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January 3, 2012

Ms. Patricia Backus, P.E.
Environmental Engineer
Solid Waste Section
1646 Mail Service Center
Raleigh, NC 27699

Re: Response to Comments on the Fogleman & Fogleman Landfill & Recycling Facility Permit Amendment Application

Dear Ms. Backus:

Richardson Smith Gardner (RSG) has prepared this response to the comments from the NCDENR Solid Waste Section regarding the submittal for the Fogleman & Fogleman Landfill & Recycling Facility Permit Amendment Application. The following responses address all comments from your December 6, 2011 letter (**attached**). Please find each comment in *italics* with the associated response below.

Comment No. 1

Please include "mining of the existing LCID landfill" in the list of solid waste management activities in Section 1.1.

Response:

An excerpt from the first paragraph of **Section 1.1** has been revised to read as follows:

"This document discusses the operation of the following solid waste management activities:

- LCID landfill;
- Wood waste processing;
- Brick, block, and concrete crushing; and
- Mining of the existing LCID landfill."

An updated Operations Manual is **attached**.

Comment No. 2

Add 15A NCAC 13B .0300 to the rule referenced in the second paragraph. This rule applies to processing.

Response:

The second paragraph of **Section 1.1** has been revised to read as follows:

“The continued use of the site will be conducted complying with the rules stated under 15A NCAC 13B 0.500 and 0.300. It is also noted that the site also operates under a NCDENR Division of Land Resources Mine Permit (No. 32-09).”

Comment No. 3

Please change the title of Section 1.2.1 to “Owner and Operator”.

Response:

The title section of **Section 1.2.1** has been revised to read as follows:

“1.2.1 Owner and Operator”.

Comment No. 4

The Division of Waste Management recently moved. Below is information to update Section 1.2.3.

- a. *The mailing address is:
1646 Mail Service Center
Raleigh, NC 27669-1646
(Please note that both letters and packages should be sent to the mailing address and not to the street address. We have been told that deliveries will not be accepted at the street address.)*
- b. *The street address is:
217 W. Jones Street*
- c. *The phone/fax number for DWM is (919) 707-8200.*

Response

Section 1.2.3 has been revised to read as follows:

“1.2.3 North Carolina Department of Environment and Natural Resources

North Carolina DENR - Division of Waste Management

Street Address:

217 West Jones Street

Raleigh, NC 27603

Phone/Fax: (919) 707-8200

Mailing Address:

1646 Mail Service Center

Raleigh, NC 27669

(Please note that both letters and packages should be sent to the mailing address and not to the street address.)

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

Permitting Branch Head

Ed Mussler III, P.E.

ed.mussler@ncdenr.gov

Field Operations Branch Head

Mark Poindexter

mark.poindexter@ncdenr.gov”.

Comment No. 5

In Section 1.6, it is stated that approval to operate additional hours will be obtained from the “commission’s regional office”. Can you provide the name of the commission? Or should this be DWM?

Response

Section 1.6 has been revised to read as follows:

“Waste disposal activities will be conducted between 7:00 A.M. to 5:00 P.M. Monday to Friday. The facility will be closed on weekends and most recognized County holidays. In the event of disaster or other emergency situations, the supervisor will request approval from the Division of Waste Management to allow additional temporary operating hours during these events.”

Comment No. 6

Section 1.7.2 states that a “hot” load could be a source of fire for the facility. If a “hot” is suspected, what is done?

Response

The second paragraph of **Section 1.7.2** has been revised to read as follows:

“Sources of fire at the landfill facility can result from ‘hot’ loads. If a ‘hot’ load is suspected, the facility will either reject or treat the load. To treat a ‘hot’ load, the facility will either separate the load to isolate the ‘hot’ element (i.e. burning stump) then smother the ‘hot’ element or the entire load can be smothered with water or soil. The occurrence of a ‘hot’ load should be rare considering that only LCID waste is received at this site.”

Comment No. 7

Section 1.7.2 also states that a source of fire could be the buildup of fine particles inside the facility. I’m not sure if by facility you mean a particular building or the landfill facility. Explosions and fires can occur when fine particles are suspended in air in an enclosed space. Since you are grinding for mulch (larger particles) and are outside, I wouldn’t expect that type of situation. Please be more specific about the area where this is a concern.

Response

The term ‘facility’ refers to the landfill facility. The text has been corrected to be more specific and only include events that would occur at this specific site.

Section 1.7.2 has been revised to read as follows:

“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 at the landfill 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.

Sources of fire at the landfill facility can result from ‘hot’ loads. If a ‘hot’ load is suspected the facility will either reject or treat the load. To treat a ‘hot’ load, the facility will either separate the load to isolate the ‘hot’ element (i.e. burning stump) then smother the ‘hot’ element or the entire load can be smothered with water or soil. The occurrence of a ‘hot’ load should be rare considering that only LCID waste is received at this site.

Portable fire extinguishers should be maintained in a state of readiness at the screen location and on each piece of moving equipment and equipment should be cleaned periodically. Staff shall be periodically trained on the proper utilization of the fire extinguishers. The fire extinguishers are checked on a regular basis to ensure their utilization. The date of the units' inspections is document on each tag. The facility is governed by the Durham County Fire Marshal."

Comment No. 8

Section 1.7.2 also states that fire can result from the mixing of incompatible materials during transfer procedures. This is usually an issue when dealing with hazardous materials or waste. Since you are dealing with land clearing and inert debris, I wouldn't expect this for your facility operations. Do you have a specific situation where this has or could be expect this to occur?

Response

No, this specific situation is not expected to occur. There is not a transfer station at the landfill site. Please see the revised **Section 1.7.2** shown in the Response to Comment No. 7 above.

Comment No. 9

Fires at your type of facility may also result from the decomposition of organic material that is stored above ground prior to or after processing. The plan should specific the maximum pile sizes and minimum distance around piles to reduce the risk and aid in putting out a fire.

Response

Section 3.3.4 has been added to address the above issue and reads as follows:

"Materials will be stored in stockpiles in the designated area on site. Stockpiles will not exceed a maximum height of 10 feet. The minimum buffer between stockpiles and all operation equipment is 20 feet. These distances reduce the risk and aid in putting out a fire. For safety and fire protection the stockpiles will be monitored for size and temperature. The stockpiles must maintain a temperature of less than 110 degrees Fahrenheit. By monitoring and avoiding excessive temperatures the stockpiles will avoid combustion which leads to possible fire and odors."

Comment No. 10

Please change “Waste Management Specialist staff member” to “Field Operations Branch staff” in item 1.7.4. This would make it consistent with item 1.2.3 and the current structure of the Section.

Response

Section 1.7.4 has been revised to read as follows:

“A copy of the site Operations Manual shall be filed with the local fire department including all contact information for the facility.

The occurrence of fire will be reported verbally to the Field Operations Branch staff of DWM within 24 hours. Subsequent written notification will be provided to DWM within 15 days of the event utilizing the NC DENR-DWM *Fire Occurrence Notification* form provided in **Appendix B.**”

Comment No. 11

Item 1.11 states that a member of the operating staff will be designated the site’s safety officer prior to commencement of operations. Has that person been named or is it a responsibility of a specific staff person?

Response

The site safety officer is Timmy Ferrell. The first paragraph of **Section 1.11** has been revised to read as follows:

“All aspects of the landfill operations were developed with the health and safety of the operating staff, customers, and neighbors in mind. Prior to commencement of operations at the facility, a member of the operating staff will be designated the site’s safety officer. This individual, together with the facility’s management will modify the site’s safety and emergency response program to ensure consistency with the Occupational Safety and Health Administration (OSHA) guidance. The following is the site safety officer at this site:

- Timmy Ferrell, Fogleman Landfill Site Safety Officer.”

Comment No. 12

Item 1.11.6 states that an MSDS “shall be collected on every waste (if available) that enters the facility”. MSDS are developed for products by the manufacturer to indicate hazards of a chemical. It is specific to the material and formulation. I would not expect

any loads of land clearing or inert debris to have an MSDS. The sentence is also confusing because “shall” in regulations means “must”, yet the sentence also says “if available”. Is it correct to assume that you are asking for MSDS for each load that enters the facility? The last two sentences of the paragraph are appropriate based on my understanding of OSHA requirements. I would suggest eliminating or revising the first sentence of the paragraph.

Response

Yes, loads of land clearing or inert debris are not expected to need a MSDS. For the situation that an MSDS would be needed, **Section 1.11.6** has been revised to read as follows:

“Information shall also be made available for all chemicals stored on site for use by the facility. MSDS sheets shall be stored in a location with all other Right to Know information for the site.”

Comment No. 13

In Section 2.2, the first definition is for a “land clearing and inert debris landfill”, a facility, rather than a type of material.

Response

The first definition of **Section 1.2.1** has been revised to read as follows:

- “Land Clearing and Inert Debris Landfill: as defined in 15A NCAC 13B.0101(22) means a facility for the disposal of land-clearing waste, concrete, brick, concrete block, uncontaminated soil, gravel and rock, untreated and unpainted wood, and yard trash.”

Comment No. 14

You are correct in stating that the facility can accept the materials listed in item 2.2; however, all are not acceptable for disposal. Wooden pallets can only be disposed in a C&D Landfill as stated in NCGS 130A-309.10(f) (12). I understand that it is your intent to grind all the wooden pallets, but it needs to be clear that it cannot be disposed in the LCID. I would suggest removing the last sentence of the first paragraph and revising the last paragraph to clarify disposal.

Response

Section 2.2 has been revised to read as follows:

“The facility will only accept wastes as allowed below. Certain wastes in italics will be acceptable for processing only. The materials acceptable on the site include:

- Land Clearing and Inert Debris Landfill: as defined in 15A NCAC 13B.0101(22) means a facility for the disposal of land-clearing waste, concrete, brick, concrete block, uncontaminated soil, gravel and rock, untreated and unpainted wood, and yard trash.
- Land Clearing Waste: as defined in 15A NCAC 13B.0101(23) means solid waste which is generated solely from land-clearing activities, limited to stumps, trees, limbs, brush, grass, and other naturally occurring vegetative material.
- Wooden Pallets (damaged and undamaged): as defined in G.S. 130A-290(a)(44a) means a wooden object consisting of a flat or horizontal deck or platform supported by structural components that is used as a base for assembling, stacking, handling, and transporting goods (for processing only).
- Yard trash: as defined in G.S. 130A-290(a)(45) means solid waste consisting solely of vegetative matter resulting from landscaping maintenance.
- Asphalt: as defined in G.S. 130-294 (m).
- Other Wastes as Approved by the Solid Waste Section of the Division of Waste Management.

Only materials listed above will be disposed or processed. Wooden pallets will not be disposed in the landfill but can be processed on site. All other identified wastes will be removed and disposed in accordance with **Section 2.6.**”

Comment No. 15

Figure 2 should indicate at rock/concrete goes to a crusher rather than to the same system used for grinding and screening mulch and top soil. The location of this operation should be indicated on the site drawing.

Response

The site drawing has been updated to show the location of the rock/concrete crushing location. The rock/concrete crushing process is expected to occur on a bi-annual or quarterly basis. The rock/concrete crushing equipment will only be stored on-site during the operations. Rock/concrete will be stored on-site in the

locations shown on the site drawing until an adequate amount is collected for the process. The revised site drawings are **attached**.

Comment No. 16

For clarification, periodic and intermediate covers are not defined in the rules for LCID landfills. What you have described for periodic and intermediate cover meets the requirement of 15A NCAC 13B .0566 (4) for adequate soil cover applied monthly, or when the active area reaches one acre in size, whichever occurs first.

Response

Section 1.7.4 has been revised to elaborate on this clarification and to read as follows:

“A 12 inch layer of soil cover should be placed on all waste surfaces that have not received waste in 30 days or exceed one (1) acre in size but are below final elevation. This intermediate cover should be seeded immediately and graded such that all precipitation run-off is channeled to the surface water systems.”

Comment No. 17

15A NCAC 13B .0566 (5) and (7) should be addressed as well as final closure.

Response

Section 2.7.6 has been added to address the final closure and the rules mentioned in Comment No. 17. **Section 2.7.6** read as follows:

“At the completion of any phase of disposal operations, a final cover of a minimum of one foot of suitable soil cover sloped to allow surface water runoff will be placed over the completed phase. The DWM may require further action in order to correct any condition which is or may become injurious to the public health, or a nuisance to the community. The final cover will be installed within 30 working days or 120 calendar days upon completion of the phase of landfill development.”

Comment No. 18

Section 3.0 Recovery and Processing Operations should specifically list the types of materials acceptable for processing into mulch, the maximum pile sizes, and minimum distance for buffers between piles and operation equipment. The plan should also address monitoring of piles for combustion and odors and the action that will be taken.

Response

To address the types of materials acceptable for processing into mulch, the following has been added in **Section 3.2**:

“The acceptable type of materials acceptable for processing into mulch includes:

- Woody materials;
- Wooden pallets; and
- Unpainted, untreated, non-engineered wood.”

Stockpiling has been further described in Section 3.0. **Section 3.3.4** has been added to read as follows:

“3.3.4 Stockpiling

Materials will be stored in stockpiles in the designated area on site. Stockpiles will not exceed a maximum height of 10 feet. The minimum buffer between stockpiles and all operation equipment is 20 feet. These distances reduce the risk and aid in putting out a fire. For safety and fire protection the stockpiles will be monitored for size and temperature. The stockpiles must maintain a temperature of less than 110 degrees Fahrenheit. By monitoring and avoiding excessive temperatures the stockpiles will avoid combustion which leads to possible fire and odors.”

