10/99

SUNGATE DESIGN GROUP, P.A.  
915-A JONES FRANKLIN ROAD  
RALEIGH, NORTH CAROLINA 27606  
PH: (919) 859-2243 FAX: (919) 859-6258

PHASE THREE  
TEMPORARY  
L.C.I.D.  
LANDFILL

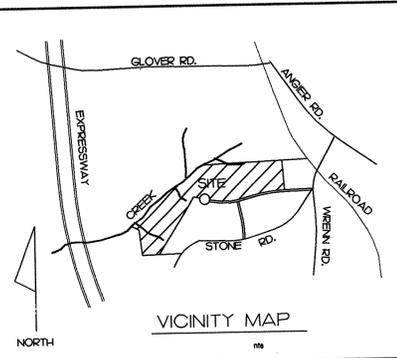
WASTE INDUSTRIES  
DURHAM DISTRICT CAMPUS

PRELIMINARY  
MASTER  
PLAN

DATE: MAY 1998  
SDG PROJ. # 05-971  
DWG FILE# WIDLRLPMP01A

SCALE  
HORIZONTAL: 1"=100'  
VERTICAL: 1"=100'

SHEET NO.  
MP1  
OF: 8



**STREAM BUFFERS:**  
25 FOOT WIDE UNDISTURBED STREAM BUFFER EACH SIDE OF STREAM MEASURED FROM TOP OF BANK. NO CLEARING OR GRADING OTHER THAN SELECTIVE THINNING AND ORDINARY MAINTENANCE OF EXISTING VEGETATION PERMITTED.  
BOUNDARIES OF STREAM BUFFER MEASURED 25 FT. FROM EDGE OF EACH SIDE OF THE STREAM, MEASURED PERPENDICULARLY FROM THE STREAM EDGE.

**SOLID WASTE BUFFER**  
50 FEET FROM THE WASTE BOUNDARY TO SURFACE WATERS. 100 FEET FROM THE DISPOSAL AREA TO PROPERTY LINES, RESIDENTIAL DWELLINGS, COMMERCIAL OR PUBLIC BUILDINGS AND WELLS.

**40' ZONING BUFFER**  
REQUIRED BY LOCAL GOVERNMENT

TEMPORARY HAUL ROAD LOCATION TO VARY WITH OPERATION NEEDS AND L.C.I.D. LANDFILL RESTORATION SEQUENCE.

TREE PROTECTION FENCING TO BE INSTALLED 2 FEET OUTSIDE OF THE 40 FEET BUFFER BOUNDARY FOR THE ENTIRE LENGTH

TEMPORARY FIRE HYDRANT FLOW = 2500 GPM. FIRE HYDRANT TO BE REMOVED AT CLOSE OF L.C.I.D. LANDFILL

JOVEN FIVE GROUP  
PB 1278 PG 668  
TAX PARCEL 639-10  
ZONING: RD  
VACANT

THE EXISTING SEDIMENT BASINS SHALL BE EXCAVATED, LINKED AND RISERS REPAIRED TO SERVE AS BOTH A TEMPORARY SEDIMENT CONTROL AND PERMANENT STORMWATER DEVICE.

100 YEAR STORM ELEVATION CAUSED BY BACKWATER FROM CULVERT UNDER NC 147

PROJECT AREA IS OUTSIDE OF FEMA FLOOD BOUNDARIES. PANEL 178 OF 280, 37063CO178G, DATED 2/2/96.

100' SOLID WASTE BUFFER

KATHLEEN RIGSBEE  
DB 115 PG 539  
TAX PARCEL 641-2A  
ZONING: I-2  
VACANT

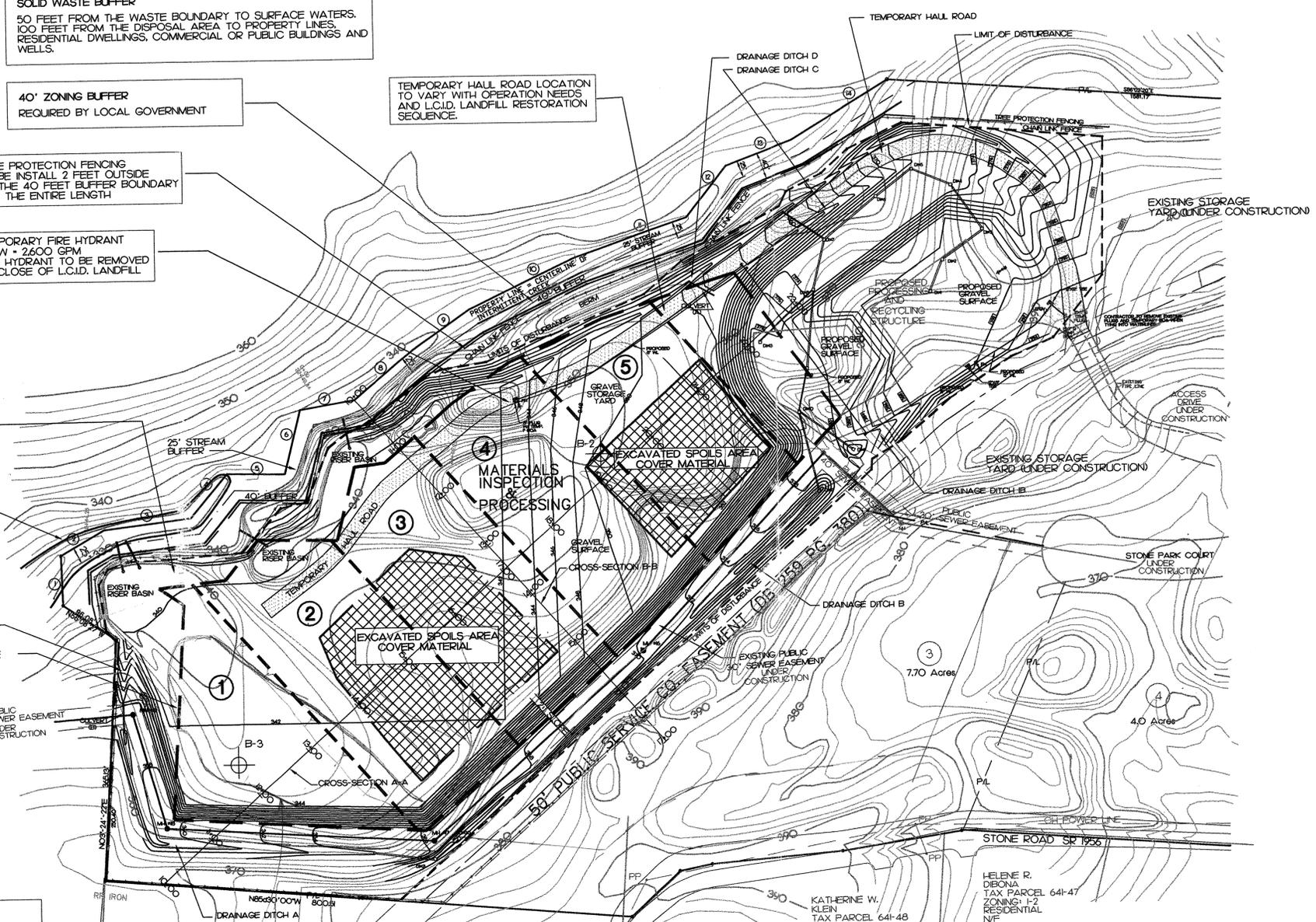
**SANITARY SEWER EASEMENTS:**  
CENTERLINE OF 30 FOOT WIDE CITY OF DURHAM SANITARY SEWER EASEMENT. SUBJECT TO TERMS STATED IN THE DECLARATION IN REAL ESTATE BOOK 150, PAGE 958. NO STRUCTURES, FILL, EMBANKMENTS, TREES OR OBSTRUCTIONS PERMITTED WITHIN THE EASEMENT EXCEPT ACCORDING TO THOSE TERMS.

**SOLID WASTE BUFFER**  
50 FEET FROM THE WASTE BOUNDARY TO SURFACE WATERS. 100 FEET FROM THE DISPOSAL AREA TO PROPERTY LINES, RESIDENTIAL DWELLINGS, COMMERCIAL OR PUBLIC BUILDINGS AND WELLS.

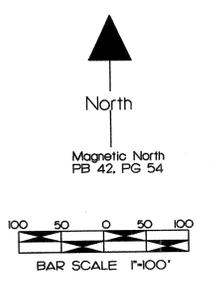
*Waste Limit of 4/10/00  
Per II*

**NOTE:**  
ITEMS DESIGNATED AS UNDER CONSTRUCTION ARE PART OF WASTE INDUSTRIES DISTRICT CAMPUS PHASE ONE BY OTHERS OR STONE ROAD INDUSTRIAL PARK CONSTRUCTION PLANS BY OTHERS.

40 FT. REQUIRED BUFFER BETWEEN I-3 AND RD ZONED PROPERTIES

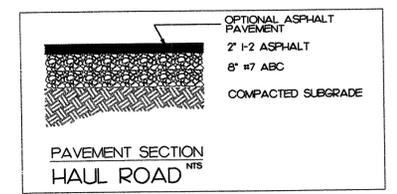


LINE	BEARING	DISTANCE
1	N02°03'28"W	75.02'
2	N59°40'07"E	76.66'
3	N83°13'51"E	133.12'
4	N39°46'13"E	86.89'
5	S88°50'02"E	87.75'
6	N80°04'57"W	82.85'
7	S80°04'57"E	280.81'
8	N50°30'37"E	115.83'
9	N55°08'55"E	106.54'
10	N64°46'03"E	178.35'
11	N71°28'51"E	172.80'
12	N38°55'33"E	97.31'
13	N69°33'30"E	108.09'
14	N58°47'02"E	171.05'

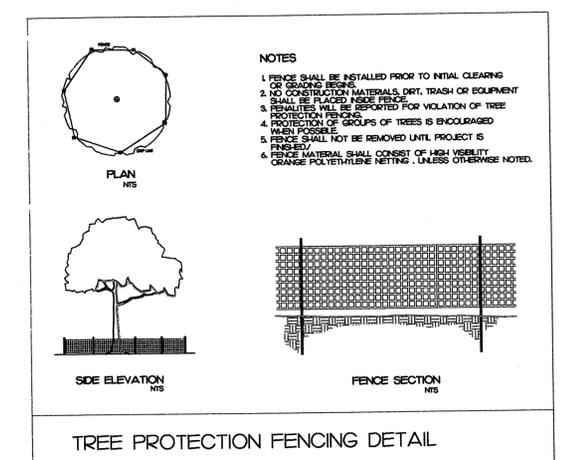
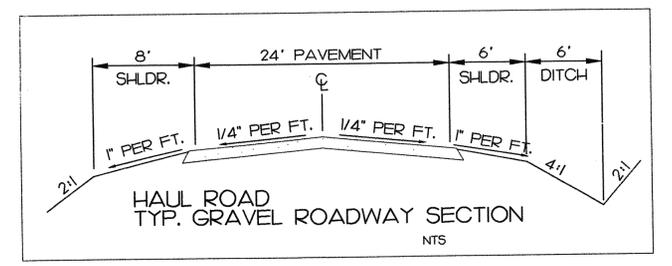


B-2 GROUND WATER BORING DATA

BORING NUMBER	GROUND ELEVATION	DEPTH TO GROUND WATER	MIN. WASTE ELEV.	PROPOSED WASTE ELEV.
#2	348.60	3.0 FT	349.60	350.00
#3	342.11	4.9 FT	341.21	342.25



**NOTES:**  
GEO-TECH ENGINEER TO EVALUATE HAUL ROAD BASED ON FIELD CONDITIONS.



- NOTES:**
- BOUNDARY DATA OBTAINED FROM A SURVY BY TODD SMITH SURVEYOR.
  - TOPOGRAPHIC DATA OBTAINED FROM FIELD SURVEY BY TODD SMITH SURVEYOR AND CITY OF DURHAM TOPOGRAPHIC MAPS.
  - ALL GRADING OPERATIONS SHALL BE IN ACCORDANCE WITH THE DURHAM COUNTY SEDIMENTATION AND EROSION CONTROL REGULATIONS.
  - ALL DENUDED AREAS OUTSIDE OF THE WORKING SURFACES SHALL BE STABILIZED AND/OR GRASSED.
  - A PERMIT FROM THE NORTH CAROLINA DIVISION OF SOLID WASTE MANAGEMENT IS REQUIRED PRIOR TO THE OPERATION OF A L.C.I.D. TEMPORARY LANDFILL.
  - NO SITE AREA LIGHTING IS PROPOSED FOR THIS PHASE OF THE WASTE INDUSTRIES DURHAM DISTRICT CAMPUS.

REV. NO.	DESCRIPTIONS	DATE
1	GRADING REVISION AND P.L. SITE LIGHTING NOTE	9/22/98
2	SEWER EASEMENT WIDTH TO 40' (NH #14 - NH #15) PER CITY OF DURHAM REQUEST	9/22/98

Professional Engineer Seal for W. J. B. (WJB) No. 9334, State of North Carolina.

DESIGNED: SDG  
DRAWN: JFB  
CHECKED: SDG  
PROJ. ENG.

**SUNGATE DESIGN GROUP, P.A.**  
915-A JONES FRANKLIN ROAD  
RALEIGH, NORTH CAROLINA 27606  
PH: (919) 859-2243 FAX: (919) 859-6258

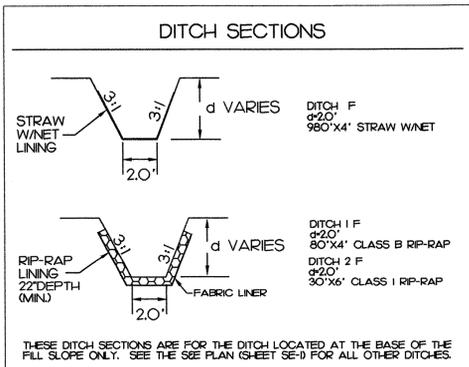
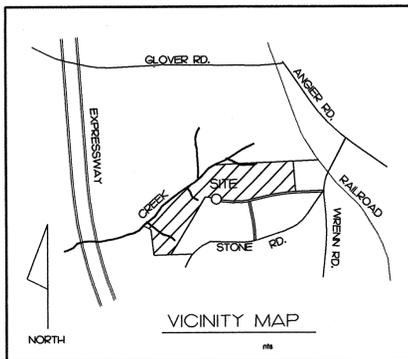
DATE: JAN 1999  
SDG PROJ. # 05-9711  
DWG FILE # WDURLF901A

**WASTE INDUSTRIES DURHAM DISTRICT CAMPUS**

**TEMPORARY LCID LANDFILL EXCAVATION PLAN**

SCALE: HORIZONTAL: 1"=100' VERTICAL: 1"=100'

SHEET NO. **G-1**  
OF: 8



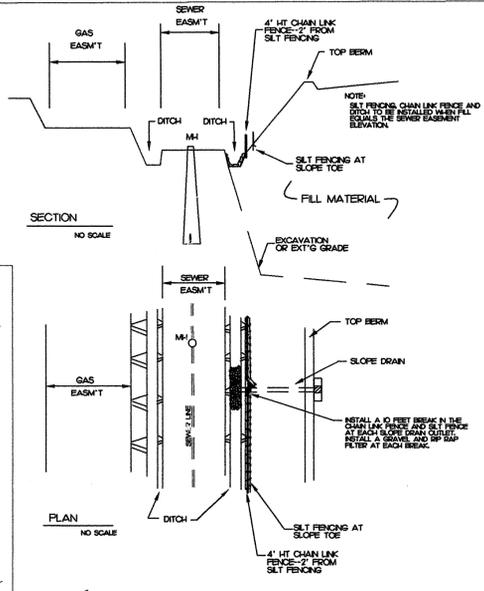
**STREAM BUFFERS:**  
25 FOOT WIDE UNDISTURBED STREAM BUFFER EACH SIDE OF STREAM MEASURED FROM TOP OF BANK. NO CLEARING OR GRADING OTHER THAN SELECTIVE THINNING AND ORDINARY MAINTENANCE OF EXISTING VEGETATION PERMITTED.  
BOUNDARIES OF STREAM BUFFER MEASURED 25 FT. FROM EDGE OF EACH SIDE OF THE STREAM MEASURED PERPENDICULARLY FROM THE STREAM EDGE.

**SOLID WASTE BUFFER**  
50 FEET FROM THE WASTE BOUNDARY TO SURFACE WATERS. 100 FEET FROM THE DISPOSAL AREA TO PROPERTY LINES, RESIDENTIAL DWELLINGS, COMMERCIAL OR PUBLIC BUILDINGS AND WELLS.

**40' ZONING BUFFER**  
40 FT. REQUIRED BUFFER BETWEEN I-3 AND RD ZONED PROPERTIES

HALL ROAD SHALL BE REMOVED AS PART OF THE RESTORATION PLAN

**NOTES FOR FILL SLOPE RESPONSIBILITY:**  
1. THE APPROVED SEDIMENTATION AND EROSION CONTROL PLAN AND IN ACCORDANCE WITH THE NORTH CAROLINA DIVISION OF WASTE MANAGEMENT...  
2. THE SOIL COVER SHALL BE APPLIED IMMEDIATELY UPON THE ACTIVE...  
3. THE OWNER SHALL DAILY MAINTAIN ALL FILL OPERATIONS TO PREVENT OVER SPILL...  
4. OTHER SLOPE SHALL BE IMMEDIATELY REVEALED...  
5. THE OWNER SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF THE DRAINAGE SYSTEM...  
6. THE OWNER SHALL MAINTAIN THE 4' HT. CHAIN LINK FENCE AND SILT FENCING TO...  
7. THE OWNER SHALL MAINTAIN THE 4' HT. CHAIN LINK FENCE AND SILT FENCING TO...  
8. THE OWNER SHALL MAINTAIN THE 4' HT. CHAIN LINK FENCE AND SILT FENCING TO...



LINE	BEARING	DISTANCE
1	N02°03'28"W	75.02'
2	N59°40'07"E	76.66'
3	N83°13'51"E	133.12'
4	N39°46'13"E	86.88'
5	S88°50'02"E	87.75'
6	N80°04'57"W	82.85'
7	S80°04'57"E	280.81'
8	N50°30'37"E	115.83'
9	N55°08'55"E	106.54'
10	N64°46'03"E	178.35'
11	N71°28'51"E	177.60'
12	N38°55'33"E	87.31'
13	N89°33'30"E	108.09'
14	N58°47'02"E	171.05'

TREE PROTECTION FENCING TO BE INSTALL 2 FEET OUTSIDE OF THE 40 FEET BUFFER BOUNDARY FOR THE ENTIRE LENGTH

EXISTING RISER BASINS SHALL BE EXCAVATED TO CREATE A PERMANENT STORMWATER CONTROL POND

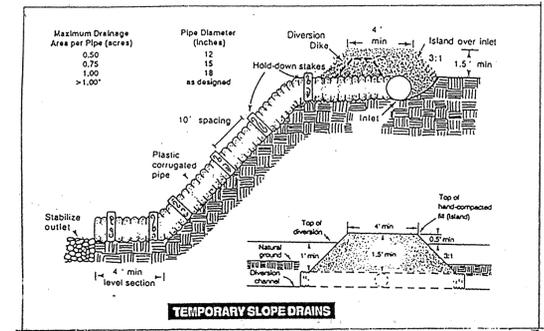
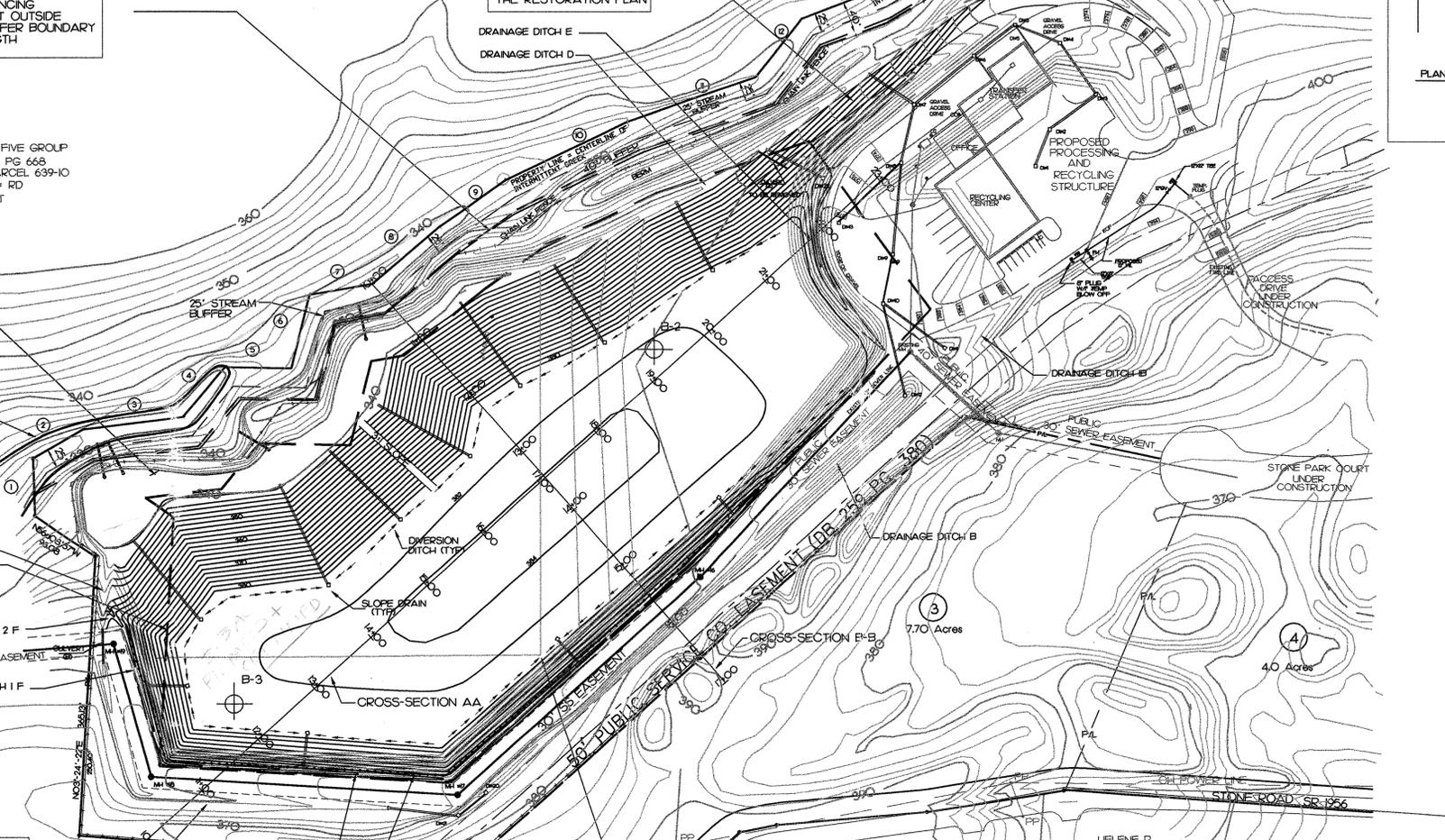
100 YEAR STORM ELEVATION CAUSED BY BACKWATER FROM CULVERT UNDER NO 147

PROJECT AREA IS OUTSIDE OF FEMA FLOOD BOUNDARIES. PANEL 178 OF 280, 37063CO178G, DATED 2/2/96.