Comment No. 19

I had discussed a question about the floodplain location indicated on the site drawings with Stacey Smith. I am asking that he respond to me on this.

Response

RSG contacted Mr. Stephan Windsor of the Durham City-County Floodplain Department to gain clarification on this issue. The original drawings submitted included Durham GIS flood mapping layers which we believed were the most conservative view of the site. However, in our conversation with Mr. Windsor while reviewing the FEMA Firm Map and the Durham GIS, he has indicated that their current mapping is more consistent with the FEMA Firm Map and that it would be the most appropriate layer to include. He added that the Durham GIS is only a general representation and that it should not replace data from the FEMA Firm Map. Therefore, we have revised the drawings to include the FEMA Firm Map and the most current floodplain limits that are now shown completely outside the landfill footprint. The revised drawings and the FEMA Firmette Map are **attached**.

Patricia Backus
Page 11 of 11
January 3, 2012

We hope that these comments and attachments adequately address your concerns. Should you have any questions or require additional clarification, please contact me at your earliest convenience at (919) 828-0577 or by email listed below.

Sincerely,
Richardson Smith Gardner & Associates, Inc.



Lindsay Quant, E.I.
Staff Engineer, Ext. 138
lindsay@rsgengineers.com



Stacey A. Smith, P.E.
Project Manager, Ext. 127
stacey@rsgengineers.com

cc:
Linda Fogleman, Fogleman & Fogleman Soils, Inc.
John Patrone, NCDENR
File

Attachments

H:\Projects\Fogleman Landfill (Durham County)\Correspondence\Response to Comments 20111209.doc

ATTACHMENTS

DECEMBER 6, 2011 LETTER FROM NCDENR



North Carolina Department of Environment and Natural Resources
Division of Waste Management

Beverly Eaves Perdue
Governor

Dexter R. Matthews
Director

Dee Freeman
Secretary

December 6, 2011

Mrs. Linda Fogleman
Fogleman & Fogleman Soils, Inc.
4005 Intermere Road
Durham, NC 27704

Re: Application for Permit Amendment
Fogleman & Fogleman Landfill and Recycling Facility
Durham County, Permit No. 32-F, Document ID No. 15717

Dear Mrs. Fogleman:

The Division of Waste Management (DWM), Solid Waste Section (Section) has reviewed the application for a permit amendment to continue operation of the referenced facility. The operation plan was updated from the previous plan and modified to add the grinding and screening of wood material, crushing of concrete and rock, and mining the land clearing and inert debris (LCID) landfill for wood material to grind.

Based on my review, I am providing the following comments and questions. Please address each item. Responses should be incorporated into the application where appropriate.

1. Please include "mining of the existing LCID landfill" in the list of solid waste management activities in Section 1.1.
2. Add 15A NCAC 13B .0300 to the rule referenced in the second paragraph. This rule applies to processing.
3. Please change the title of Section 1.2.1 to "Owner and Operator".
4. The Division of Waste Management recently moved. Below is information to update Section 1.2.3.

a. The mailing address is

1646 Mail Service Center
Raleigh, NC 27669-1646

(Please note that both letters and packages should be sent to the mailing address and not to the street address. We have been told that deliveries will not be accepted at the street address.)

- b. The street address is
217 W. Jones Street
 - c. The phone/fax number for DWM is (919) 707-8200.
5. In Section 1.6, it is stated that approval to operate additional hours will be obtained from the "commission's regional office". Can you provide the name of the commission? Or should this be DWM?
 6. Section 1.7.2 states that a "hot" load could be a source of fire for the facility. If a "hot" is suspected, what is done?
 7. Section 1.7.2 also states that a source of fire could be the buildup of fine particulates inside the facility. I'm not sure if by facility you mean a particular building or the landfill facility. Explosions and fires can occur when fine particles are suspended in air in an enclosed space. Since you are grinding for mulch (larger particles) and are outside, I wouldn't expect that type of situation. Please be more specific about the area where this is a concern.
 8. Section 1.7.2 also states that fire can result from the mixing of incompatible materials during transfer procedures. This is usually an issue when dealing with hazardous materials or waste. Since you are dealing with land clearing and inert debris, I wouldn't expect this for your facility operations. Do you have a specific situation where this has or could be expected to occur?
 9. Fires at your type of facility may also result from the decomposition of organic material that is stored above ground prior to or after processing. The plan should specify the maximum pile sizes and minimum distance around piles to reduce the risk and aid in putting out a fire.
 10. Please "Waste Management Specialist staff member" to "Field Operations Branch staff" in item 1.7.4. This would make it consistent with item 1.2.3 and the current structure of the Section.
 11. Item 1.11 states that a member of the operating staff will be designated the site's safety officer prior to commencement of operations. Has that person been named or is it a responsibility of a specific staff position?
 12. Item 1.11.6 states that an MSDS "shall be collected on every waste (if available) that enters the facility". MSDS are developed for products by the manufacturer to indicate hazards of a chemical. It is specific to the material and formulation. I would not expect any loads of land clearing or inert debris to have an MSDS. The sentence is also confusing because "shall" in regulations means "must", yet the sentence also says "if available". Is it correct to assume that you are asking for MSDS for each load that enters the facility? The last two sentences of the paragraph are appropriate based on my understanding of OSHA requirements. I would suggest eliminating or revising the first sentence of the paragraph.
 13. In Section 2.2, the first definition is for a "land clearing and inert debris landfill", a facility, rather than a type of material.

14. You are correct in stating that the facility can accept the materials listed in item 2.2; however, all are not acceptable for disposal. Wooden pallets can only be disposed in a C&D Landfill as stated in NCGS 130A-309.10(f) (12). I understand that it is your intent to grind all wooden pallets, but it needs to be clear that it cannot be disposed in the LCID. I would suggest removing the last sentence of the first paragraph and revising the last paragraph to clarify disposal.
15. Figure 2 should indicate that rock/concrete goes to a crusher rather than to the same system used for grinding and screening mulch and top soil. The location of this operation should be indicated on the site drawing.
16. For clarification, periodic and intermediate covers are not defined in the rules for LCID landfills. What you have described for periodic and intermediate cover meets the requirement of 15A NCAC 13B .0566 (4) for adequate soil cover applied monthly, or when the active area reaches one acre in size, whichever occurs first.
17. 15A NCAC 13B .0566 (5) and (7) should be addressed as well as final closure.
18. Section 3.0 Recovery and Processing Operations should specifically list the types of materials acceptable for processing into mulch, the maximum pile sizes, and minimum distance for buffers between piles and operating equipment. The plan should also address monitoring of piles for combustion and odors and the action that will be taken.
19. I had discussed a question about the floodplain location indicated on the site drawings with Stacey Smith. I am asking that he respond to me on this.

If you have any questions regarding this matter, please contact me at (919) 707-8257 or by email at pat.backus@ncdenr.gov.

Sincerely,



Patricia Backus, P.E.
Environmental Engineer
Solid Waste Section

cc: Stacey Smith, P.E., Richardson Smith Gardner & Associates
Ed Mussler, P.E., Permitting Branch Head
Dennis Shackelford, Eastern District Supervisor
John Patrone, Environmental Senior Specialist

REVISED OPERATIONS MANUAL

OPERATIONS PLAN

Fogleman and Fogleman Landfill & Recycling Facility NC Solid Waste Permit No. 32-F Durham, North Carolina

Prepared for:

FOGLEMAN & FOGLEMAN SOILS, INC.
Durham, North Carolina

January 2012 Revision

PERMIT ISSUE DOCUMENTS



14 N. BOYLAN AVENUE
RALEIGH, NORTH CAROLINA 27603

NC LIC. No. C0828 (ENGINEERING)



PRINTED ON 100% RECYCLED PAPER

Operations Manual

Fogleman and Fogleman Landfill & Recycling Facility Durham, North Carolina

Prepared for:

Fogleman & Fogleman Soils, Inc.
Durham, North Carolina

To the Attention of:

Mrs. Linda Fogleman
Fogleman & Fogleman Soils, Inc.

RSG Project No. FOGLEMAN-11-1



Lindsay Quant, E.I.
Staff Engineer



Stacey A. Smith, P.E.
Project Manager



January 2012 Revision



NC LIC. No. C0828 (ENGINEERING)



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**FOGLEMAN AND FOGLEMAN LANDFILL & RECYCLING FACILITY
LCID LANDFILL**

OPERATIONS MANUAL

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SECTION 1.0 GENERAL FACILITY OPERATIONS

1.1 OVERVIEW

This Operations Manual was prepared for the Fogleman and Fogleman Landfill & Recycling Facility (FLM) Land Clearing and Inert Debris (LCID) Landfill located off of Red Mill Road in Durham, North Carolina as shown in **Figure 1**. This document discusses the operation of the following solid waste management activities:

- LCID landfill;
- Wood waste processing;
- Brick, block, and concrete crushing; and
- Mining of the existing LCID landfill.

The continued use of the site will be conducted complying with the rules stated under 15A NCAC 13B 0.500 and 0.0300. It is also noted that the site also operates under a NCDENR Division of Land Resources Mine Permit (No. 32-09).

The information contained herein was prepared to provide facility personnel 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.

1.2 CONTACT INFORMATION

All correspondence and questions concerning the operation of the FLM LCID Landfill should be directed to the appropriate Site and State personnel listed below. For fire or police emergencies dial 911.

1.2.1 Owner and Operator

Fogleman & Fogleman Soils, Inc.
4005 Intermere Road
Durham, NC 27704
Phone: (919) 682-0068
Contact: Linda Fogleman
lfogle@frontier.com
Jay Fogleman

1.2.2 Engineer

Richardson Smith Gardner & Associates Inc.
14 North Boylan Avenue
Raleigh, NC 27603
Phone: (919) 828-0577
Fax: (919) 828-3899
Contact: Stacey A. Smith, P.E.
stacey@rsgengineers.com

1.2.3 North Carolina Department of Environment and Natural Resources

North Carolina DENR - Division of Waste Management
Street Address:
217 West Jones Street
Raleigh, NC 27603
Phone/Fax: (919) 707-8200

Mailing Address:
1646 Mail Service Center
Raleigh, NC 27669
(Please note that both letters and packages should be sent to the mailing address and not to the street address.)

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

Permitting Branch Head	Ed Mussler III, P.E. ed.mussler@ncdenr.gov
Field Operations Branch Head	Mark Poindexter mark.poindexter@ncdenr.gov

1.2.4 Emergency Response

Redwood Fire Department Station
4901 Cheek Road
Durham, NC 27704
Phone: (919) 688-8422

1.2.5 Mine Contact

Division of Land Resources - Raleigh Regional Office
3800 Barrett Drive
Raleigh, NC 27609
Phone: (919) 791-4200
Fax: (919) 571-4718

Regional Supervisor

John Holley, P.E.
john.holley@ncdenr.gov

1.3 ACCESS CONTROL

Limiting access to the solid waste management facility is important for the following reasons:

- Unauthorized and illegal dumping of waste materials is prevented.
- Trespassing, and injury resulting therefrom, is avoided and 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. An attendant will be on duty at all times when the facility is open for public use to enforce access restrictions.

1.3.1 Physical Restraints

The site will be primarily accessed by the existing entrance on Intermere Road. The primary entrance has a gate which will be securely locked during non-operating hours. A guard house is provided at the main entrance. All managers of FLM operations live on or adjacent to the landfill. All waste will be initially screened at the guard house prior to being placed in the facility.

1.3.2 Security

The facility is secured by fencing, security gates, and natural buffers. Evidence of trespassing, vandalism, or illegal operations will be reported to the Manager in order to coordinate the repair or replacement of the damaged property and to ensure the integrity of the facility's security.

1.4 SIGNAGE

A prominent sign(s) containing the information required by the DWM will be placed at the main facility entrance. This sign(s) will provide contact name, a phone number in case of emergency, and the permit number. Additional signage will be provided within the landfill complex to distinctly distinguish the roadway to the active landfill unit(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. Site personnel will routinely inspect the conditions of the posted signage to ensure that they are clearly visible and intact. Damaged or missing signage

will be replaced.

1.5 COMMUNICATIONS

The guard house and office have a telephone in case of emergency and to conduct day-to-day business. Emergency telephone numbers are displayed in the guard house.

1.6 FACILITY OPERATING HOURS

Waste disposal activities will be conducted between 7:00 A.M. to 5:00 P.M. Monday to Friday. The facility will be closed on weekends and most recognized County holidays. In the event of disaster or other emergency situations, the supervisor will request approval from the Division of Waste Management to allow additional temporary operating hours during these events.

1.7 FIRE AND SAFETY

The possibility of fire at the landfill must be anticipated in the scope of daily operations. Potential fire hazards results from surface conditions and subsurface conditions. Surface conditions include waste receipts and equipment operations. Subsurface conditions include underground fires caused by decomposition of the waste materials previously landfilled. Smoking is prohibited on the working face of the landfill.

1.7.1 Fire Triangle

The “triangle” illustrates the rule that in order to ignite and burn, a fire requires three (3) elements: heat, fuel, and oxygen. 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). These principles are integral in the prevention and management of potential fire situations.



1.7.2 Equipment Safety

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 at the landfill 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.