JOVEN FIVE GROUP  
PB 1278 PG 668  
TAX PARCEL 639-10  
ZONING: RD  
VACANT

KATHLEEN RIGSBEE  
DB 15 PG 539  
TAX PARCEL 641-2A  
ZONING: I-2  
VACANT

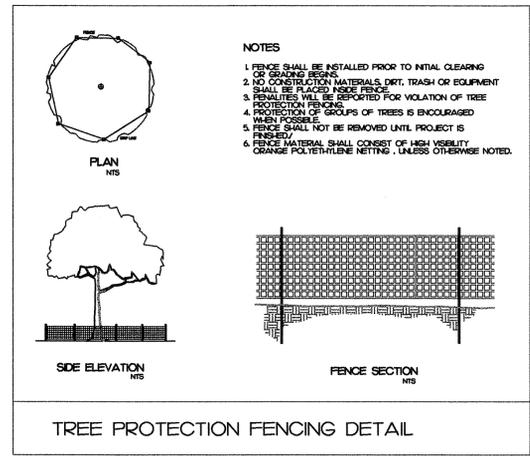
**SANITARY SEWER EASEMENTS:**  
CENTERLINE OF 30 FOOT WIDE CITY OF DURHAM SANITARY SEWER EASEMENT, SUBJECT TO TERMS STATED IN THE DECLARATION IN REAL ESTATE BOOK 150, PAGE 958. NO STRUCTURES, FILL, EMBANKMENTS, TREES OR OBSTRUCTIONS PERMITTED WITHIN THE EASEMENT EXCEPT ACCORDING TO THOSE TERMS.



B-2 GROUND WATER BORING DATA

BORING NUMBER	GROUND ELEVATION	DEPTH TO GROUND WATER	MIN. WASTE ELEV.	PROPOSED WASTE ELEV.	FINAL COVER ELEVATION
#2	348.60	3.0 FT	349.60	350.00	382.50
#3	342.11	4.9 FT	341.21	342.25	381.50

- NOTES:**
- BOUNDARY DATA OBTAINED FROM A SURVEY BY TODD SMITH SURVEYOR.
  - TOPOGRAPHIC DATA OBTAINED FROM FIELD SURVEY BY TODD SMITH SURVEYOR AND CITY OF DURHAM TOPOGRAPHIC MAPS.
  - ALL GRADING OPERATIONS SHALL BE IN ACCORDANCE WITH THE DURHAM COUNTY SEDIMENTATION AND EROSION CONTROL REGULATIONS.
  - ALL DENuded AREAS OUTSIDE OF THE WORKING SURFACES SHALL BE STABILIZED AND/OR GRASSED.
  - A PERMIT FROM THE NORTH CAROLINA DIVISION OF SOLID WASTE MANAGEMENT IS REQUIRED PRIOR TO THE OPERATION OF A L.C.I.D. TEMPORARY LANDFILL.
  - FILL MATERIAL WITHIN THE FUTURE BUILDING SITE SHALL SELECTIVE INERT BENEFICIAL FILL.
  - NO SITE AREA LIGHTING IS PROPOSED FOR THIS PHASE OF THE WASTE INDUSTRIES DURHAM DISTRICT CAMPUS.



**NOTE:**  
ITEMS DESIGNATED AS UNDER CONSTRUCTION ARE PART OF WASTE INDUSTRIES DISTRICT CAMPUS PHASE ONE BY OTHERS OR STONE ROAD INDUSTRIAL PARK CONSTRUCTION PLANS BY OTHERS.

FUTURE BUILDING SITE AREA TO RECEIVE BENEFICIAL FILL ONLY. SITE PLAN APPROVAL SHALL BE OBTAINED FROM THE CITY OF DURHAM FOR ANY PROPOSED BUILDING.

REV. NO.	DESCRIPTIONS	DATE
1	REVISED GRADING, CLARIFIED TREE PROTECTION, ADDED SITE LIGHTING NOTE	04/05
2	PER CITY OF DURHAM 2ND REVIEW - MOVE BLDG PAD & DITCH OUT OF SS EASEMENT	5/16/98
3	SEWER EASEMENT WIDTH TO 42" (DB 151 - 141) PER CITY OF DURHAM REQUEST	8/22/98
4	ADD 4' CHAIN LINK FENCE AT SEWER EASEMENT PER CITY REQUEST	10/22/98
5	ADD 4' CHAIN LINK FENCE SLOPE PROTECTION DETAIL	10/22/98



DATE: 2/10/99

DESIGNED: SDG  
DRAWN: JFB  
CHECKED: SDG  
PROJ. ENG.

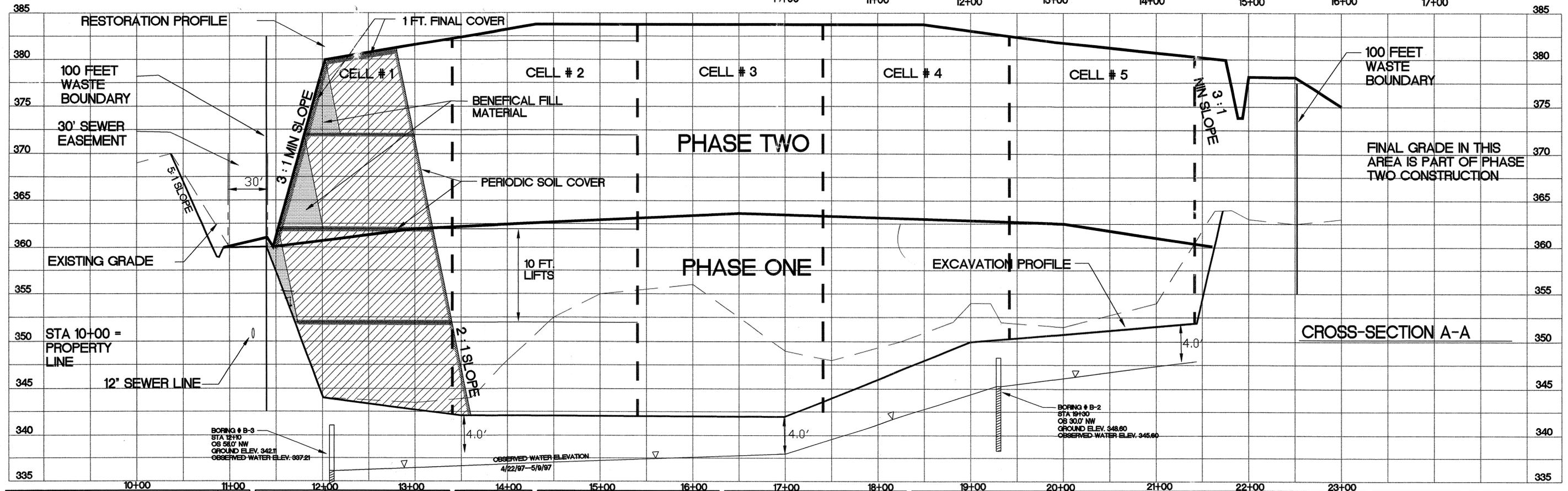
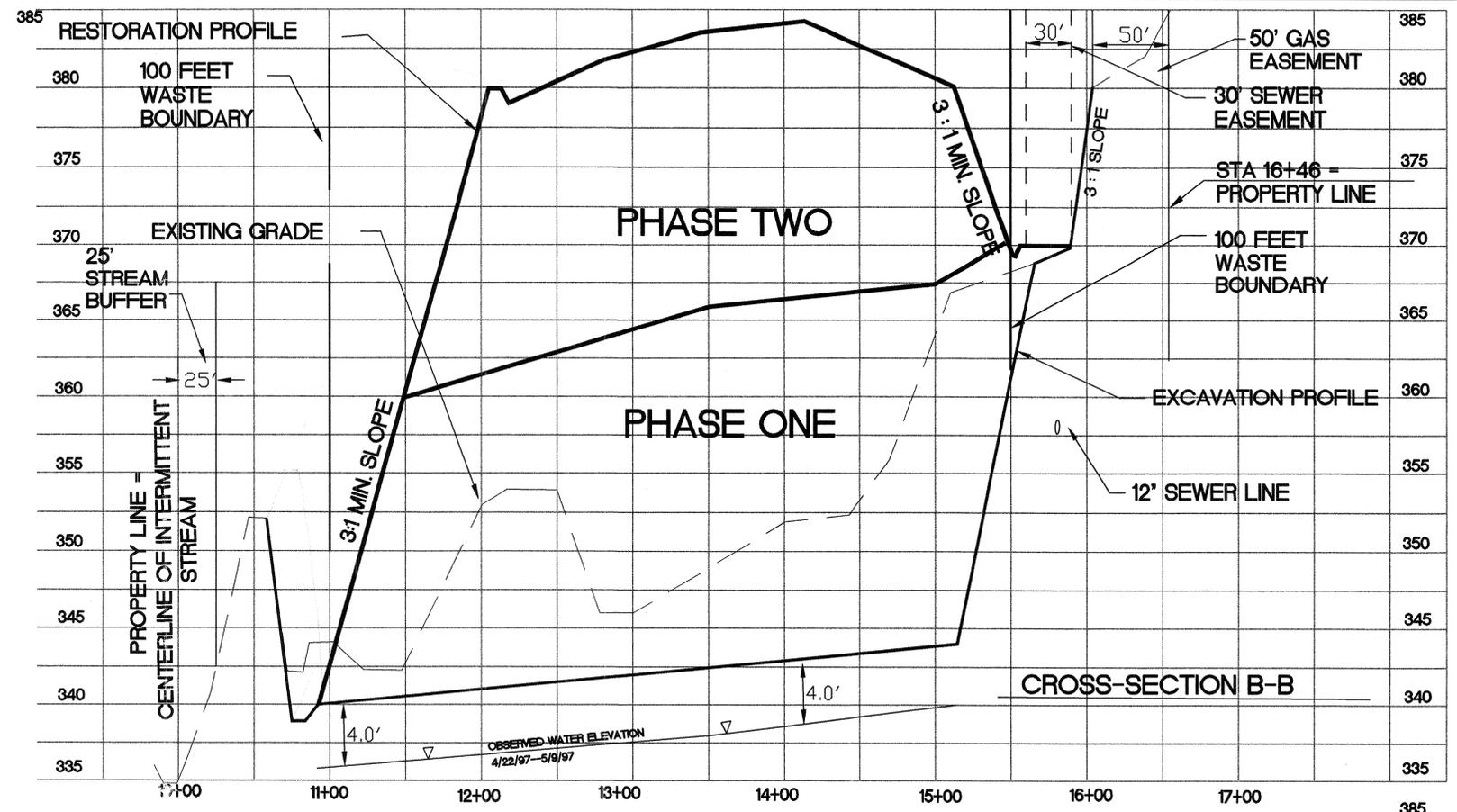
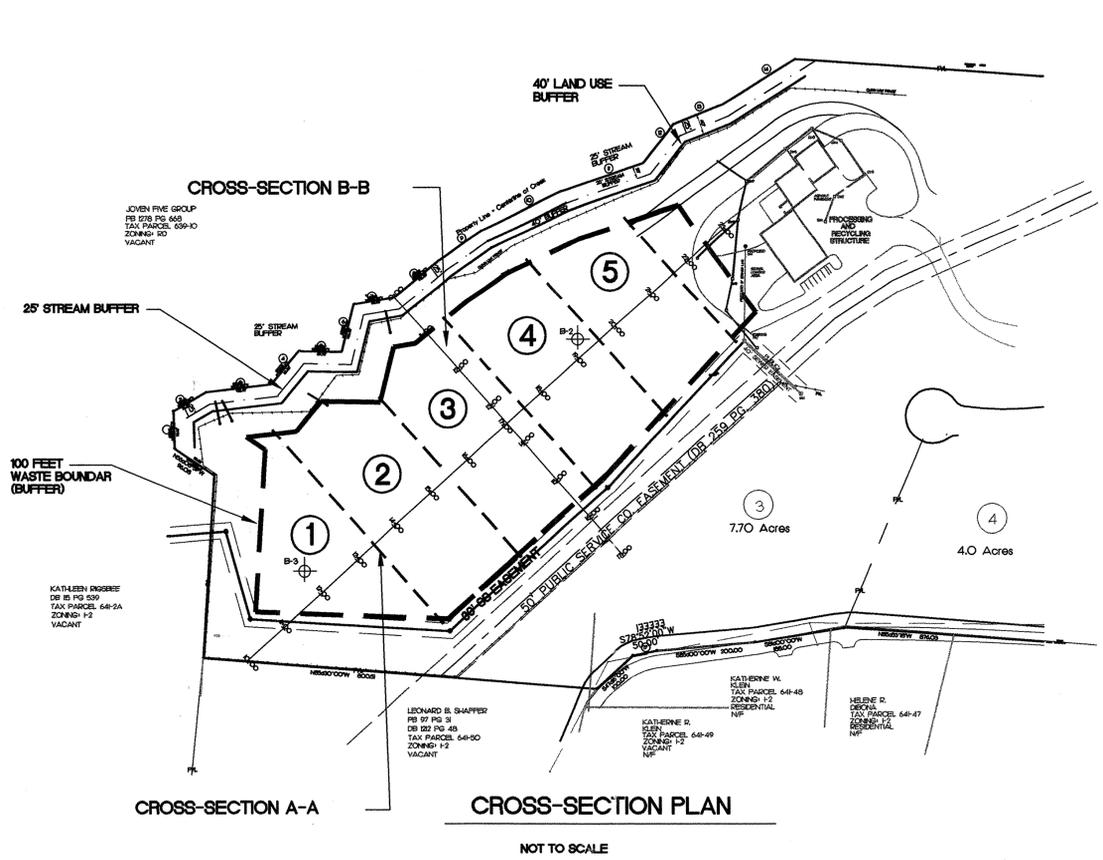
**SUNGATE DESIGN GROUP, P.A.**  
915-A JONES FRANKLIN ROAD  
RALEIGH, NORTH CAROLINA 27606  
PH: (919) 859-2243 FAX: (919) 859-6258

**WASTE INDUSTRIES DURHAM DISTRICT CAMPUS**

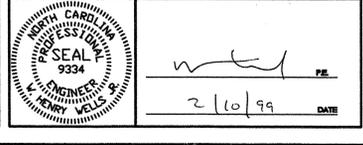
**TEMPORARY LCID LANDFILL RESTORATION PLAN**

DATE: JAN 1999  
SDG PROJ. # 05-9711  
DWG FILE # WDIRLF9022A

SCALE: HORIZONTAL: 1"=100' VERTICAL: 1"=10'  
SHEET NO. G-2 OF 8



NO.	DESCRIPTION	DATE
1	REVISED GRADE OVER SEWER LINE, ADD SIDE DITCHES	7/10/98
2	PER CITY OF DURHAM 2ND REVIEW - MOVED DITCHES OUT OF 80' EASEMENT	8/16/98
3	SEWER EASEMENT WIDTH TO 47' 0" (4" - 14" PER CITY OF DURHAM REQUEST)	9/22/98



**SUNGATE DESIGN GROUP, P.A.**  
915-A JONES FRANKLIN ROAD  
RALEIGH, NORTH CAROLINA 27606  
PH: (919) 859-2243 FAX: (919) 859-0258

DESIGNED: SOG  
DRAWN: JFB  
CHECKED: WHW  
PROJECT: WHW

**TEMPORARY L.C.I.D. LANDFILL**

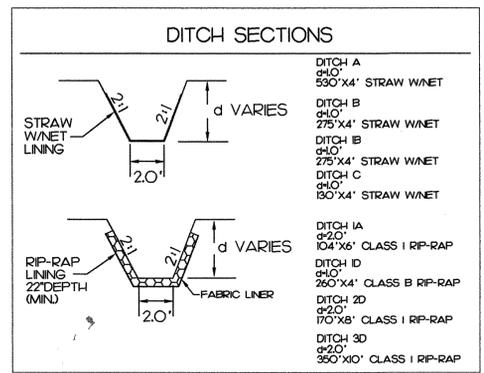
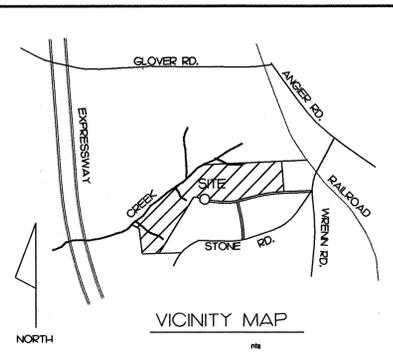
**WASTE INDUSTRIES DURHAM DISTRICT CAMPUS**

**L.C.I.D. LANDFILL CROSS-SECTION PLAN**

DATE: JAN 1999  
SDG PROJ # 05-971  
DWG FILE # WIDLURPP01a

SCALE  
HORIZONTAL: 1" = 50'  
VERTICAL: 1" = 5'

SHEET NO. **PP-1**  
OF 8

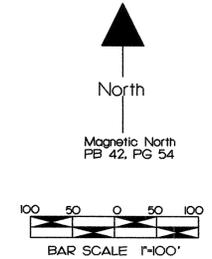


**STREAM BUFFERS:**  
25 FOOT WIDE UNDISTURBED STREAM BUFFER EACH SIDE OF STREAM MEASURED FROM TOP OF BANK. NO CLEARING OR GRADING OTHER THAN SELECTIVE THINNING AND ORDINARY MAINTENANCE OF EXISTING VEGETATION PERMITTED.  
BOUNDARIES OF STREAM BUFFER MEASURED 25 FT. FROM EDGE OF EACH SIDE OF THE STREAM, MEASURED PERPENDICULARLY FROM THE STREAM EDGE.

**SOLID WASTE BUFFER**  
50 FEET FROM THE WASTE BOUNDARY TO SURFACE WATERS. 100 FEET FROM THE DISPOSAL AREA TO PROPERTY LINES, RESIDENTIAL DWELLINGS, COMMERCIAL OR PUBLIC BUILDINGS AND WELLS.

40 FT. REQUIRED BUFFER BETWEEN I-3 AND RD ZONED PROPERTIES

LINE	BEARING	DISTANCE
1	N02°03'28"W	75.02'
2	N59°40'07"E	76.66'
3	N83°13'51"E	133.12'
4	N39°46'13"E	86.88'
5	S88°50'02"E	87.75'
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12	N35°53'33"E	97.31'
13	N69°33'30"E	108.09'
14	N58°47'02"E	171.05'



TREE PROTECTION FENCING TO BE INSTALL 2 FEET OUTSIDE OF THE 40 FEET BUFFER BOUNDARY FOR THE ENTIRE LENGTH

JOVEN FIVE GROUP  
PB 1278 PG 668  
TAX PARCEL 639-10  
ZONING: RD  
VACANT

SEDIMENT BASIN

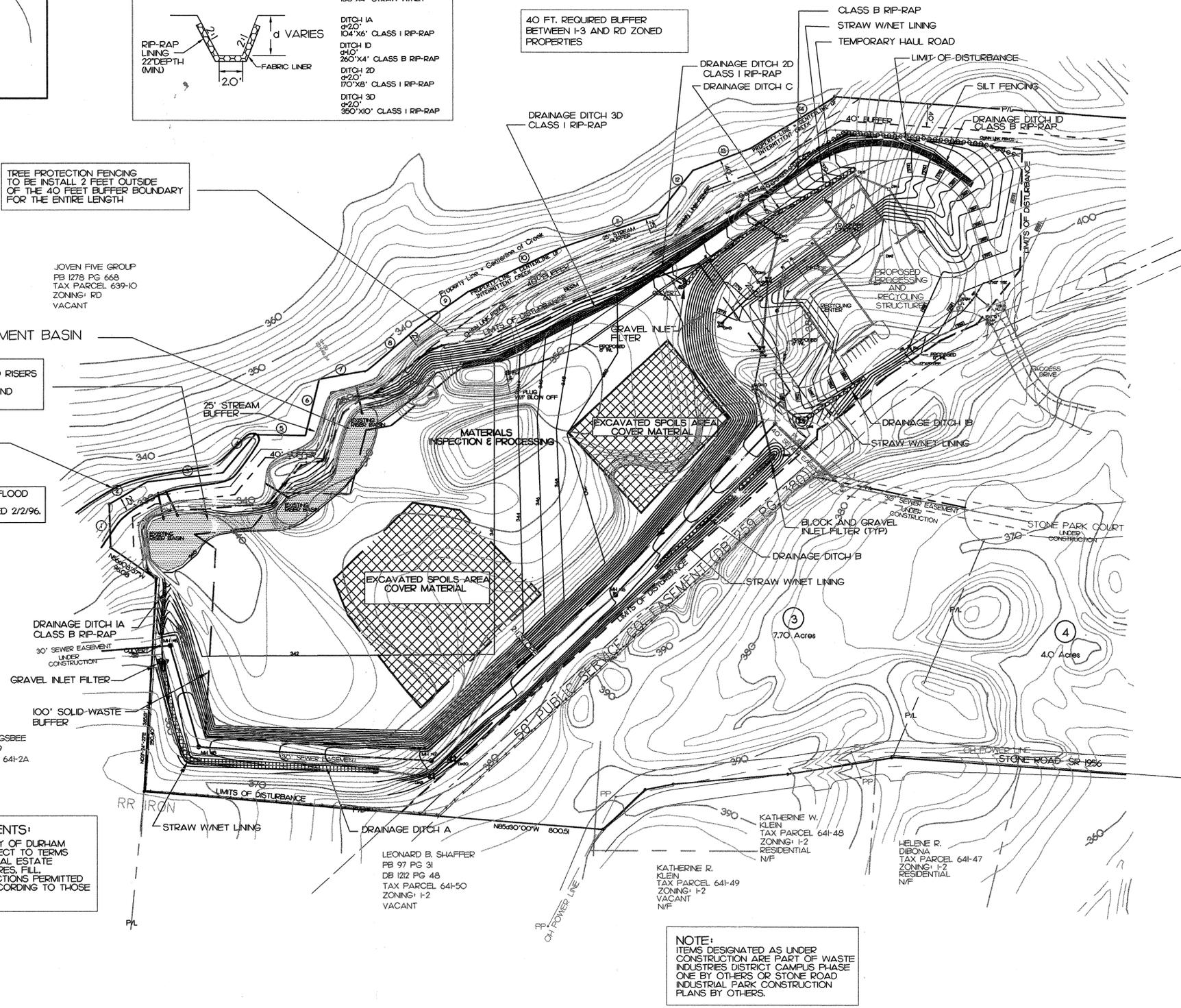
THE EXISTING SEDIMENT BASINS SHALL BE EXCAVATED, LINKED AND RISERS REPAIRED TO SERVE AS BOTH A TEMPORARY SEDIMENT CONTROL AND PERMANENT STORMWATER DEVICE.