Sources of fire at the landfill facility can result from ‘hot’ loads. If a ‘hot’ load is suspected the facility will either reject or treat the load. To treat a ‘hot’ load, the facility will either separate the load to isolate the ‘hot’ element (i.e. burning stump) then smother the ‘hot’ element or the entire load can be smothered with water or soil. The occurrence of a ‘hot’ load should be rare considering that only LCID waste is received at this site.

Portable fire extinguishers should be maintained in a state of readiness at the screen location and on each piece of moving equipment and equipment should be cleaned periodically. Staff shall be periodically trained on the proper utilization of the fire extinguishers. The fire extinguishers are checked on a regular basis to ensure their utilization. The date of the units' inspections is document on each tag. The facility is governed by the Durham County Fire Marshal.

1.7.3 Fire Management Strategies

Each fire situation is site/event specific; however, general strategies for active fire management include, but is not limited to 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 CO₂ (reduce oxygen); and
- Excavating the burning material (displacing fuel) and then extinguishing it in small controlled areas.

1.7.4 Coordination

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

The occurrence of fire will be reported verbally to the Field Operations Branch staff of DWM within 24 hours. Subsequent written notification will be provided to DWM within 15 days of the event utilizing the NC DENR-DWM *Fire Occurrence Notification* form provided in **Appendix B**.

1.8 LITTER CONTROL

The vegetative trees/bushes act as a barrier to keep litter contained within the site boundaries. Staff and operators pick up litter in and around the site on a daily basis and respond to weather and heavy wind conditions that may compromise the appearance of the property. Two (2) dumpsters are located on site for litter control. Waste Management empties the dumpsters weekly.

Customers are encouraged to contain and cover all waste within their vehicles/trailers prior to entering the facility in an effort to reduce litter. Any load that is not secured in a manner that would prevent material from leaving the vehicle while it is in motion is subject to an additional fee. Trailers are encouraged to be covered by heavy tarp lids to minimize litter and reduce the potential for the entrance of vectors into the disposal operations.

1.9 SEVERE WEATHER CONDITIONS

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

1.9.1 Ice Storms

An ice storm can make access to the facility and disposal locations dangerous, prevent movement or placement of cover soil, and, thus, may require closure of the landfill until the ice is removed or has melted. The determination to discontinue activities due to inclement weather conditions will be made by the Site Manager.

1.9.2 Heavy Rains

Rainy periods can create a muddy situation in areas of exposed soil surfaces. The control of drainage and use of crushed stone on unpaved roads should provide adequate 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 site personnel will be initiated and corrective measures taken to repair any damage found before the next rainfall.

1.9.3 Electrical Storms

Employees working on heavy equipment and open areas of the landfill and recovery areas are susceptible to the hazards of an electrical storm. If necessary, disposal 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.

1.9.4 Windy Conditions

Landfill 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 soil.

1.9.5 Violent Storms

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 will be placed on exposed waste and buildings and equipment will be properly secured.

1.10 EQUIPMENT REQUIREMENTS

Periodic maintenance of all equipment, and minor and major repair work will be performed at designated maintenance zones outside of the facility.

1.11 HEALTH AND SAFETY

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

- Timmy Ferrell, Fogleman Landfill Site Safety Officer.

Safety equipment provided on-site 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 will also be implemented.

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
- 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 landfill facility workplace.

- Safety shoes with steel toes.
- Noise reduction protection should be used in areas where extended exposure 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.
- Safety vests.

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

1.11.3 Mechanical Equipment Hazard Prevention

The loaders and other equipment should be operated with care and caution. All safety

apparel, equipment such as horns, backup alarms, and lights should worn at all times and be functional. A Lockout-Tagout program shall be used to identify equipment in need or under repair and insure that operation is “off-limits” prior to maintenance or repair. All operators shall 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 manual prior to attempting repairs/changes.
- Remember the buddy system in case of 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 the first aid kit and fire extinguishers.

1.11.5 Physical Exposure

Facility personnel may come in contact with the fluids, solids, and airborne constituents found at the landfill operations. Routine training should be conducted regarding individual and collective materials and their associated hazards. Training concerning safe workplace practices around these potential exposures should instruct employees on the proper usage of equipment and proper disposal procedures.

1.11.6 Material Safety Data Sheets

Information shall also be made available for all chemicals stored on site for use by the facility. MSDS sheets shall be stored in a location with all other Right to Know information for the site.

1.12 UTILITIES

Electrical power, water, and telephones are available and provided at the guard house, office, and restrooms.

1.13 RECORD KEEPING PROGRAM

The Facility shall maintain the following documents in an operating record at the facility in accordance the **Section 5.0** of this document. The operating record will be kept up to date by the Site Manager or his designee. It will be presented upon request to DWM for inspection. A copy of the Operations Manual will be kept at the facility and will be available for use at all times.

SECTION 2.0 WASTE HANDLING OPERATIONS

2.1 OVERVIEW

This section describes the required waste handling and mining operations for the Fogleman and Fogleman Landfill & Recycling facility.

2.2 ACCEPTABLE WASTES

The facility will only accept wastes as allowed below. Certain wastes in italics will be acceptable for processing only. The materials acceptable on the site include:

- Land Clearing and Inert Debris Landfill: as defined in 15A NCAC 13B.0101(22) means a facility for the disposal of land-clearing waste, concrete, brick, concrete block, uncontaminated soil, gravel and rock, untreated and unpainted wood, and yard trash.
- Land Clearing Waste: as defined in 15A NCAC 13B.0101(23) means solid waste which is generated solely from land-clearing activities, limited to stumps, trees, limbs, brush, grass, and other naturally occurring vegetative material.
- Wooden Pallets (damaged and undamaged): as defined in G.S. 130A-290(a)(44a) means a wooden object consisting of a flat or horizontal deck or platform supported by structural components that is used as a base for assembling, stacking, handling, and transporting goods (for processing only).
- Yard trash: as defined in G.S. 130A-290(a)(45) means solid waste consisting solely of vegetative matter resulting from landscaping maintenance.
- Asphalt: as defined in G.S. 130-294 (m).
- Other Wastes as Approved by the Solid Waste Section of the Division of Waste Management.

Only materials listed above will be disposed or processed. Wooden pallets will not be disposed in the landfill but can be processed onsite. All other identified wastes will be removed and disposed in accordance with **Section 2.6**.

2.3 PROHIBITED WASTES

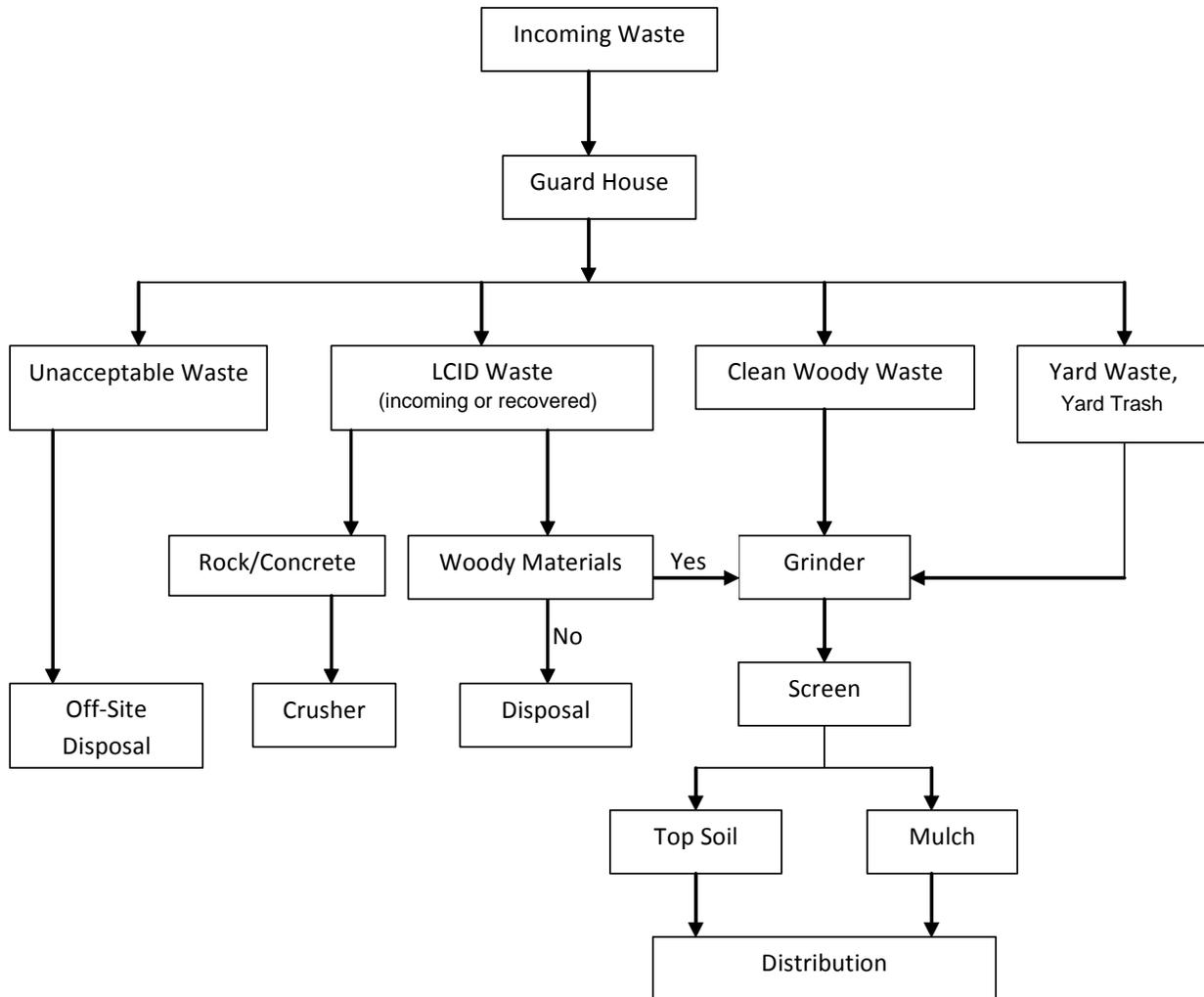
No municipal solid waste (MSW), construction and demolition debris waste (C&D), hazardous waste (as defined by 15A NCAC13A including hazardous waste from conditionally exempt small quantity generators), or liquid waste will be accepted at this facility. In addition, no polychlorinated biphenyl (PCB) waste will be accepted. Fogleman and Fogleman Landfill & Recycling Facility will implement a waste screening program, described in **Section 2.6**, to control these types of wastes.

2.4 FACILITY OPERATIONS

The facility operations have been proposed to facilitate both disposal and recovery to involve a

flow through of material at the facility. Generally, the process includes materials from both customers and mining of the site. This section provides discussion on the major components of the process. Please refer to the below **Figure 2** for a flowchart outlining the overall facility operations. Incoming materials shall follow **Section 3.3** and recovered materials shall follow **Section 3.2** presented below.

Figure 2: Facility Operations Flow Chart



2.4.1 Operating Capacity

The Operating Capacity for the Fogleman and Fogleman Landfill & Recycling Facility facility is estimated to be approximately 140,000 cy per year based on historical receipts. At this time and in consideration of the current construction industry, we have assumed 100,000 cy per year.

2.4.2 Equipment Requirements

The anticipated equipment requirements for operation and maintenance of the site are listed in the following table.

Description	Primary Function (Allocation)
1) Excavator	Soil excavation, LCID landfill mining and sorting.
2) Dozer	Waste placement and grading.
3) Front End Loader	Loading, mixing, and turning.
4) Grinder (Contract)	Grinding/shredding of bulky wastes, stumps, limbs, etc.
5) Screening Equipment (Contract)	Processing material to uniform consistency and sorting of various gradations.
6) Dump Truck	Hauling material around site.

2.4.3 Personnel Requirements

The personnel requirements for operation and maintenance of the site are listed in the following table. Augmentations to this listing of on-site personnel will occur as needed.

Description	Primary Function (Allocation)
1) Site Manager (1)	Overall management of the site, receiving and cataloging of incoming loads.
2) Operator (1)	Management of transfer station and the landfill area.
3) Labor (1)	General labor and operational staff around site.

2.5 WASTE ACCEPTANCE

Fogleman and Fogleman Landfill & Recycling Facility estimates, based on historical data, that it will receive approximately 670 tons per week depending on economy and weather. This waste acceptance rate yields approximately 35,000 tons per year. In addition to accepted waste, material will be excavated from the existing LCID landfill for processing (see **Section 3.2**).

2.6 WASTE SCREENING

In order to assure that prohibited wastes are not accepted, waste screening programs will be implemented. Every truck is instructed to remove any tarps covering waste at the scalehouse. The scalehouse is raised for easy access of visual inspection of waste. If any non-acceptable wastes are identified, these wastes will be placed into a stockpile or container and removed from the site for disposal at a solid waste facility permitted to accept the particular waste. All records and receipts for this disposal shall be kept in the operating record for the site. It is anticipated that unacceptable wastes will be minor amounts and either generally classified as MSW or C&D.

The operators will be trained on identifying non-conforming/non-acceptable wastes.

2.6.1 Waste Receiving and Inspection

All vehicles must stop at the guard house located near the entrance of the facility and visitors are required to sign-in. All waste transportation vehicles are checked and the content of the load assessed. The 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 landfill. The attendant(s) then visually checks the vehicle. Signs informing users of the acceptable and unacceptable types of waste are posted at the guard house. Once passing the guard, the vehicles containing LCID wastes are routed to the landfill or the recycling area.

Vehicles are selected for screening at random based on 1% by volume of incoming site acceptance or a minimum of once per month. Selected vehicles are directed to an area of intermediate cover 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 berming off the area. Unacceptable wastes that are non-hazardous will be removed from the facility.

For unacceptable wastes that are hazardous, the Hazardous Waste Contingency Plan outlined in **Section 2.6.2** will be followed. 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. All random waste inspections will be documented by landfill staff using the waste screening form provided in **Appendix A**.

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.

2.6.2 Hazardous Waste Contingency Plan

In the event that identifiable hazardous waste or waste of questionable character is detected at the landfill, appropriate equipment, protective gear, personnel, and materials as necessary will be employed to isolate the wastes. The DWM will be notified immediately (see **Section 1.2.3**) that an attempt was made to dispose of hazardous waste at the landfill. 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 landfill.

Fogleman and Fogleman Landfill & Recycling Facility will assist the 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 A**.

Records of information gathered as part of the waste screening programs will be maintained at the landfill site during its active life and as long as required by Fogleman and Fogleman Landfill & Recycling Facility and the DWM.

2.7 WASTE DISPOSAL

2.7.1 Access

Traffic will be clearly directed to the appropriate active access road. The location of access roads during waste placement will be determined by operations personnel in order to reflect waste placement strategy.

2.7.2 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. 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, intermediate, or final cover, as appropriate.

The procedures for placement and compaction of solid waste include: unloading of vehicles, spreading of waste into nominal ten (10) foot lifts, and compaction on relatively flat slopes (i.e. 5H:1V max.).

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.

2.7.3 Periodic Cover

At the completion of waste placement each week, or sooner if the area of exposed waste exceeds ½ acre in size, a 6-inch layer of earthen material or other material as approved by the DWM will be placed over the exposed waste. This periodic cover is intended to control vectors, fire, odors, and blowing debris.

2.7.4 Intermediate Cover

A 12 inch layer of soil cover should be placed on all waste surfaces that have not received waste in 30 days or exceed one (1) acre in size but are below final elevation. This intermediate cover should be seeded immediately and graded such that all precipitation run-off is channeled to the surface water systems.

2.7.5 Height Monitoring

Approximately every month, the landfill staff will monitor landfill top and side slope elevations with a level. When such elevations approach design grades, the final top-of-waste grades will be staked to limit over-placement of waste.

2.7.6 Final Cover

At the completion of any phase of disposal operations, a final cover of a minimum of one foot of suitable soil cover sloped to allow surface water runoff will be placed over the completed phase. The DWM may require further action in order to correct any condition which is or may become injurious to the public health, or a nuisance to the community. The final cover will be installed within 30 working days or 120 calendar days upon completion of the phase of landfill development.

SECTION 3.0 RECOVERY AND PROCESSING OPERATIONS

3.1 OVERVIEW

This section describes the recovery and processing operations for the Fogleman and Fogleman Landfill & Recycling Facility facility.

3.2 RECOVERY (MINING) OPERATIONS

All material from the recovery (mining) of the site is assumed at 50 cubic yards per day (~260 days per year) of wastes for processing. Thus, approximately 13,000 cubic yards per year (maximum) of wastes are anticipated for processing at the proposed facility. Fogleman and Fogleman Landfill & Recycling Facility will perform the recovery operations on a limited basis to supplement the processing operations as described in **Sections 3.3** below. Generally, the process includes excavation, sorting of the material into small and large fraction materials for grinding and screening described in **Section 3.3.1**.

The acceptable type of materials acceptable for processing into mulch includes:

- Woody material;
- Wooden pallets; and
- Unpainted, untreated, non-engineered wood.

3.3 WOOD WASTE PROCESSING OPERATIONS

3.3.1 Grinding/Chipping

Grinding and/or chipping will be conducted centrally on the site within the future landfill footprint. The grinding/chipping operations will be conducted as needed to facilitate the landfill recovery and incoming waste operations by contract equipment. The facility intends to utilize a single grinder to process the collected material. The material will be directed to the grinders as per the material size. It is anticipated that grinding and chipping will be conducted on a periodic basis as materials are available. Grinders and chippers pose both maintenance and safety hazards. Therefore, please refer to the manufacturer's safety and/or maintenance literature prior to operating equipment on site.

3.3.2 Screening

Screening will be conducted just beyond the grinding area on the site. The facility intends to utilize a single screening machine to process the ground materials on a contract basis. Screening is conducted after the grinding/chipping has been completed to provide a uniform material for distribution to the public. The screening process removes remaining large materials for a uniform product. The material is screened to achieve particle sizes of 5/8" to 2". The material not passing the screen, "overs" (>2"), are stored in the material storage area and re-ground or chipped for additional screening. The finished product is stored on site in a loading area until ready for delivery. Two (2)

finished products are anticipated as follows:

- Mulch; and
- Amended Mulch and Soil.

The process is repeated for “overs” until a uniform blend is achieved. During the screening process additional non-conforming wastes may be identified. Once identified, these wastes will be removed and placed in the stockpiles or containers for disposal off-site. Screening machines pose both maintenance and safety hazards. Therefore, please refer to the manufacturer’s safety and or maintenance literature prior to operating equipment at the site.

3.3.3 Crushing

Rock/concrete crushing will be conducted centrally on the site within the future landfill footprint. The crushing operations will be conducted as needed to facilitate the landfill recovery and incoming waste operations by contract equipment. The facility intends to utilize a single crusher to process the collected material. The material will be directed to the crushers as per the material size. It is anticipated that crushing will be conducted on a periodic basis as materials are available. Crushers pose both maintenance and safety hazards. Therefore, please refer to the manufacturer’s safety and/or maintenance literature prior to operating equipment on site.

3.3.4 Stockpiling

Materials will be stored in stockpiles in the designated area on site. Stockpiles will not exceed a maximum height of 10 feet. The minimum buffer between stockpiles and all operation equipment is 20 feet. These distances reduce the risk and aid in putting out a fire. For safety and fire protection the stockpiles will be monitored for size and temperature. The stockpiles must maintain a temperature of less than 110 degrees Fahrenheit. By monitoring and avoiding excessive temperatures the stockpiles will avoid combustion which leads to possible fire and odors.

3.4 MARKETS

The market for the proposed mulch and soil will include the surrounding residential and commercial development in the area. The primary customers are assumed to be landscaping and grading companies.

SECTION 4.0 ENVIRONMENTAL MANAGEMENT

4.1 OVERVIEW

This section reviews the overall environmental management tasks required for the successful operation of the Fogleman and Fogleman Landfill & Recycling Facility. The definition of “surface water” as used herein is water which results from precipitation or site run-on that has not contacted the waste.

4.2 SURFACE WATER CONTROL

Proper control of surface water at the site will accomplish the following goals:

- Limit the erosion caused by surface waters, and
- Limit sediments carried off-site by surface waters.

4.2.1 Erosion Control

Erosion control provisions incorporated in and around the processing area include the following:

- Drainage swales are provided to gather surface water from entire site.
- Water collected by each drainage swale is routed to the sediment basins or traps.
- As areas reach final grade and that are not included in the processing areas must be seeded immediately.

All areas should be inspected regularly for erosion damage and promptly repaired.

4.2.2 Sedimentation Control

Stormwater run-off from the facility is conveyed to the proposed sediment basins and traps. The basins should be inspected regularly for sediment build-up or erosion damage and should be cleaned out when sediments fill the lower half of the basin.

4.3 DUST CONTROL

Dust related to equipment operations and traffic on the access roads will be minimized by using a water truck to limit dust on the gravel portion of the road. Fugitive dust emissions are anticipated during grinding and screening operations and should not be conducted when wind speeds exceed 10 miles per hour. Additionally, screening should not be conducted on materials

with less than 35% moisture content to minimize the effect of dust on the surrounding area.

4.4 VECTOR CONTROL

Due to the nature of the waste disposed in this landfill, vector control is not anticipated to be of concern. Note that the use of periodic cover will discourage animals from nesting in the waste.

4.5 ODOR CONTROL

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

SECTION 5.0 QUALITY ASSURANCE AND REPORTING

5.1 OVERVIEW

This section reviews the overall quality assurance and reporting tasks required for the site operations. The information contained herein was prepared to provide facility personnel with methodology and reporting requirements to satisfy these requirements.

5.2 DOCUMENTATION

An essential component of solid waste facilities is documentation from the time the materials enter the site to the last cubic yard of material is disposed or delivered to the customer. The documentation is used to improve efficiency in the process, modify process designs, and in troubleshooting of the process. The establishment of a reliable continuing record for proof of performance, thus justifies operational decisions, expenditures, and recommendations. Daily operational records also provide information useful in process adjustments required due to climatic or seasonal changes or other recurring problems of a specific nature. Accurate records also provide the basis for planning future expansion, planning future modifications, establishing and adjusting operating budgets, and providing evidence of performance in compliance with regulatory agencies.

The NC DENR Division of Waste Management requires record keeping on the inflow and outflow of material. Personnel from the NC DENR Division of Waste Management will make periodic visits to the facility. During these inspections, a review of operational and other records may be requested.

The following are points in the process where monitoring documentation are anticipated:

- a. Waste Screening Logs
- b. Daily Volume Records
- c. Employee Training Procedures and Records of Training Completed
- d. Un-Acceptable Wastes Disposal Tickets
- e. Grinding, Crushing, and Chipping Logs
- f. Laboratory Testing identifying soil or mulch properties such as density and gradation (if performed).
- g. Screening Logs
- h. Finished Product Inventory identifying the quantity and type of material produced by classification.
- i. All Closure Information where applicable including testing, certification and recording.
- j. Annual Report for the period of July 1 to June 30 shall be submitted to the Division by August 1st of each year.

FEMA FIRMETTE MAP

78° 49' 00"

JOINS PANEL 0854 697 000 M

78° 48' 30"

2 057 500 FEET

698 000 M



GRID NORTH

SCALE 1" = 500' (1 : 6,000)
0 500 1000 FEET



NFIP

PANEL 0853J

NATIONAL FLOOD INSURANCE PROGRAM

FIRM
FLOOD INSURANCE RATE MAP
NORTH CAROLINA

PANEL 0853

(SEE LOCATOR DIAGRAM OR MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	CID No.	PANEL	SUFFIX
DURHAM, CITY OF	370086	0853	J
DURHAM, COUNTY	370085	0853	J

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

EFFECTIVE DATE
MAY 2, 2006

MAP NUMBER
3720085300J



State of North Carolina
Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov

DRAWINGS

FOGLEMEN & FOGLEMAN SOILS, INC.

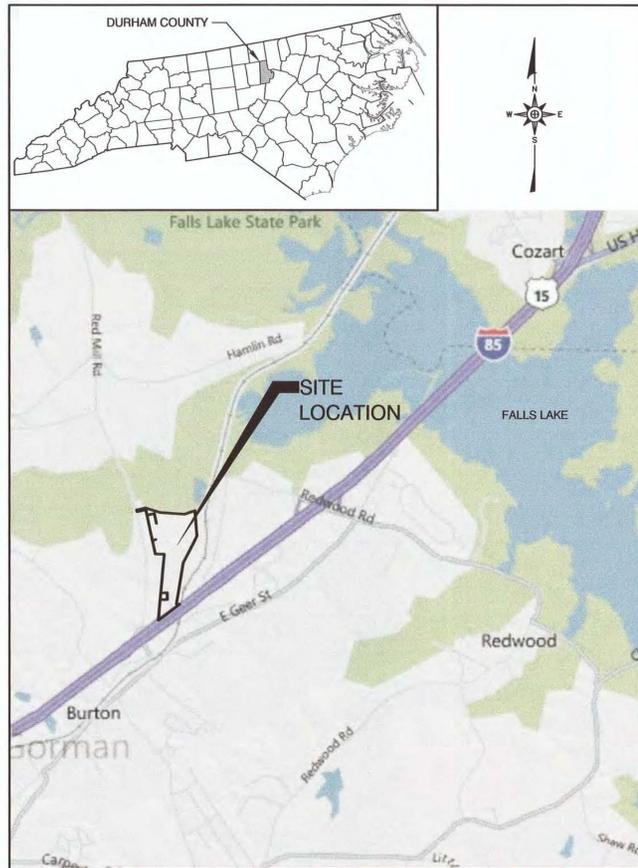
DURHAM, NORTH CAROLINA

LCID LANDFILL (PERMIT NO. 32-F) 5 YEAR PERMIT RENEWAL

SEPTEMBER 2011

REVISED DECEMBER 2011

12/23/11	NO.	REVISION
		RESPONSE TO NCDENR COMMENTS DATED 12/6/11

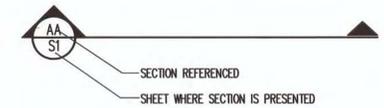


SITE LOCATION MAP
NOT TO SCALE

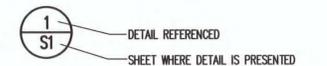
SHEET NO.	DRAWING NO.	DRAWING TITLE	REVISION
1		TITLE - COVER SHEET	△
2	S1	EXISTING CONDITIONS	△
3	S2	BASE GRADING PLAN	△
4	S3	FINAL COVER GRADING PLAN	△
5	X1	CROSS SECTIONS (SHEET 1 OF 2)	
6	X2	CROSS SECTIONS (SHEET 2 OF 2)	
7	D1	DETAILS	
8	P1	5 YEAR PHASE GRADING PLAN	△