100 YEAR STORM ELEVATION CAUSED BY BACKWATER FROM CULVERT UNDER NC 147

PROJECT AREA IS OUTSIDE OF FEMA FLOOD BOUNDARIES. PANEL 178 OF 280, 37063C0178G, DATED 2/2/96.

KATHLEEN RIGSBEE  
DB 115 PG 539  
TAX PARCEL 641-2A  
ZONING: I-2  
VACANT

**SANITARY SEWER EASEMENTS:**  
CENTERLINE OF 30 FOOT WIDE CITY OF DURHAM SANITARY SEWER EASEMENT, SUBJECT TO TERMS STATED IN THE DECLARATION IN REAL ESTATE BOOK 190, PAGE 958. NO STRUCTURES, FILL, EMBANKMENTS, TREES OR OBSTRUCTIONS PERMITTED WITHIN THE EASEMENT EXCEPT ACCORDING TO THOSE TERMS.



**SEDIMENT BASIN DATA**

DENUDED AREA	18.90 ACRES
REQUIRED STORAGE	34,020 CF
DESIGNED STORAGE	94,720 CF
DRAINAGE AREA	19.0 ACRES
INFLOW C/O	62.40 CFS
OUTFLOW	4-12" RISERS W/STONE FILTERS

- NOTES:**
- BOUNDARY DATA OBTAINED FROM A SURVY BY TODD SMITH SURVEYOR.
  - TOPOGRAPHIC DATA OBTAINED FROM FIELD SURVEY BY TODD SMITH SURVEYOR AND CITY OF DURHAM TOPOGRAPHIC MAPS.
  - ALL GRADING OPERATIONS SHALL BE IN ACCORDANCE WITH THE DURHAM COUNTY SEDIMENTATION AND EROSION CONTROL REGULATIONS.
  - ALL DENUDED AREAS OUTSIDE OF THE WORKING SURFACES SHALL BE STABILIZED AND/OR GRASSED.
  - A PERMIT FROM THE NORTH CAROLINA DIVISION OF SOLID WASTE MANAGEMENT IS REQUIRED PRIOR TO THE OPERATION OF A L.C.I.D. TEMPORARY LANDFILL.
  - NO SITE AREA LIGHTING IS PROPOSED FOR THIS PHASE OF THE WASTE INDUSTRIES DURHAM DISTRICT CAMPUS.

**NOTE:**  
ITEMS DESIGNATED AS UNDER CONSTRUCTION ARE PART OF WASTE INDUSTRIES DISTRICT CAMPUS PHASE ONE BY OTHERS OR STONE ROAD INDUSTRIAL PARK CONSTRUCTION PLANS BY OTHERS.

REV. NO.	DESCRIPTIONS	DATE
1	REVISED DITCH-SEWERINGS, ADDED ADDITIONAL DI AND CULVERTS	8/4/98
2	SEWER EASEMENT WIDTH TO 40' (M4 - M1 #15) PER CITY OF DURHAM REQUEST	9/22/98



DATE: 2/10/99

DESIGNED: SDG  
DRAWN: JFB  
CHECKED: SDG  
PROJ. ENG.

**SUNGATE DESIGN GROUP, P.A.**  
915-A JONES FRANKLIN ROAD  
RALEIGH, NORTH CAROLINA 27606  
PH: (919) 859-2243 FAX: (919) 859-6258

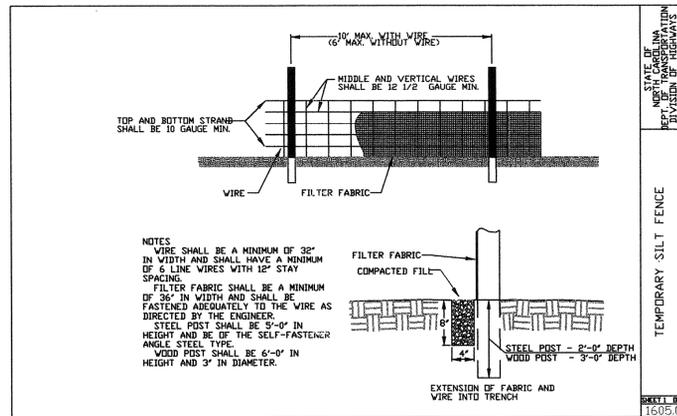
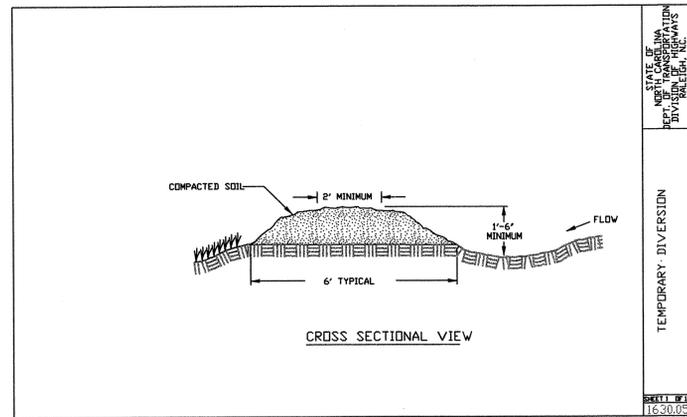
**WASTE INDUSTRIES  
DURHAM DISTRICT CAMPUS**

**TEMPORARY  
LCD LANDFILL  
S & E PLAN**

DATE: JAN 1999  
SDG PROJ. # 05-9711  
DWG FILE # WDIRLFS9E01A

SCALE  
HORIZONTAL:  
1"=100'  
VERTICAL:

SHEET NO.  
**SE-1**  
OF: 8



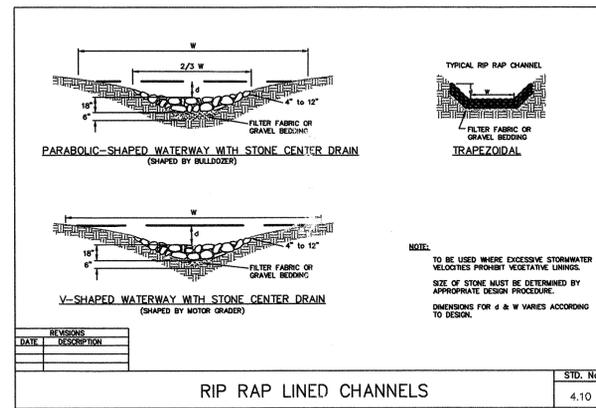
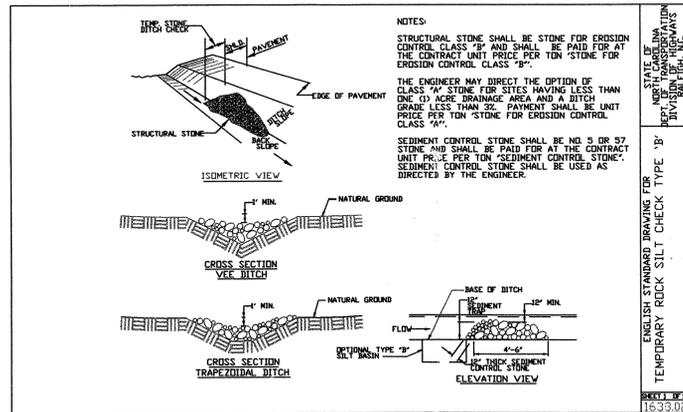
**SEEDING SCHEDULE**

SHOULDERS, SIDE DITCHES AND SLOPES (3:1 TO 2:1)

DATE	TYPE	PLANTING RATE
MARCH - JUNE 1	SERICEA LESPEDEZA (SCARIFIED) AND	50 LBS/ACRE
MARCH 1 - APRIL 15	ADD TALL FESCUE	120 LBS/ACRE
MARCH 1 - JUNE 30	ADD KEEPING LOVEGRASS	10 LBS/ACRE
MARCH 1 - JUNE 30	ADD HULLED COMMON BERMUDAGRASS	25 LBS/ACRE
JUNE 1 - SEPTEMBER 1	***TALL FESCUE AND ***BROWNTOP MILLET ***OR SORGHUM-SUGAR HYBRIDS	120 LBS/ACRE 25 LBS/ACRE 50 LBS/ACRE
SEPTEMBER 1 - MARCH 1	SERICEA LESPEDEZA (UNHULLED-UNSCARIFIED) AND TALL FESCUE ADD ABRUZZI RYE	70 LBS/ACRE 120 LBS/ACRE 25 LBS/ACRE

CONSULT EROSION CONTROL ENGINEER OR SOIL CONSERVATION SERVICE FOR ADDITIONAL INFORMATION CONCERNING OTHER ALTERNATIVES FOR VEGETATION OF DENIED AREAS. THE ABOVE VEGETATION RATES ARE THOSE WHICH DO WELL UNDER LOCAL CONDITIONS; OTHER SEEDING RATE COMBINATIONS ARE POSSIBLE.

\*\*\*TEMPORARY  
RESEED ACCORDING TO OPTIMUM SEASON FOR DESIRED PERMANENT VEGETATION. DO NOT ALLOW TEMPORARY COVER TO GROW OVER 12 INCHES IN HEIGHT BEFORE MOVING. OTHERWISE FESCUE MAY BE SHAVED OUT.