PERMIT ISSUE
NOT FOR CONSTRUCTION

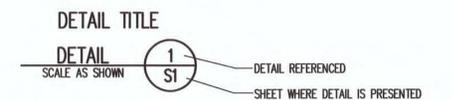
STANDARD SECTION LOCATION CALLOUT (SHEET AND DETAIL)



STANDARD DETAIL CALLOUT



STANDARD DETAIL LABEL AND CALLOUT



STANDARD REVISION CALLOUT (SHEET AND DETAIL)



DATE	NO.	REVISION DESCRIPTION	REVISION
	1		

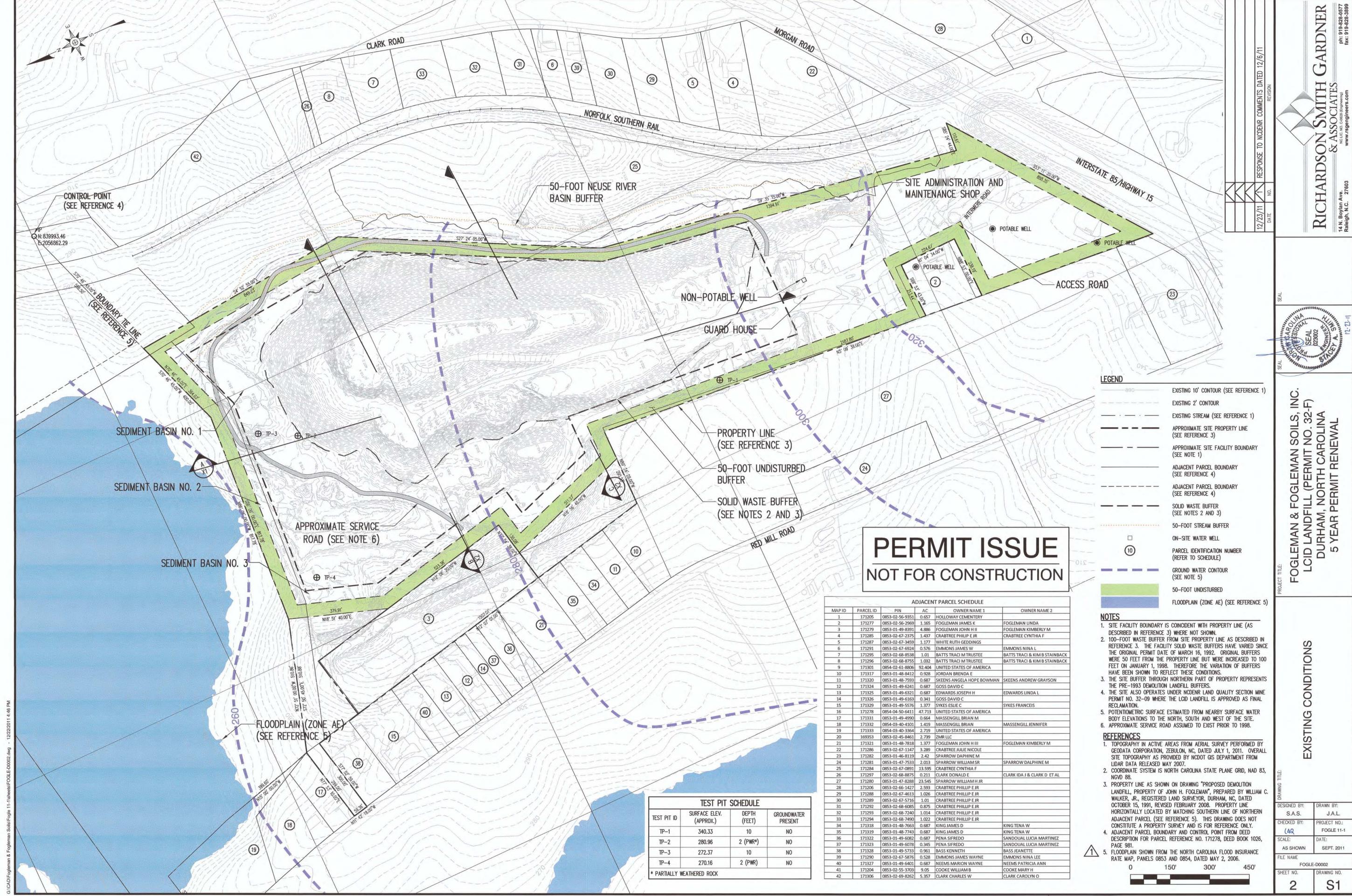


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& ASSOCIATES**

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TEST PIT SCHEDULE			
TEST PIT ID	SURFACE ELEV. (APPROX.)	DEPTH (FEET)	GROUNDWATER PRESENT
TP-1	340.33	10	NO
TP-2	280.96	2 (PWR*)	NO
TP-3	272.37	10	NO
TP-4	270.16	2 (PWR)	NO

* PARTIALLY WEATHERED ROCK

ADJACENT PARCEL SCHEDULE					
MAP ID	PARCEL ID	PIN	AC	OWNER NAME 1	OWNER NAME 2
1	171205	0853-02-56-9351	0.657	HOLLOWAY CEMETERY	
2	171277	0853-02-56-2969	1.165	FOGLEMAN JAMES K	FOGLEMAN LINDA
3	171279	0853-01-49-8391	4.886	FOGLEMAN JOHN H III	FOGLEMAN KIMBERLY M
4	171285	0853-02-67-2375	1.437	CRABTREE PHILIP E JR	CRABTREE CYNTHIA F
5	171287	0853-02-67-3459	1.177	WHITE RUTH GEORGINA	
6	171291	0853-02-67-6924	0.576	EMMONS JAMES W	EMMONS NINA L
7	171295	0853-02-68-8538	1.01	BATTS TRACI M TRUSTEE	BATTS TRACI & KIM B STAINBACK
8	171296	0853-02-68-8755	1.032	BATTS TRACI M TRUSTEE	BATTS TRACI & KIM B STAINBACK
9	171301	0854-02-61-8806	92.404	UNITED STATES OF AMERICA	
10	171317	0853-01-48-8412	0.928	JORDAN BRENDA E	
11	171320	0853-01-48-7593	0.887	SKEENS ANGELA HOPE BOWMAN	SKEENS ANDREW GRAYSON
12	171324	0853-01-49-6241	0.887	GOSS DAVID C	
13	171325	0853-01-49-6321	0.887	EDWARDS JOSEPH H	EDWARDS LINDA L
14	171326	0853-01-49-6163	0.341	GOSS DAVID C	
15	171329	0853-01-49-5576	1.377	SYKES ESUE C	SYKES FRANCIS
16	171328	0854-04-50-6411	47.713	UNITED STATES OF AMERICA	
17	171331	0853-01-49-4990	0.664	MASSENGILL BRIAN M	
18	171332	0854-03-40-4301	1.419	MASSENGILL BRIAN M	MASSENGILL JENNIFER
19	171333	0854-03-40-3364	2.719	UNITED STATES OF AMERICA	
20	169553	0853-02-45-8461	2.739	ZMR LLC	
21	171321	0853-01-48-7818	1.377	FOGLEMAN JOHN H III	FOGLEMAN KIMBERLY M
22	171286	0853-02-67-1147	3.289	CRABTREE JULIE NICOLE	
23	171282	0853-01-46-8119	2.42	SPARROW DAPHNE M	
24	171281	0853-01-47-7533	2.013	SPARROW WILLIAM SR	SPARROW DALPHINE M
25	171284	0853-02-67-0891	13.595	CRABTREE CYNTHIA F	
26	171297	0853-02-68-8875	0.211	CLARK DONALD E	CLARK IDA J & CLARK D ETAL
27	171280	0853-01-47-8288	23.545	SPARROW WILLIAM H JR	
28	171206	0853-02-66-1427	2.593	CRABTREE PHILIP E JR	
29	171288	0853-02-67-4613	1.026	CRABTREE PHILIP E JR	
30	171289	0853-02-67-5716	1.01	CRABTREE PHILIP E JR	
31	171292	0853-02-68-6085	0.875	CRABTREE PHILIP E JR	
32	171293	0853-02-67-7240	1.014	CRABTREE PHILIP E JR	
33	171294	0853-02-68-7490	1.022	CRABTREE PHILIP E JR	
34	171318	0853-01-48-7663	0.687	KING JAMES D	KING TENA W
35	171319	0853-01-48-7743	0.687	KING JAMES D	KING TENA W
36	171322	0853-01-49-6082	0.687	PENA SIFREDO	SANDOVAL LUCIA MARTINEZ
37	171323	0853-01-49-6078	0.345	PENA SIFREDO	SANDOVAL LUCIA MARTINEZ
38	171328	0853-01-49-5723	0.861	BASS KENNETH	BASS JEANETTE
39	171290	0853-02-67-5876	0.528	EMMONS JAMES WAYNE	EMMONS NINA LEE
40	171327	0853-01-49-6401	0.887	NEEMS MARION WAYNE	NEEMS PATRICIA ANN
41	171204	0853-02-55-3703	9.05	COOKE WILLIAM B	COOKE MARY H
42	171306	0853-02-69-8262	5.357	CLARK CHARLES W	CLARK CAROLYN D

- LEGEND**
- EXISTING 10' CONTOUR (SEE REFERENCE 1)
 - EXISTING 2' CONTOUR
 - EXISTING STREAM (SEE REFERENCE 1)
 - - - APPROXIMATE SITE PROPERTY LINE (SEE REFERENCE 3)
 - - - APPROXIMATE SITE FACILITY BOUNDARY (SEE NOTE 1)
 - - - ADJACENT PARCEL BOUNDARY (SEE REFERENCE 4)
 - - - ADJACENT PARCEL BOUNDARY (SEE REFERENCE 4)
 - - - SOLID WASTE BUFFER (SEE NOTES 2 AND 3)
 - - - 50-FOOT STREAM BUFFER
 - ON-SITE WATER WELL
 - PARCEL IDENTIFICATION NUMBER (REFER TO SCHEDULE)
 - - - GROUND WATER CONTOUR (SEE NOTE 5)
 - 50-FOOT UNDISTURBED
 - FLOODPLAIN (ZONE AE) (SEE REFERENCE 5)

- NOTES**
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 - THE SITE BUFFER THROUGH NORTHERN PART OF PROPERTY REPRESENTS THE PRE-1993 DEMOLITION LANDFILL BUFFERS.
 - THE SITE ALSO OPERATES UNDER NCDNR LAND QUALITY SECTION MINE PERMIT NO. 32-09 WHERE THE LCID LANDFILL IS APPROVED AS FINAL RECLAMATION.
 - POTENTIOMETRIC SURFACE ESTIMATED FROM NEARBY SURFACE WATER BODY ELEVATIONS TO THE NORTH, SOUTH AND WEST OF THE SITE.
 - APPROXIMATE SERVICE ROAD ASSUMED TO EXIST PRIOR TO 1998.
- REFERENCES**
- TOPOGRAPHY IN ACTIVE AREAS FROM AERIAL SURVEY PERFORMED BY GEODATA CORPORATION, ZEBULON, NC, DATED JULY 1, 2011. OVERALL SITE TOPOGRAPHY AS PROVIDED BY NCDOT GIS DEPARTMENT FROM LIDAR DATA RELEASED MAY 2007.
 - COORDINATE SYSTEM IS NORTH CAROLINA STATE PLANE GRID, NAD 83, NGVD 88.
 - PROPERTY LINE AS SHOWN ON DRAWING "PROPOSED DEMOLITION LANDFILL, PROPERTY OF JOHN H. FOGLEMAN", PREPARED BY WILLIAM C. WALKER, JR., REGISTERED LAND SURVEYOR, DURHAM, NC, DATED OCTOBER 15, 1991, REVISED FEBRUARY 2008. PROPERTY LINE HORIZONTALLY LOCATED BY MATCHING SOUTHERN LINE OF NORTHERN ADJACENT PARCEL (SEE REFERENCE 5). THIS DRAWING DOES NOT CONSTITUTE A PROPERTY SURVEY AND IS FOR REFERENCE ONLY.
 - ADJACENT PARCEL BOUNDARY AND CONTROL POINT FROM DEED DESCRIPTION FOR PARCEL REFERENCE NO. 171278, DEED BOOK 1026, PAGE 981.
 - FLOODPLAIN SHOWN FROM THE NORTH CAROLINA FLOOD INSURANCE RATE MAP, PANELS 0853 AND 0854, DATED MAY 2, 2006.

RESPONSE TO NCDNR COMMENTS DATED 12/6/11

NO. 11

DATE 12/23/11

REVISION

PROJECT TITLE: FOGLEMAN & FOGLEMAN SOILS, INC. LCID LANDFILL (PERMIT NO. 32-F) DURHAM, NORTH CAROLINA 5 YEAR PERMIT RENEWAL

EXISTING CONDITIONS

DESIGNED BY: S.A.S. DRAWN BY: J.A.L.

CHECKED BY: (AQ) PROJECT NO.: FOGLE 11-1

SCALE: AS SHOWN DATE: SEPT. 2011

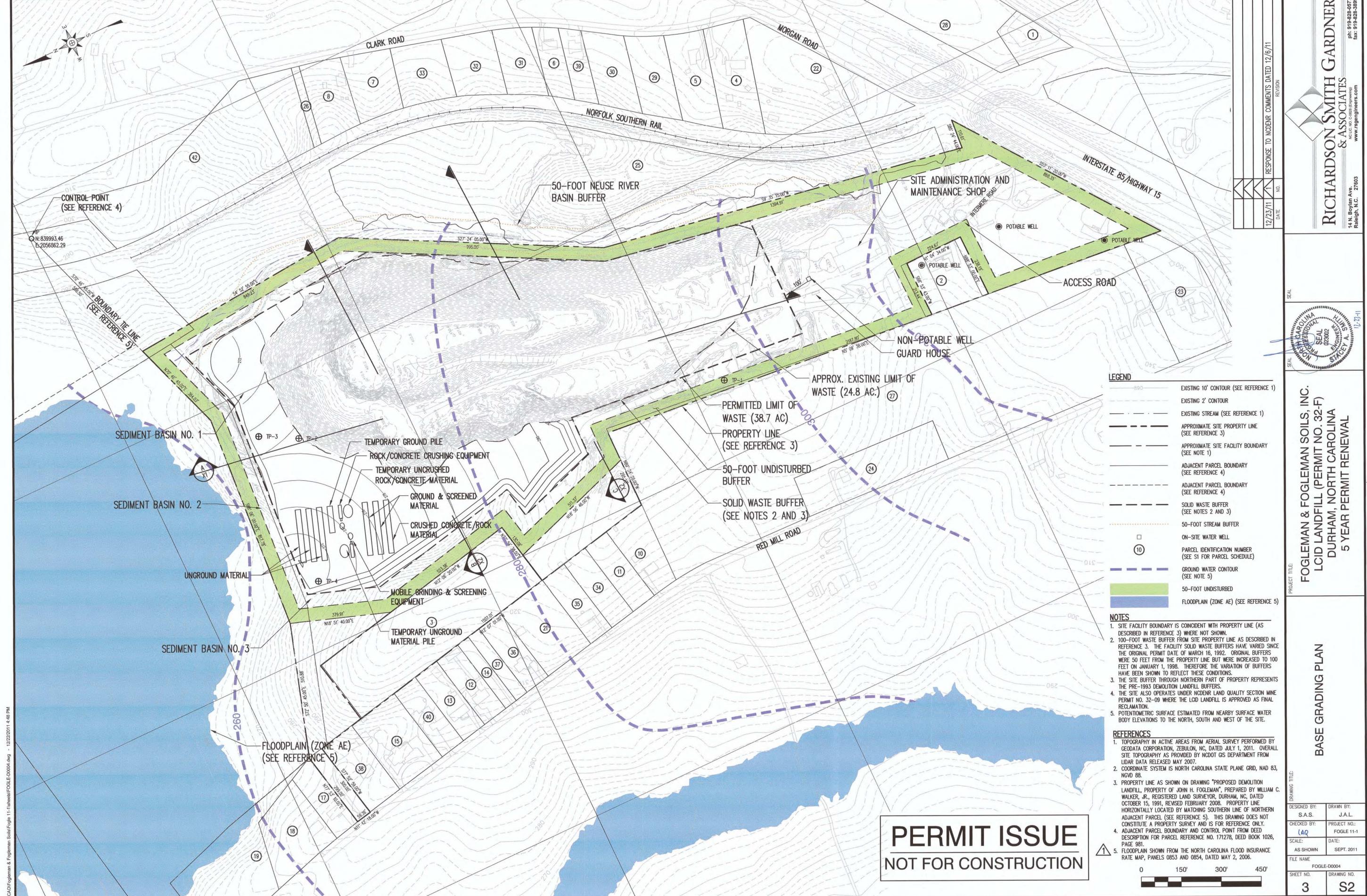
FILE NAME: FOGLE-D0002

SHEET NO. 2 DRAWING NO. S1

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CONTROL POINT
(SEE REFERENCE 4)

BOUNDARY TIE LINE
(SEE REFERENCE 5)

SEDIMENT BASIN NO. 1

SEDIMENT BASIN NO. 2

SEDIMENT BASIN NO. 3

FLOODPLAIN (ZONE AE)
(SEE REFERENCE 5)

50-FOOT NEUSE RIVER
BASIN BUFFER

SITE ADMINISTRATION AND
MAINTENANCE SHOP

ACCESS ROAD

NON-POTABLE WELL
GUARD HOUSE

APPROX. EXISTING LIMIT OF
WASTE (24.8 AC.)

PERMITTED LIMIT OF
WASTE (38.7 AC)

PROPERTY LINE
(SEE REFERENCE 3)

50-FOOT UNDISTURBED
BUFFER

SOLID WASTE BUFFER
(SEE NOTES 2 AND 3)

TEMPORARY GROUND PILE
ROCK/CONCRETE CRUSHING EQUIPMENT

TEMPORARY UNCRUSHED
ROCK/CONCRETE MATERIAL

GROUND & SCREENED
MATERIAL

CRUSHED CONCRETE/ROCK
MATERIAL

MOBILE GRINDING & SCREENING
EQUIPMENT

TEMPORARY UNGROUND
MATERIAL PILE

POTABLE WELL

POTABLE WELL

POTABLE WELL

POTABLE WELL

LEGEND

- - - - - EXISTING 10' CONTOUR (SEE REFERENCE 1)
- - - - - EXISTING 2' CONTOUR
- - - - - EXISTING STREAM (SEE REFERENCE 1)
- - - - - APPROXIMATE SITE PROPERTY LINE (SEE REFERENCE 3)
- - - - - APPROXIMATE SITE FACILITY BOUNDARY (SEE NOTE 1)
- - - - - ADJACENT PARCEL BOUNDARY (SEE REFERENCE 4)
- - - - - ADJACENT PARCEL BOUNDARY (SEE REFERENCE 4)
- - - - - SOLID WASTE BUFFER (SEE NOTES 2 AND 3)
- - - - - 50-FOOT STREAM BUFFER
- ON-SITE WATER WELL
- ⑩ PARCEL IDENTIFICATION NUMBER (SEE S1 FOR PARCEL SCHEDULE)
- - - - - GROUND WATER CONTOUR (SEE NOTE 5)
- 50-FOOT UNDISTURBED
- FLOODPLAIN (ZONE AE) (SEE REFERENCE 5)

NOTES

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4. THE SITE ALSO OPERATES UNDER NCDEM LAND QUALITY SECTION MINE PERMIT NO. 32-09 WHERE THE LOD LANDFILL IS APPROVED AS FINAL RECLAMATION.
5. POTENTIOMETRIC SURFACE ESTIMATED FROM NEARBY SURFACE WATER BODY ELEVATIONS TO THE NORTH, SOUTH AND WEST OF THE SITE.

REFERENCES

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5. FLOODPLAIN SHOWN FROM THE NORTH CAROLINA FLOOD INSURANCE RATE MAP, PANELS 0853 AND 0854, DATED MAY 2, 2006.

**PERMIT ISSUE
NOT FOR CONSTRUCTION**



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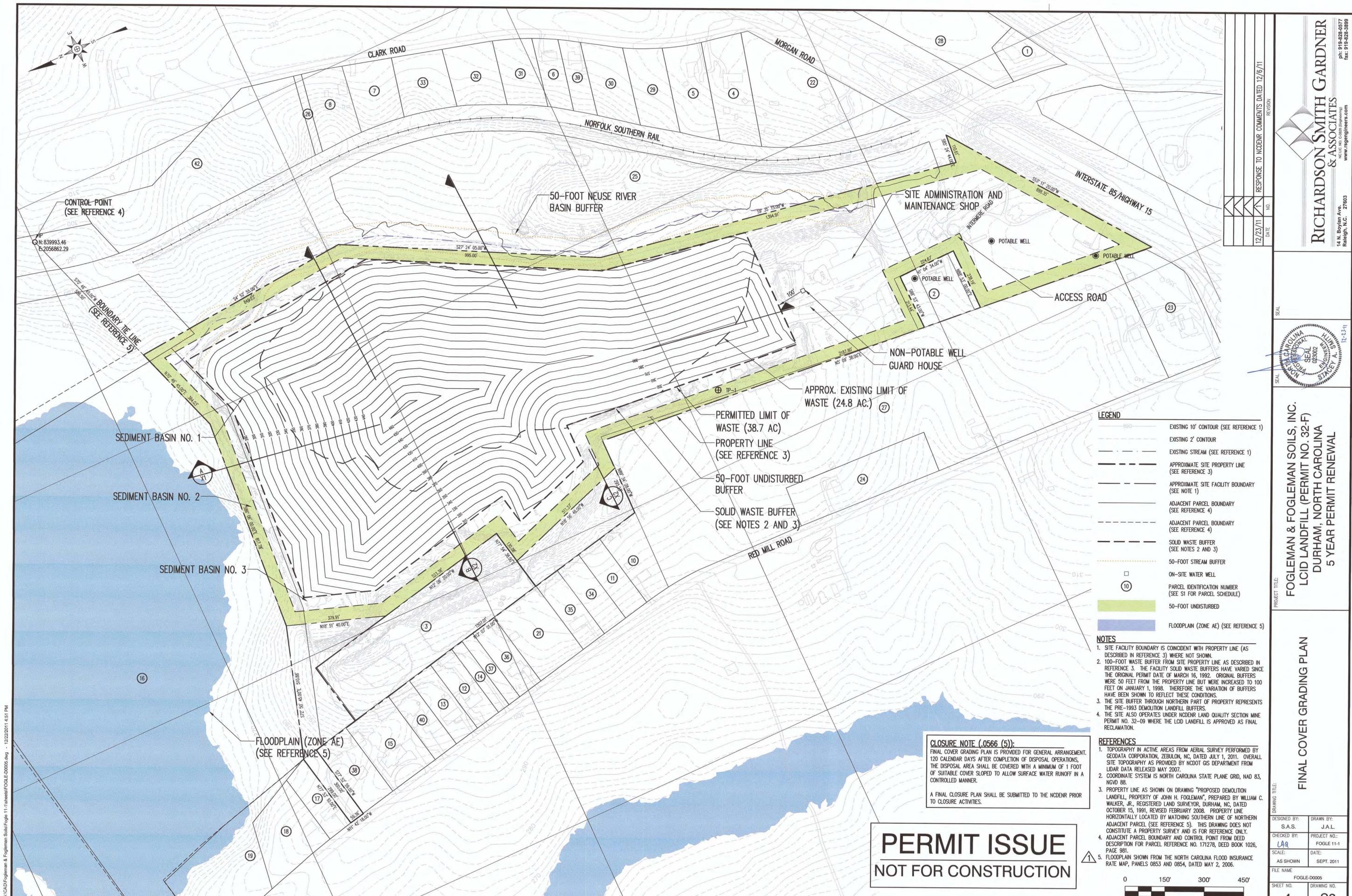
NO.	DATE	REVISION
1	12/23/11	RESPONSE TO NCDENR COMMENTS DATED 12/16/11

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FOGLEMAN & FOGLEMAN SOILS, INC.
LCID LANDFILL (PERMIT NO. 32-F)
DURHAM, NORTH CAROLINA
5 YEAR PERMIT RENEWAL

PROJECT TITLE	
BASE GRADING PLAN	
DESIGNED BY:	DRAWN BY:
S.A.S.	J.A.L.
CHECKED BY:	PROJECT NO.:
(A.Q.)	FOGLE 11-1
SCALE:	DATE:
AS SHOWN	SEPT. 2011
FILE NAME:	
FOGLE-00004	
SHEET NO.	DRAWING NO.
3	S2



RESPONSE TO NCDENR COMMENTS DATED 12/6/11
 NO. 11
 DATE 12/23/11
 REVISION
 NO. 1
 DATE 12/23/11

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LEGEND

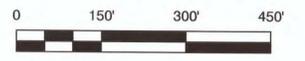
	EXISTING 10' CONTOUR (SEE REFERENCE 1)
	EXISTING 2' CONTOUR
	EXISTING STREAM (SEE REFERENCE 1)
	APPROXIMATE SITE PROPERTY LINE (SEE REFERENCE 3)
	APPROXIMATE SITE FACILITY BOUNDARY (SEE NOTE 1)
	ADJACENT PARCEL BOUNDARY (SEE REFERENCE 4)
	ADJACENT PARCEL BOUNDARY (SEE REFERENCE 4)
	SOLID WASTE BUFFER (SEE NOTES 2 AND 3)
	50-FOOT STREAM BUFFER
	ON-SITE WATER WELL
	PARCEL IDENTIFICATION NUMBER (SEE S1 FOR PARCEL SCHEDULE)
	50-FOOT UNDISTURBED
	FLOODPLAIN (ZONE AE) (SEE REFERENCE 5)

- NOTES**
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 - THE SITE ALSO OPERATES UNDER NCDENR LAND QUALITY SECTION MINE PERMIT NO. 32-09 WHERE THE LCID LANDFILL IS APPROVED AS FINAL RECLAMATION.

CLOSURE NOTE (.0566 (5)):
 FINAL COVER GRADING PLAN IS PROVIDED FOR GENERAL ARRANGEMENT. 120 CALENDAR DAYS AFTER COMPLETION OF DISPOSAL OPERATIONS, THE DISPOSAL AREA SHALL BE COVERED WITH A MINIMUM OF 1 FOOT OF SUITABLE COVER SLOPED TO ALLOW SURFACE WATER RUNOFF IN A CONTROLLED MANNER.
 A FINAL CLOSURE PLAN SHALL BE SUBMITTED TO THE NCDENR PRIOR TO CLOSURE ACTIVITIES.

- REFERENCES**
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 - FLOODPLAIN SHOWN FROM THE NORTH CAROLINA FLOOD INSURANCE RATE MAP, PANELS 0853 AND 0854, DATED MAY 2, 2006.