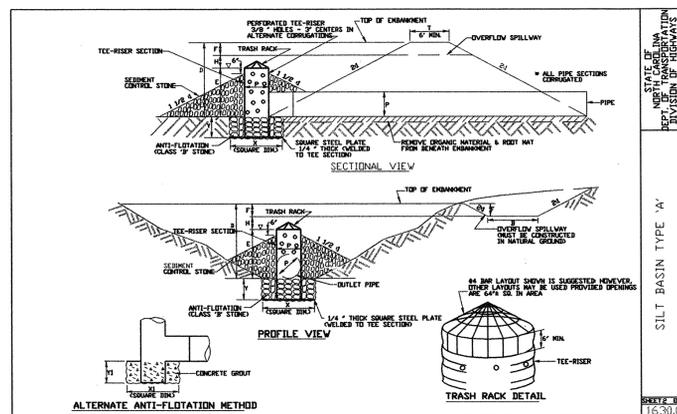
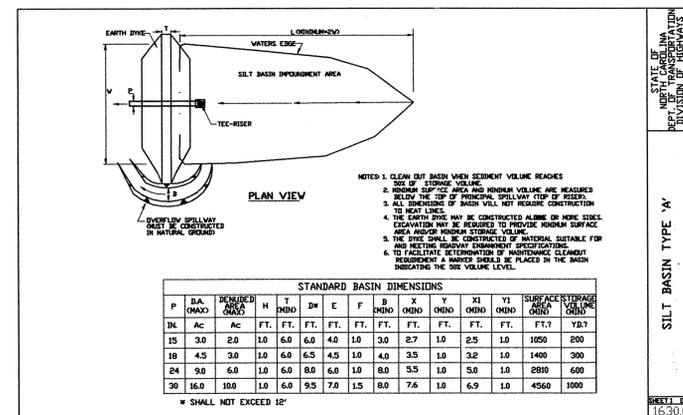
**SEEDING SCHEDULE**

SHOULDERS, SIDE DITCHES AND SLOPES (SLOPES MAX. 3:1)

DATE	TYPE	PLANTING RATE
AUGUST 15 - NOVEMBER 1	TALL FESCUE	300 LBS/ACRE
NOVEMBER 1 - MARCH 1	TALL FESCUE AND ABRUZZI RYE	300 LBS/ACRE
MARCH 1 - APRIL 15	TALL FESCUE	300 LBS/ACRE
APRIL 15 - JUNE 30	HULLED COMMON BERMUDAGRASS	25 LBS/ACRE
JULY 15 - AUGUST 15	TALL FESCUE AND *** BROWNTOP MILLET	25 LBS/ACRE

CONSULT EROSION CONTROL ENGINEER OR SOIL CONSERVATION SERVICE FOR ADDITIONAL INFORMATION CONCERNING OTHER ALTERNATIVES FOR VEGETATION OF DENIED AREAS. THE ABOVE VEGETATION RATES ARE THOSE WHICH DO WELL UNDER LOCAL CONDITIONS; OTHER SEEDING RATE COMBINATIONS ARE POSSIBLE.

\*\*\*TEMPORARY  
RESEED ACCORDING TO OPTIMUM SEASON FOR DESIRED PERMANENT VEGETATION. DO NOT ALLOW TEMPORARY COVER TO GROW OVER 12 INCHES IN HEIGHT BEFORE MOVING. OTHERWISE FESCUE MAY BE SHAVED OUT.



**SEEDBED PREPARATION FOR GRADED DEVELOPMENT AREAS**

1. CHISEL COMPACTED AREAS AND SPREAD AVAILABLE TOPSOIL 3" DEEP OVER ADVERSE SOIL CONDITIONS AS A FINAL OPERATION IN GRADING. WHERE CONVENTIONAL SEEDING EQUIPMENT IS TO BE USED, RIP THE ENTIRE AREA.
2. REMOVE ALL LOOSE ROCK, ROOTS, AND OTHER OBSTRUCTIONS FROM THE SURFACE THAT WILL INTERFERE WITH ESTABLISHMENT AND MAINTENANCE OF VEGETATION. LEAVE SURFACE REASONABLY SMOOTH AND UNIFORM FOR FINAL SEEDBED PREPARATION.
3. APPLY AGRICULTURAL LIVE FERTILIZER AND SUPERPHOSPHATE UNIFORMLY AND MIX WITH SOIL (IN ABSENCE OF A SOIL TEST, SEE RATES BELOW)  
APPLY  
AGRICULTURAL LIMESTONE - 2 TONS/ACRE (3 TONS/ACRE FOR CLAY SOILS)  
FERTILIZER - 1000 LBS/ACRE - 10-10-10  
SUPERPHOSPHATE - 500 LBS/ACRE - 20% ANALYSIS  
MULCH - 2 TONS/ACRE - SMALL GRAIN STRAW
4. MULCH IMMEDIATELY AFTER SEEDING AND ANCHOR MULCH IN CRITICAL AREAS.
5. INSPECT ALL SEEDING AREAS AND MAKE THE NECESSARY REPAIRS OR RESEEDINGS WITHIN THE PLANTING SEASON. IF POSSIBLE, IF STAND SHOULD BE OVER 60% DAMAGED, REESTABLISH FOLLOWING ORIGINAL LIVE FERTILIZER AND SEEDING RECOMMENDATIONS.

**CONSTRUCTION SEQUENCE**

1. SCHEDULE AN ON-SITE MEETING WITH THE DURHAM COUNTY SEDIMENTATION AND EROSION CONTROL INSPECTOR PRIOR TO THE START OF LAND DISTURBANCE.
2. INSTALL THE TREE PROTECTION FENCING AS NOTED ON THE PLANS.
3. INSTALL THE SILT FENCING AS ILLUSTRATED ON THE PLANS AND AS REQUIRED BY FIELD CONDITIONS.
4. EXCAVATE AND SHAPE THE EXISTING SEDIMENTATION BASINS TO FORM A CONTINUOUS BASIN. REMOVE THE EXISTING GRAVEL FILTER FROM AROUND THE RISER BARRELS AND REPLACE WITH NEW GRAVEL AND RISES.
5. ADD A RIP-RAP DISSIPATER AT THE OUTLET OF EACH RISER BARREL.
6. CONSTRUCT AN EMERGENCY SPILLWAY NEAR THE CENTER OF THE DAM AND RIP-RAP FROM THE BASIN TO THE ADJACENT CREEK.
7. BEGIN EXCAVATION AND SPOLS AREA OPERATIONS.
8. STABILIZE ALL WORKING FACES, SLOPES AND EXPOSED SURFACES THAT ARE NOT INCLUDED WITHIN THE MONTHLY OPERATIONAL AREAS.
9. OPERATE THE TEMPORARY LIQUID LANDFILL IN ACCORDANCE WITH THE APPROVED DURHAM PERMIT AND THE PERMIT ISSUED BY THE NORTH CAROLINA SOLID WASTE DIVISION.

REVNO.	DESCRIPTIONS REVISIONS	DATE



DESIGNED SDG  
DRAWN SDG  
CHECKED JFB  
PROJ. ENG.

DATE  
2/10/99

DESIGNED SDG  
DRAWN SDG  
CHECKED JFB  
PROJ. ENG.

SUNGATE DESIGN GROUP, P.A.  
915-A JONES FRANKLIN ROAD  
RALEIGH, NORTH CAROLINA 27606  
PH: (919) 859-2243 FAX: (919) 859-6258

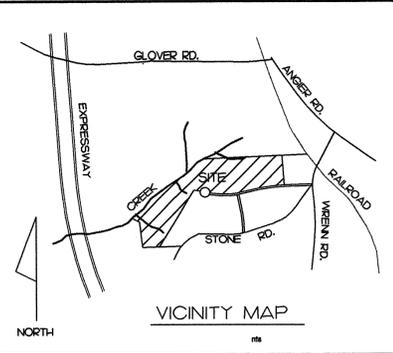
PHASE THREE  
TEMPORARY  
L.C.I.D.  
LANDFILL

SEDIMENTATION  
&  
EROSION CONTROL  
DETAILS

DATE: JAN 1999  
SDG PROJ. # 05-9711  
DWG FILE # WDURLF9SE02A

SCALE  
HORIZONTAL:  
VERTICAL:

SHEET NO.  
SE-2  
OF: 8



**STREAM BUFFERS:**  
25 FOOT WIDE UNDISTURBED STREAM BUFFER EACH SIDE OF STREAM, MEASURED FROM TOP OF BANK, NO CLEARING OR GRADING OTHER THAN SELECTIVE THINNING AND ORDINARY MAINTENANCE OF EXISTING VEGETATION PERMITTED.  
BOUNDARIES OF STREAM BUFFER MEASURED 25 FT. FROM EDGE OF EACH SIDE OF THE STREAM, MEASURED PERPENDICULARLY FROM THE STREAM EDGE.

**SOLID WASTE BUFFER**  
50 FEET FROM THE WASTE BOUNDARY TO SURFACE WATERS.  
100 FEET FROM THE DISPOSAL AREA TO PROPERTY LINES, RESIDENTIAL DWELLINGS, COMMERCIAL OR PUBLIC BUILDINGS AND WELLS.

**40' ZONING BUFFER**  
40 FT. REQUIRED BUFFER BETWEEN I-3 AND RD ZONED PROPERTIES

HALL ROAD SHALL BE REMOVED AS PART OF THE RESTORATION PLAN

PROPOSED LOBLOLLY PINES IN THIS AREA ARE SUBJECT TO REVISIONS PENDING PHASE 2 PROCESSING AND RECYCLING CENTER DEVELOPMENT APPROVAL.

TREE PROTECTION FENCING TO BE INSTALLED 2 FEET OUTSIDE OF THE 40 FEET BUFFER BOUNDARY FOR THE ENTIRE LENGTH

JOVEN FIVE GROUP  
PB 1278 PG 668  
TAX PARCEL 639-10  
ZONING: RD  
VACANT

LINE	BEARING	DISTANCE
1	N02°03'28"W	75.02'
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4	N39°46'13"E	86.88'
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EXISTING RISER BASINS SHALL BE EXCAVATED TO CREATE A PERMANENT STORMWATER CONTROL POND

100 YEAR STORM ELEVATION CAUSED BY BACKWATER FROM CULVERT UNDER NC 147

PROJECT AREA IS OUTSIDE OF FEMA FLOOD BOUNDARIES.  
PANEL 178 OF 280, 37063COI78G, DATED 2/2/96.