**PERMIT ISSUE
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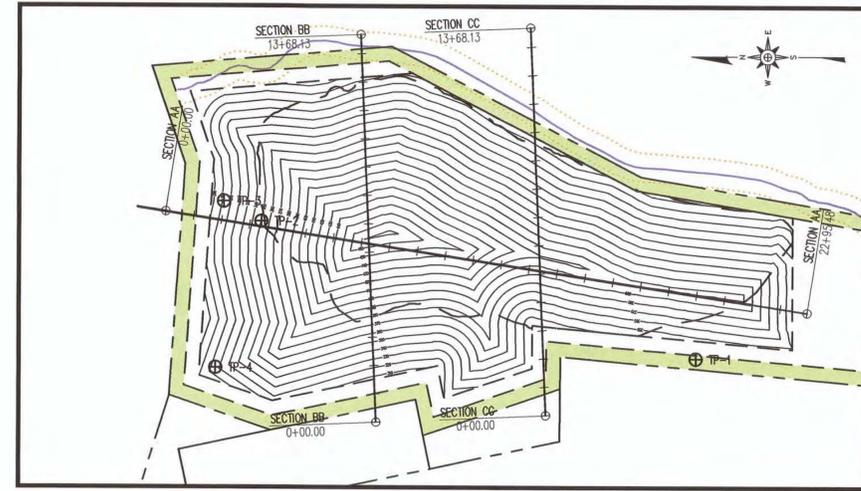


PROJECT TITLE:
**FOGLEMAN & FOGLEMAN SOILS, INC.
 LCID LANDFILL (PERMIT NO. 32-F)
 DURHAM, NORTH CAROLINA
 5 YEAR PERMIT RENEWAL**

DRAWING TITLE:
FINAL COVER GRADING PLAN

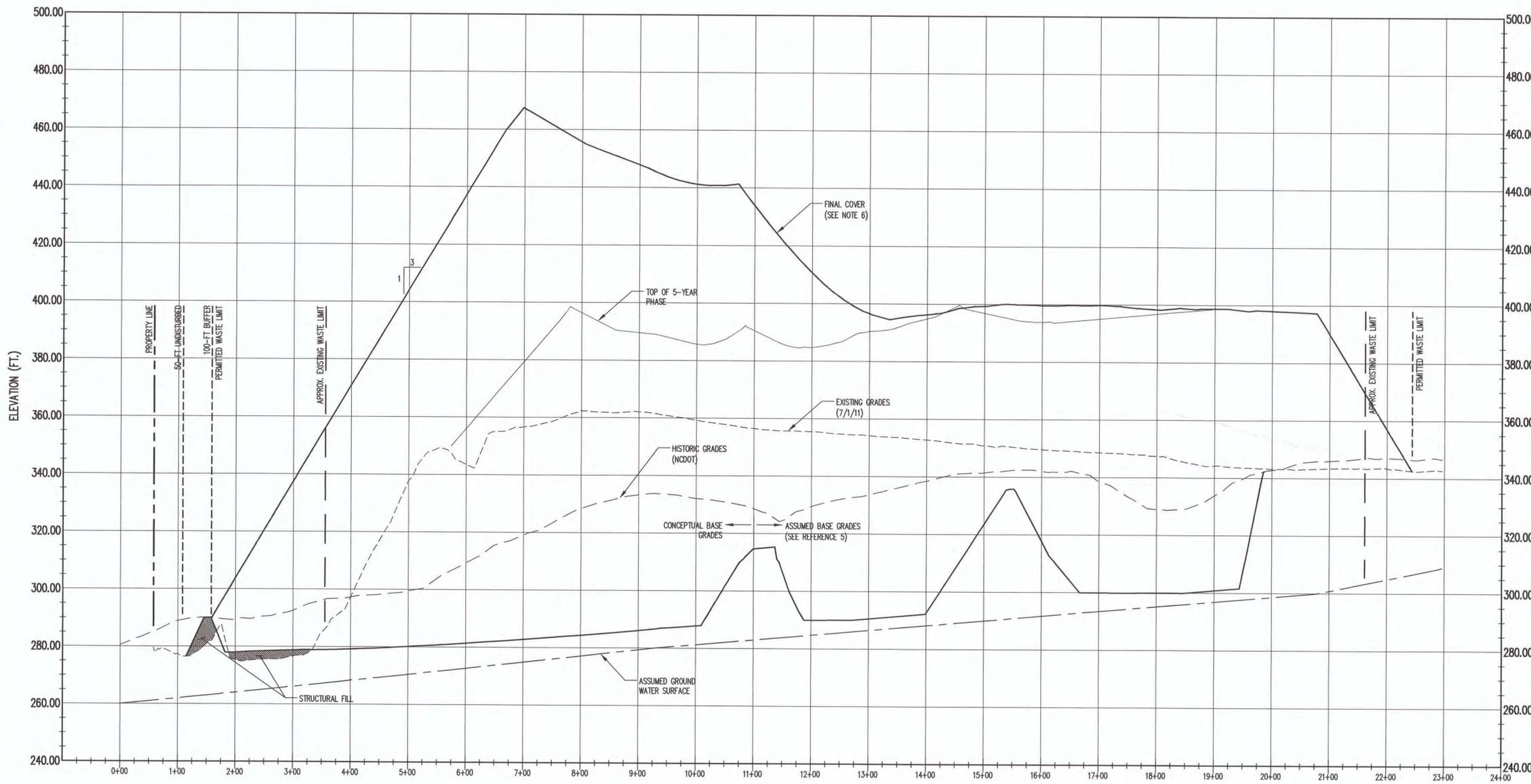
DESIGNED BY: S.A.S.	DRAWN BY: J.A.L.
CREATED BY: L.A.Q.	PROJECT NO.: FOGLE 11-1
SCALE: AS SHOWN	DATE: SEPT. 2011
FILE NAME: FOGLE-D0005	
SHEET NO. 4	DRAWING NO. S3

PERMIT ISSUE
NOT FOR CONSTRUCTION



REVISION	NO.	DATE

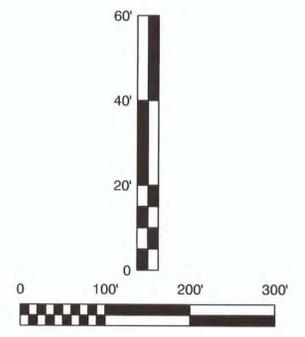
RICHARDSON SMITH GARDNER & ASSOCIATES
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- LEGEND**
- EXISTING GROUND (SEE REFERENCE 1)
 - EXISTING GROUND (NCDOT, SEE REFERENCE 2)
 - DESIGN GRADES
 - ASSUMED GROUNDWATER SURFACE (SEE NOTE 3)

- NOTES**
1. SITE FACILITY BOUNDARY IS COINCIDENT WITH PROPERTY LINE (AS DESCRIBED IN REFERENCE 3) WHERE NOT SHOWN.
 2. 100-FOOT WASTE BUFFER FROM SITE PROPERTY LINE AS DESCRIBED IN REFERENCE 3. THE FACILITY SOLID WASTE BUFFERS HAVE VARIED SINCE THE ORIGINAL PERMIT DATE OF MARCH 16, 1992. ORIGINAL BUFFERS WERE 50 FEET FROM THE PROPERTY LINE BUT WERE INCREASED TO 100 FEET ON JANUARY 1, 1998. THEREFORE THE VARIATION OF BUFFERS HAVE BEEN SHOWN TO REFLECT THESE CONDITIONS.
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 4. ADJACENT PARCEL BOUNDARY AND CONTROL POINT FROM DEED DESCRIPTION FOR PARCEL REFERENCE NO. 171278, DEED BOOK 1026, PAGE 981.
 5. ASSUMED BASE GRADES FROM DRAWING "PROPOSED DEMOLITION LANDFILL, PROPERTY OF JOHN H. FOGLEMAN", PREPARED BY WILLIAM C. WALKER, JR., REGISTERED LAND SURVEYOR, DURHAM, NC, DATED OCTOBER 15, 1991, REVISED FEBRUARY 2008.



SECTION AA X1
SCALE: AS SHOWN



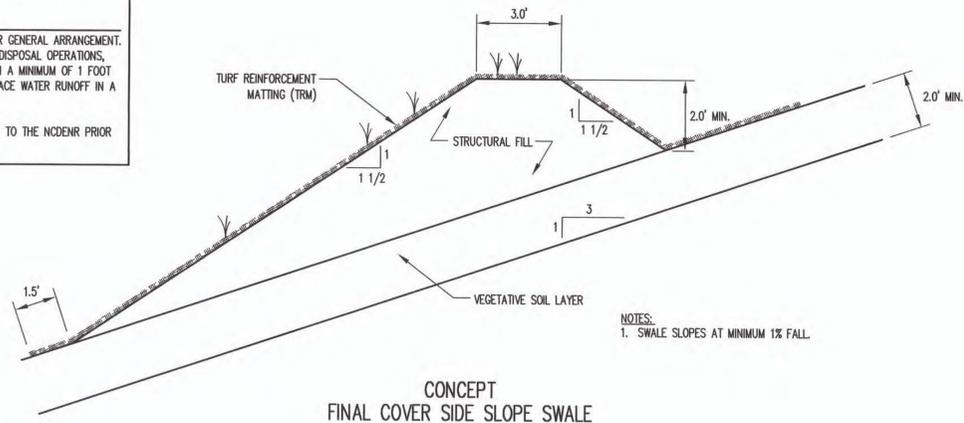
FOGLEMAN & FOGLEMAN SOILS, INC.
LCID LANDFILL (PERMIT NO. 32-F)
DURHAM, NORTH CAROLINA
5 YEAR PERMIT RENEWAL

CROSS SECTIONS
(SHEET 1 OF 2)

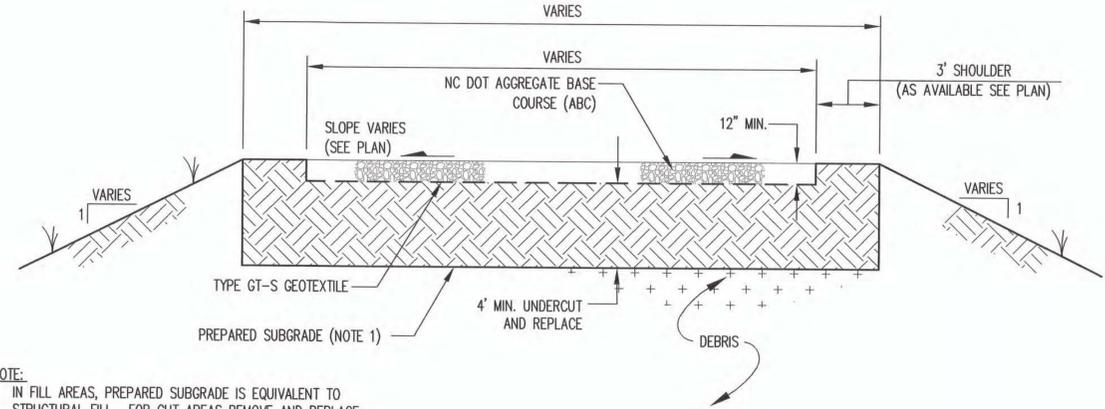
DESIGNED BY: S.A.S.	DRAWN BY: J.A.L.
CHECKED BY: L.Q.	PROJECT NO.: FOGLE-11-1
SCALE: AS SHOWN	DATE: SEPT. 2011
FILE NAME: FOGLE-00006	SHEET NO.: 5
DRAWING NO.:	X1

CONCEPTUAL
(FOR INFORMATION ONLY)

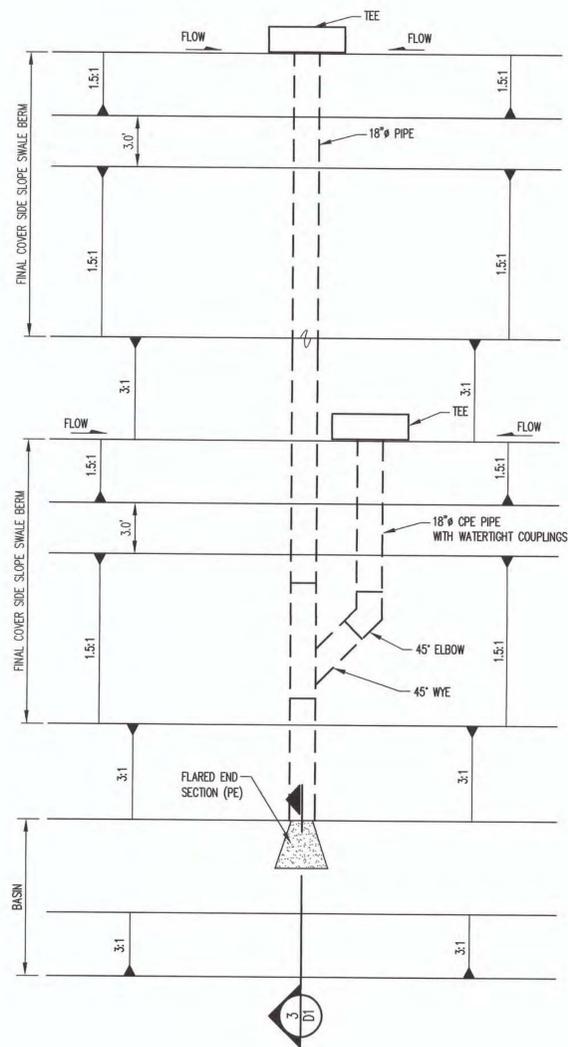
CLOSURE NOTE (.0566 (5)):
FINAL COVER GRADING PLAN IS PROVIDED FOR GENERAL ARRANGEMENT. 120 CALENDAR DAYS AFTER COMPLETION OF DISPOSAL OPERATIONS, THE DISPOSAL AREA SHALL BE COVERED WITH A MINIMUM OF 1 FOOT OF SUITABLE COVER SLOPED TO ALLOW SURFACE WATER RUNOFF IN A CONTROLLED MANNER.
A FINAL CLOSURE PLAN SHALL BE SUBMITTED TO THE NCDENR PRIOR TO CLOSURE ACTIVITIES.