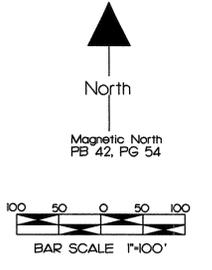
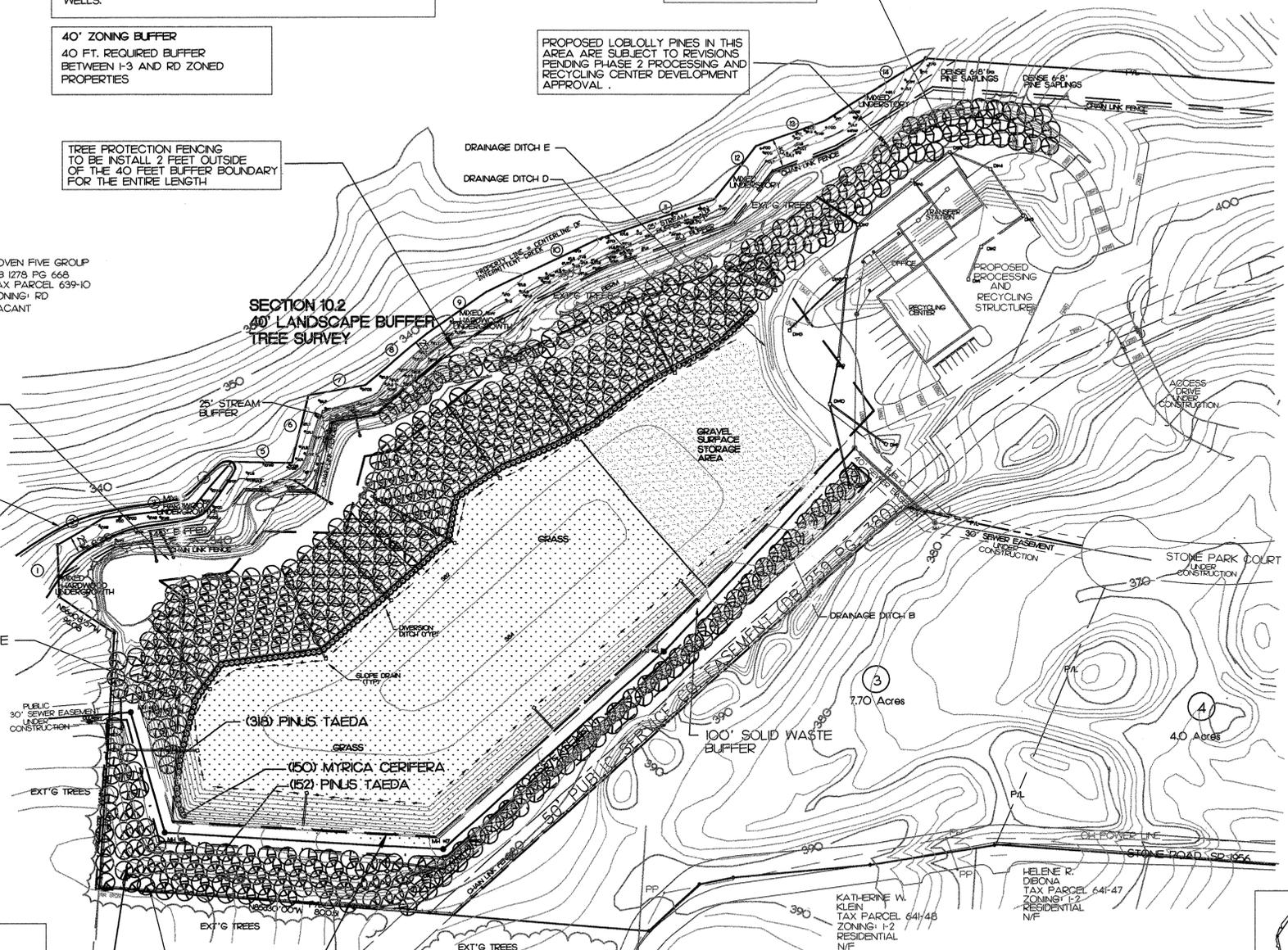
100' SOLID WASTE BUFFER

KATHLEEN RIGSBEE  
DB 15 PG 539  
TAX PARCEL 641-2A  
ZONING: I-2  
VACANT

**SANITARY SEWER EASEMENTS:**  
CENTERLINE OF 30 FOOT WIDE CITY OF DURHAM SANITARY SEWER EASEMENT, SUBJECT TO TERMS STATED IN THE DECLARATION IN REAL ESTATE BOOK 150, PAGE 958, NO STRUCTURES, FILL, EMBANKMENTS, TREES OR OBSTRUCTIONS PERMITTED WITHIN THE EASEMENT EXCEPT ACCORDING TO THOSE TERMS.

**NOTE:**  
THESE PLANTS SHALL BE INSTALLED PRIOR TO THE ISSUANCE OF THE TEMPORARY USE PERMIT 52 LOBLOLLY PINES

**NOTE:**  
ITEMS DESIGNATED AS UNDER CONSTRUCTION ARE PART OF WASTE INDUSTRIES DISTRICT CAMPUS PHASE ONE BY OTHERS OR STONE ROAD INDUSTRIAL PARK CONSTRUCTION PLANS BY OTHERS.



**PLANT LIST**

BOTANICAL NAME	COMMON NAME	CALIPER	HEIGHT	REMARKS	QUANTITY	SYMBOLS
TREES						
Pinus taeda	LOBLOLLY PINE	3 GAL	24"-36"	5' O.C.	525	PT
SHRUBS						
Myrica cerifera	WAX MYRTLE	3 GAL	24"-30"	8' O.C.	150	MC

**SEEDING**

SEED ALL GRADED AREAS, INCLUDING SLOPES THAT ARE TO BE PLANTED WITH LANDSCAPE MATERIAL, WITH FESCUE ACCORDING TO SPECIFICATION RATES.  
TOTAL SEEDING AREA = 502,630 SF

**GRAVEL**

(GRAVEL SURFACE STORAGE AREA)  
6" ABC GRAVEL • 6" DEPTH = 1208 CY

**LANDSCAPE NOTES**

- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE LOCATION AND/OR RELOCATION OF EXISTING UTILITIES IN COORDINATION WITH THE APPROPRIATE UTILITY AGENCY OR COMPANY.
- CONTRACTOR SHALL NOT SUBSTITUTE FOR ANY OF THE PLANT MATERIAL THAT IS SPECIFIED WITHOUT PRIOR APPROVAL OF SUNGATE DESIGN GROUP.
- VERIFICATION OF TOTAL QUANTITIES AS SHOWN IN THE PLANT LIST SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- TREE PROTECTION FENCING SHALL BE INSTALLED BEFORE GRADING.
- PLANT SIZES INDICATED SPECIFY MINIMUM ALLOWABLE SIZES AT PLANTING. WHERE CONTAINER AND HT. SIZES ARE INDICATED FOR A SINGLE SPECIES, BOTH SIZE REQUIREMENTS MUST BE MET.
- NO STORAGE OF MATERIALS, FILL OR EQUIPMENT SHALL BE ALLOWED WITHIN THE PROTECTED AREA AND NO TRESPASSING SHALL BE ALLOWED WITH THE BOUNDARY OF THE PROTECTED AREA. THIS NOTICE SHALL BE POSTED ON THE TREE PROTECTION FENCE.
- CONTRACTOR SHALL KEEP THE AREA CLEAN THROUGHOUT THE JOB. ALL DEBRIS SHALL BECOME THE PROPERTY OF THE CONTRACTOR, REMOVED FROM THE PROPERTY AND SHALL BE DISPOSED OF IN A LEGAL MANNER.

**LANDSCAPE CALCULATIONS**

**40' LANDSCAPE BUFFER REQUIREMENTS:**

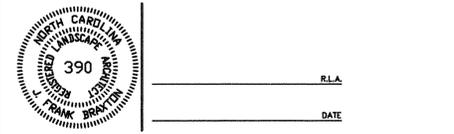
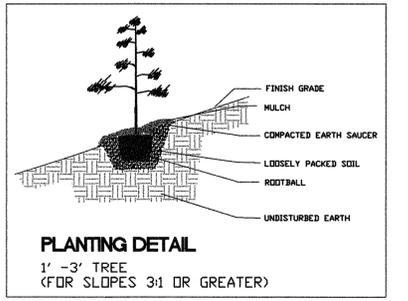
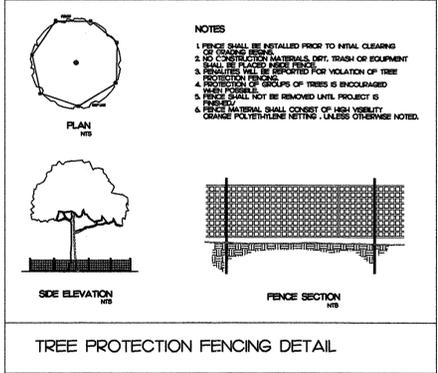
- TREES: 77,200 SF DIVIDED BY 1 TREE/350 SF = 220 TREES
- SMALL TREE/LARGE SHRUB: 0 SM TREES/LG SHRUBS
- NET LARGE TREES (SEE LANDSCAPE WORKSHEETS): 220 TREES
- EVERGREEN SHRUBS: 13,200 SF ÷ 1 SHRUB/25 SF = 528 SHRUBS
- CREDIT FOR EXISTING VEGETATION: 463 CREDITS
- # OF REQUESTED TREE CREDITS (SEE TREE SURVEY FOR SIZE, LOCATIONS AND SPECIES): 463 CREDITS

NO ADDITIONAL VEGETATION IS REQUIRED FOR LANDSCAPE BUFFER. SEE TREE SURVEY AND LANDSCAPE WORKSHEET FOR EXISTING LANDSCAPE CREDITS.

REQUEST SMALL TREES/LARGE SHRUBS, EVERGREENS AND SHRUB REQUIREMENTS BE WAIVED DUE TO SUFFICIENT SCREENING PROVIDED BY EXISTING VEGETATION IN BUFFER.

DESCRIPTION OF EXISTING TREES UNDER 4" DIA. AND UNDERGROWTH: AREAS OF DENSE 6-8" PINE SAPLINGS AND SMALLER UNDERGROWTH OF PINE, MAPLE, SWEETGUM AND OTHER HARDWOODS WITH VARIOUS TYPICAL WOODLAND HERBACEOUS VEGETATION.

- NOTES:**
- BOUNDARY DATA OBTAINED FROM A SURVEY BY TODD SMITH SURVEYOR.
  - TOPOGRAPHIC DATA OBTAINED FROM FIELD SURVEY BY TODD SMITH SURVEYOR AND CITY OF DURHAM TOPOGRAPHIC MAPS.
  - ALL GRADING OPERATIONS SHALL BE IN ACCORDANCE WITH THE DURHAM COUNTY SEDIMENTATION AND EROSION CONTROL REGULATIONS.
  - ALL DENuded AREAS OUTSIDE OF THE WORKING SURFACES SHALL BE STABILIZED AND/OR GRASSED.
  - A PERMIT FROM THE NORTH CAROLINA DIVISION OF SOLID WASTE MANAGEMENT IS REQUIRED PRIOR TO THE OPERATION OF A L.C.I.D. TEMPORARY LANDFILL.
  - FILL MATERIAL WITHIN THE FUTURE BUILDING SITE SHALL SELECTIVE INERT BENEFICIAL FILL.
  - NO SITE AREA LIGHTING IS PROPOSED FOR THIS PHASE OF THE WASTE INDUSTRIES DURHAM DISTRICT CAMPUS



REVNO.	DESCRIPTIONS	DATE
1	SEWER EASEMENT WIDTH TO 40' (NH #14 - MH #15) PER CITY OF DURHAM REQUEST	9/22/98

DESIGNED: SDG  
DRAWN: JFB  
CHECKED: SDG  
PROJ. ENG.

SUNGATE DESIGN GROUP, P.A.  
915-A JONES FRANKLIN ROAD  
RALEIGH, NORTH CAROLINA 27606  
PH: (919) 858-2243 FAX: (919) 859-6258

DATE: 2/10/99

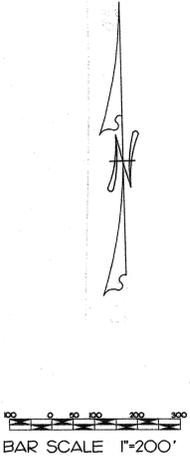
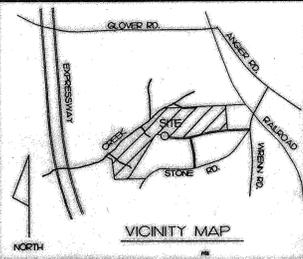
**WASTE INDUSTRIES  
DURHAM DISTRICT CAMPUS**

**LCID LANDFILL  
LANDSCAPE PLAN**

DATE: JAN 1999  
SDG PROJ. # 05-9711  
DWG FILE # WIDURL9L01A

SCALE  
HORIZONTAL: 1"=100'  
VERTICAL: 1"=100'

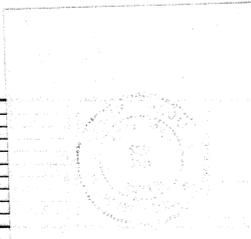
SHEET NO.  
**L-1**  
OF: 8



PROJECT AREA IS OUTSIDE OF FEMA FLOOD BOUNDARIES.  
 PANEL 178 OF 280, 37063CO178G, DATED 2/2/96.

ORTHOPHOTO MAPS # 0749.01 AND # 0840.03 OF DURHAM COUNTY BY LANDMARK GEOGRAPHIC INFORMATION SERVICES, DATE MARCH 1988.

REVNO.	DESCRIPTIONS	REVISIONS



110199 DATE

DESIGNED: SDG  
 DRAWN: WBH  
 CHECKED: JFB  
 PROJ. ENG.: WHW

SUNGATE DESIGN GROUP, P.A.  
 915-A JONES FRANKLIN ROAD  
 RALEIGH, NORTH CAROLINA 27606  
 PH: (919) 859-2243 FAX: (919) 859-6258

PHASE THREE  
 TEMPORARY  
 L.C.I.D.  
 LANDFILL

WASTE INDUSTRIES  
 DURHAM DISTRICT CAMPUS

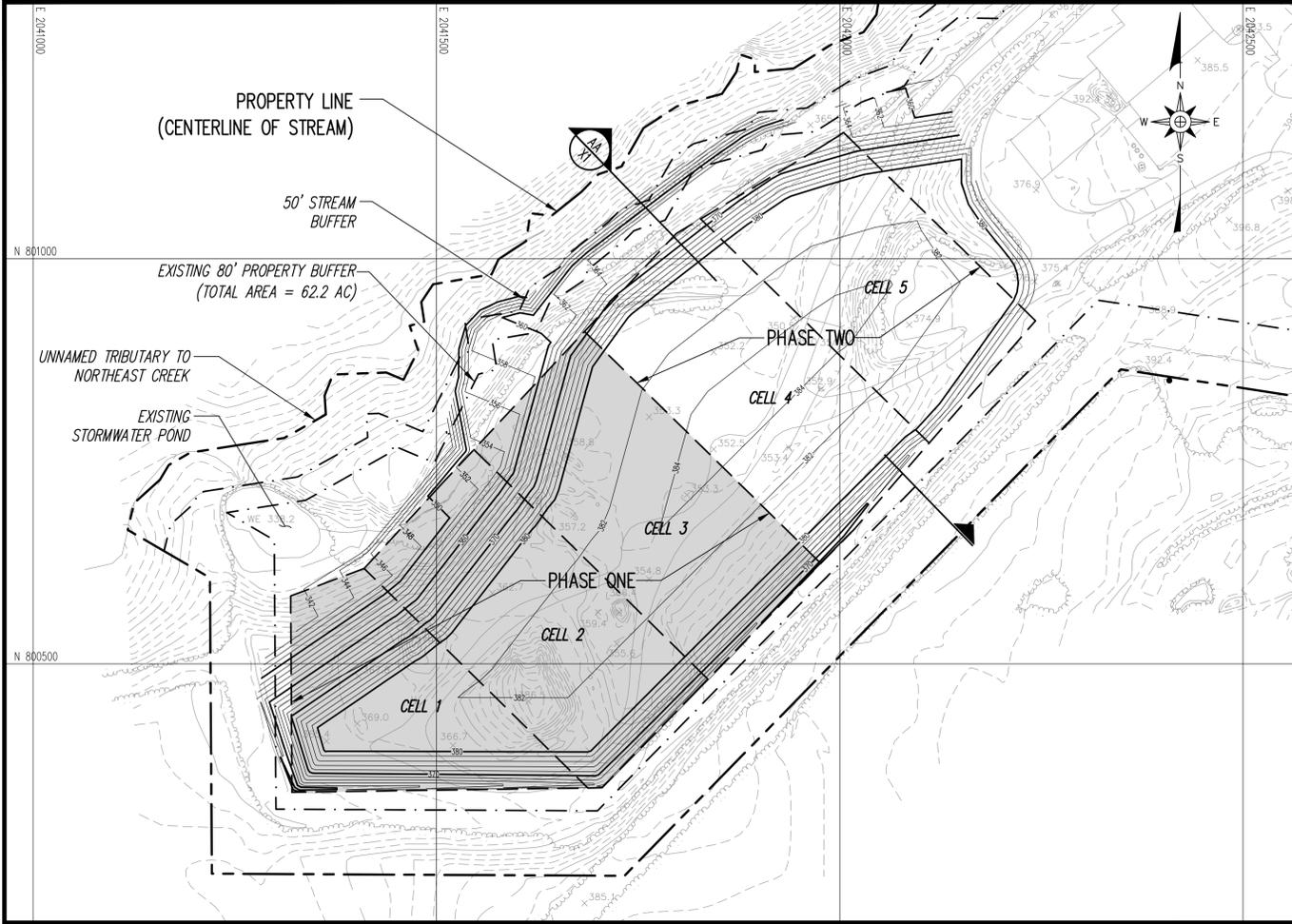
LOCATION  
 MAP

DATE: JAN. 1999  
 SDG PROJ. # 05-9711  
 DWG FILE # WIDURLF99S01

SCALE  
 HORIZONTAL:  
 1" = 200'  
 VERTICAL:

SHEET NO.  
**S-1**  
 OF: 8

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- LEGEND**
- 150 — EXISTING 10' CONTOUR
  - 170 — EXISTING 2' CONTOUR
  - 170 — PROPOSED FINAL COVER 10' CONTOUR
  - 170 — PROPOSED FINAL COVER 2' CONTOUR
  - - - - - APPROXIMATE PROPERTY LINE
  - - - - - WASTE LIMITS
  - - - - - LIMIT OF DISTURBANCE
  - - - - - CELL BOUNDARY

- NOTES**
1. THE PROPOSED FINAL COVER GRADES MEET ALL OF THE PREVIOUSLY PERMITTED SETBACK REQUIREMENTS OF DURHAM CITY/COUNTY PLANNING.
  2. THE SHADED AREA REPRESENTS THE PHASE ONE AREA PROPOSED FOR OPERATIONS OVER THE NEXT 5 YEARS.
  3. EXISTING FEATURES AND THOSE PREVIOUSLY PERMITTED ARE SHOWN IN ITALICS.

- REFERENCES**
1. TOPOGRAPHY IS BASED ON AERIAL PHOTOGRAPHY BY GEODATA, DATED 1/16/11.
  2. PROPERTY BOUNDARY AND LEGAL DESCRIPTION SURVEYING BY SURVEY SOLUTIONS, REVISED 8/11/08.
  3. PERMITTED DESIGN WAS PREPARED BY SUNGATE DESIGN GROUP, P.A., AS PROVIDED IN DRAWINGS TITLED "WASTE INDUSTRIES, INC., DURHAM DISTRICT CAMPUS, TEMPORARY LCID LANDFILL", 9 SHEETS, DATED 2/10/99.

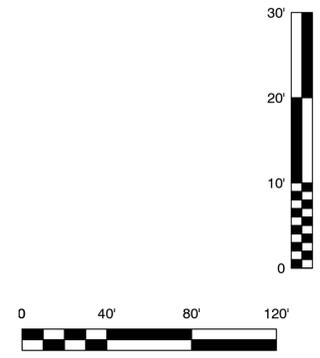
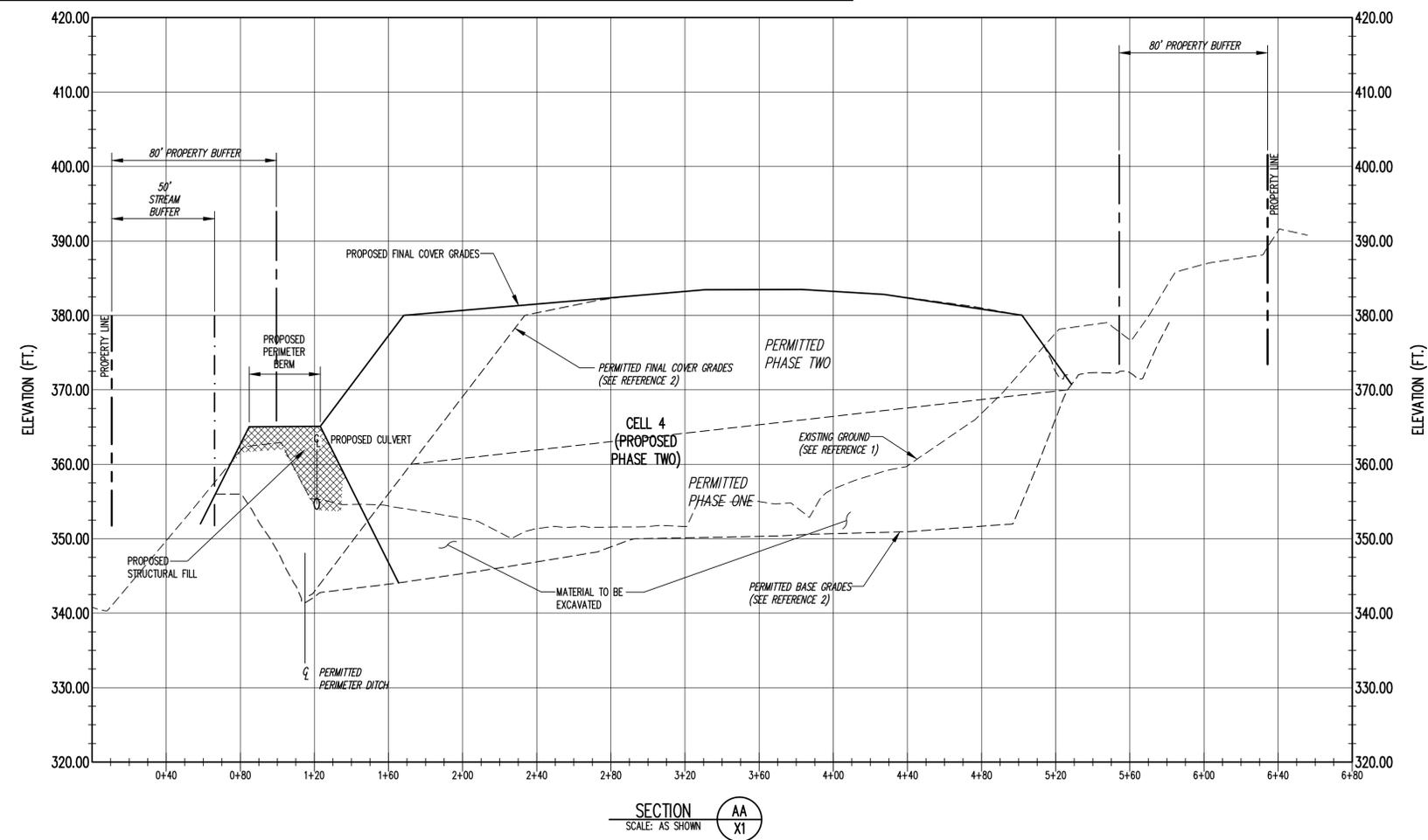


SEAL

SEAL

REV.	DATE	DESCRIPTION

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**SECTION AA-X1**  
 SCALE: AS SHOWN

PROJECT TITLE:  
**PLAN AND TYPICAL CROSS SECTION**

DRAWING TITLE:

DESIGNED: J.W.C.	PROJECT NO: DURHAM 14-1
DRAWN: C.T.J.	SCALE: AS SHOWN
APPROVED:	DATE: JAN. 2014
FILENAME: DURHAM-D0074	
SHEET NUMBER: 1	DRAWING NUMBER: X1