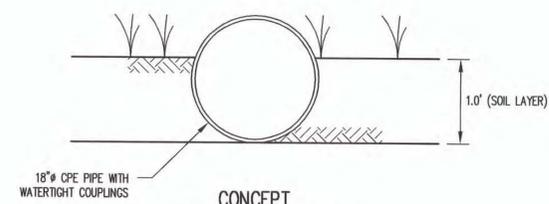
CONCEPT
FINAL COVER SIDE SLOPE SWALE
DETAIL 1
SCALE: N.T.S.



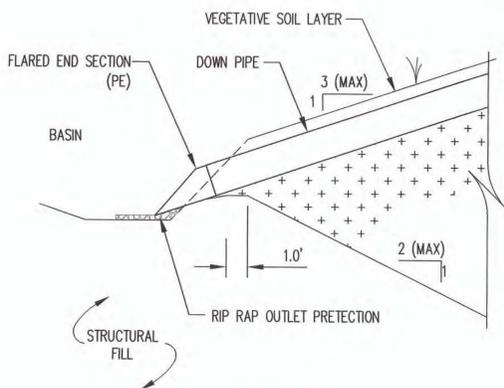
TYPICAL ALL WEATHER ROADWAY CROSS SECTION
DETAIL 5
SCALE: N.T.S.



CONCEPT
DOWN PIPE INLETS AND OUTLETS
DETAIL 2
SCALE: N.T.S.



CONCEPT
DOWNPIPE ON SLOPE
DETAIL 4
SCALE: N.T.S.



CONCEPT
DOWNPIPE OUTLET
DETAIL 3
SCALE: N.T.S.

PERMANENT SEEDING SCHEDULE		
DATES	SPECIES	APPLICATION RATE
FEBRUARY 15 - APRIL 1	KOBE LESPEDEZA	10 LBS/ACRE
	BAHIA GRASS	50 LBS/ACRE
	RED TOP	1 LBS/ACRE
APRIL 1 - JULY 31	WINTER RYE (GRAIN)	15 LBS/ACRE
	COMMON BERMUDA	50 LBS/ACRE
AUGUST 1 - OCTOBER 25	LESPEDEZA (UNSCARIFIED)	30 LBS/ACRE
	GERMAN MILLET	40 LBS/ACRE
OCTOBER 25 - FEBRUARY 15	RYE (GRAIN - TEMPORARY)	120 LBS/ACRE
SOIL AMENDMENTS		
	SPECIFICATIONS	APPLICATION RATE
LIME	-	2,000 LBS/ACRE
MULCH	SMALL GRAIN STRAW	2,000 LBS/ACRE
FERTILIZER	8-8-8 OR 10-10-10 OR FOLLOW SOIL ANALYSIS	1,000 LBS/ACRE

NOTES:
1. APPLICATION RATES AND/OR CHEMICAL ANALYSIS SHALL BE CONFIRMED OR ESTABLISHED BY A SOIL TEST.

SEEDING SCHEDULE
DETAIL 6
SCALE: N.T.S.

PERMIT ISSUE
NOT FOR CONSTRUCTION

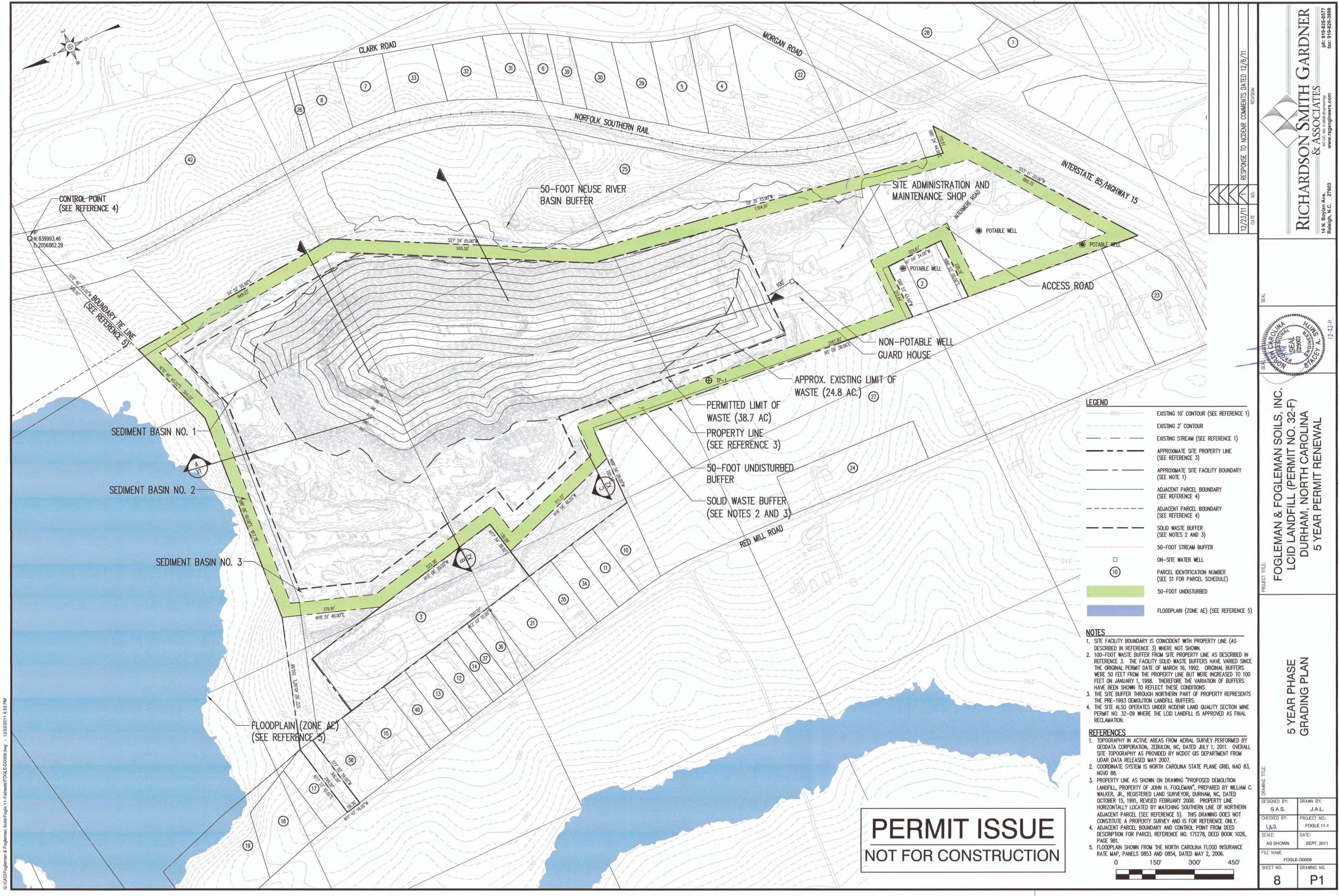
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fax: 919-428-3899



PROJECT TITLE:
FOGLEMAN & FOGLEMAN SOILS, INC.
LCID LANDFILL (PERMIT NO. 32-F)
DURHAM, NORTH CAROLINA
5 YEAR PERMIT RENEWAL

DRAWING TITLE:
DETAILS

DESIGNED BY: S.A.S. DRAWN BY: J.A.L.
CHECKED BY: L.R.Q. PROJECT NO.: FOGLE 11-1
SCALE: AS SHOWN DATE: SEPT. 2011
FILE NAME: FOGLE-D0008
SHEET NO. 7 DRAWING NO. D1



CONTROL POINT
(SEE REFERENCE 4)

50-FOOT NEUSE RIVER
BASIN BUFFER

SITE ADMINISTRATION AND
MAINTENANCE SHOP

POTABLE WELL

POTABLE WELL

POTABLE WELL

POTABLE WELL

POTABLE WELL

NON-POTABLE WELL

GUARD HOUSE

APPROX. EXISTING LIMIT OF
WASTE (24.8 AC.)

PERMITTED LIMIT OF
WASTE (38.7 AC)

PROPERTY LINE
(SEE REFERENCE 3)

50-FOOT UNDISTURBED
BUFFER

SOLID WASTE BUFFER
(SEE NOTES 2 AND 3)

SEDIMENT BASIN NO. 1

SEDIMENT BASIN NO. 2

SEDIMENT BASIN NO. 3

FLOODPLAIN (ZONE AE)
(SEE REFERENCE 5)

LEGEND

	EXISTING 10' CONTOUR (SEE REFERENCE 1)
	EXISTING 2' CONTOUR
	EXISTING STREAM (SEE REFERENCE 1)
	APPROXIMATE SITE PROPERTY LINE (SEE REFERENCE 3)
	APPROXIMATE SITE FACILITY BOUNDARY (SEE NOTE 1)
	ADJACENT PARCEL BOUNDARY (SEE REFERENCE 4)
	ADJACENT PARCEL BOUNDARY (SEE REFERENCE 4)
	SOLID WASTE BUFFER (SEE NOTES 2 AND 3)
	50-FOOT STREAM BUFFER
	ON-SITE WATER WELL
	PARCEL IDENTIFICATION NUMBER (SEE S1 FOR PARCEL SCHEDULE)
	50-FOOT UNDISTURBED
	FLOODPLAIN (ZONE AE) (SEE REFERENCE 5)

- NOTES**
- SITE FACILITY BOUNDARY IS COINCIDENT WITH PROPERTY LINE (AS DESCRIBED IN REFERENCE 3) WHERE NOT SHOWN.
 - 100-FOOT WASTE BUFFER FROM SITE PROPERTY LINE AS DESCRIBED IN REFERENCE 3. THE FACILITY SOLID WASTE BUFFERS HAVE VARIED SINCE THE ORIGINAL PERMIT DATE OF MARCH 16, 1992. ORIGINAL BUFFERS WERE 50 FEET FROM THE PROPERTY LINE BUT WERE INCREASED TO 100 FEET ON JANUARY 1, 1998. THEREFORE THE VARIATION OF BUFFERS HAVE BEEN SHOWN TO REFLECT THESE CONDITIONS.
 - THE SITE BUFFER THROUGH NORTHERN PART OF PROPERTY REPRESENTS THE PRE-1993 DEMOLITION LANDFILL BUFFERS.
 - THE SITE ALSO OPERATES UNDER NCDENR LAND QUALITY SECTION NINE PERMIT NO. 32-09 WHERE THE LOD LANDFILL IS APPROVED AS FINAL RECLAMATION.

- REFERENCES**
- TOPOGRAPHY IN ACTIVE AREAS FROM AERIAL SURVEY PERFORMED BY GEODATA CORPORATION, ZEBULON, NC, DATED JULY 1, 2011. OVERALL SITE TOPOGRAPHY AS PROVIDED BY NCDOT GIS DEPARTMENT FROM LIDAR DATA RELEASED MAY 2007.
 - COORDINATE SYSTEM IS NORTH CAROLINA STATE PLANE GRID, NAD 83, NAD 83.
 - PROPERTY LINE AS SHOWN ON DRAWING "PROPOSED DEMOLITION LANDFILL, PROPERTY OF JOHN H. FOGLEMAN", PREPARED BY WILLIAM C. WALKER, JR., REGISTERED LAND SURVEYOR, DURHAM, NC, DATED OCTOBER 15, 1991, REVISED FEBRUARY 2008. PROPERTY LINE HORIZONTALLY LOCATED BY MATCHING SOUTHERN LINE OF NORTHERN ADJACENT PARCEL (SEE REFERENCE 5). THIS DRAWING DOES NOT CONSTITUTE A PROPERTY SURVEY AND IS FOR REFERENCE ONLY.
 - ADJACENT PARCEL BOUNDARY AND CONTROL POINT FROM DEED DESCRIPTION FOR PARCEL REFERENCE NO. 171278, DEED BOOK 1026, PAGE 981.
 - FLOODPLAIN SHOWN FROM THE NORTH CAROLINA FLOOD INSURANCE RATE MAP, PANELS 0853 AND 0854, DATED MAY 2, 2006.

PERMIT ISSUE
NOT FOR CONSTRUCTION



RESPONSE TO NCDENR COMMENTS DATED 12/6/11

NO.	DATE	REVISION
1	12/23/11	

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SEAL

PROJECT TITLE:
**FOGLEMAN & FOGLEMAN SOILS, INC.
LOD LANDFILL (PERMIT NO. 32-F)
DURHAM, NORTH CAROLINA
5 YEAR PERMIT RENEWAL**

DRAWING TITLE:
**5 YEAR PHASE
GRADING PLAN**

DESIGNED BY: S.A.S.	DRAWN BY: J.A.L.
CHECKED BY: A.R.	PROJECT NO.: FOGLE 11-1
SCALE: AS SHOWN	DATE: SEPT. 2011
FILE NAME: FOGLE-00009	
SHEET NO.: 8	DRAWING NO.: P1