December 14, 2009

Mr. Ming Chao
Environmental Engineer II
NCDENR DWM-Solid Waste Section
401 Oberlin Road, Suite 150
Raleigh, NC 27605

Reference: C&D Landfill Permit Application Renewal
Response To Comments From October 17, 2009
Edgecombe County Landfill (Permit #33-01)
Tarboro, North Carolina
S&ME Project No. 1054-07-242

Dear Mr. Chao:

On behalf of Edgecombe County, S&ME, Inc. (S&ME) is submitting one hard copy and an electronic copy of this response to comments to address your letter *Additional Comments on Permit Application of Edgecombe County Construction and Demolition Debris Landfill (C&DLF) Continued Operations (Application)* letter dated October 17, 2009. The letter included comments from the North Carolina Department of Environment and Natural Resources (NCDENR), Division of Waste Management (DWM), Solid Waste Section (Section) based on the review of the letter and the revised C&D Landfill Permit Application Renewal for the Edgecombe County C&D Landfill (Permit # 33-01) submitted to the Section on August 31, 2009. S&ME submitted the original Permit Application Renewal dated June 2008. The first Amended C&D Landfill Permit Application Renewal was delivered November 10, 2008 to the Section on behalf of the Edgecombe County Solid Waste Department.

The comment letter included 16 comments on the permit application. The following are the verbatim comments from the comment letter (*Italicized*) and our response to each comment (**Bold**).

Section B – Operation and Waste Acceptance Plan
1. For Comment 8 dated December 23, 2008, please provide a copy of the approval letter of the Erosion and Sedimentation Control Plan dated May 22, 2009 issued by the Division of Land Resources, Land Quality Section.

RESPONSE:
A copy of the approval letter with modifications dated May 20, 2009 from Division of Land Resources, Land Quality Section is presented as Attachment 1.

*2. (Section 2.1.1 – Waste Acceptance, Page 3) The recently effective Rule 15A NCAC 13B.0532 defines "C&D solid wastes" as solid wastes generated **solely** from the construction, remodeling, repair, or demolition operations on pavement and buildings or structures. C&D waste **does not** include municipal and industrial wastes that may be generated by the on-going operations at buildings or structures. The new rule prohibits the disposal of roof shingle waste from manufacturers and waste building materials from mobile home / modular home manufacturers, except under certain circumstances. The industrial waste normally must be disposed in a MSWLF or an industrial landfill, not a C&DLF. Provisions of the C&DLF rules could allow the waste to continue to be disposed of in the landfill if Edgecombe County and the manufacturers agree to adhere to disposal criteria as outlined below:*

"Solid waste that is generated by mobile or modular home manufacturers and asphalt shingle manufacturers in Edgecombe County. The waste must be source separated at the manufacturing site and must exclude municipal solid waste, hazardous wastes, and other wastes prohibited from disposal in a C&DLF. It must be transported to the Edgecombe County C&DLF in a shipment or container that consists solely of the separated waste to be disposed. Edgecombe County C&DLF will not accept this waste if it has not been separated and transported as specified."

If Edgecombe County agrees with this suggestion, please replace "C&D like wastes" described in the Section 2.1.1 Waste Acceptance with the above-referenced description.

RESPONSE:
Edgecombe County agrees with the suggestion and has made the revision to the Operation and Waste Acceptance Plan, Section 2.1.1 Waste Acceptance, Page 3, Bullet Five, Delete the original text for Bullet Five:

- C&D like waste that are similar to wastes typically found in the land clearing inert debris and C&D Waste streams consisting of roofing shingle waste from the manufacturer and waste building materials from mobile home/modular home manufacturer; and

and insert the new text for Bullet Five:

- **Solid waste that is generated by mobile or modular home manufacturers and asphalt shingle manufacturers in Edgecombe County: the waste must be source separated at the manufacturing site and must exclude municipal solid waste, hazardous wastes, and other wastes prohibited from disposal in a C&DLF. It must be transported to the Edgecombe County C&DLF in a shipment or container that consists solely of the separated waste to be disposed. Edgecombe County C&DLF will not accept this waste if it has not been separated and transported as specified.**

Insert **Attachment 2** to replace pages 3 through 12 of the Operation and Waste Acceptance Plan in Appendix B of the Permit Application.

3. Because the proposed landfill gas collection and control systems (LFGCCS), which are mentioned in the Section 2.1.3 of the Closure Plan will be operated during the active-live span of the C&DLF, the Operations Plan needs to describe the routine inspection, repair, and maintenance requirements of the LFGCCS and how the installation and presence of the gas collection system will be coordinated with the day-to-day operation of the C&DLF unit. Please revise the Operations Plan accordingly.

RESPONSE:
The Edgecombe County Landfill is not required to implement a LFGCCS due to migration of explosive gas, and it is not regulated by the Municipal Solid Waste Landfill New Source Performance Standards (NSPS), 40 CFR, Part 60, Subparts Cc and WWW due to maximum design capacity less than 2.5 million megagrams (Mg). Furthermore, it is not expected to exceed this capacity before the next five year permit renewal. Edgecombe County has been voluntarily evaluating potential beneficial uses of the methane generated by the landfill using a LFGCCS. At the recommendation of the Section, the preliminary design for the LFGCCS has been provided. The final design for the LFGCCS has not been prepared and approved by the County. At this time the County requests the Section's approval to construct the LFGCCS. Once the final design is complete, the County will provide the Section with detailed design specifications and construction quality assurance documents for the LFGCCS with a request for a permit to operate. Along with the request for permitted to operate, the landfill Operations Plan and the Closure-Post Closure Plan will be amended to address the requirements of the LFGCCS.

Until the active LFGCCS is permitted to operate the landfill will continue to utilize the existing passive gas venting system, and the County will monitor explosive gases at the facility in accordance with the Gas Monitoring Plan included in Appendix III of the Operations Plan.

Section B, Appendix IV – Manufactured Home Deconstruction Plan (the Plan)

4. Please propose the maximum numbers of manufactured homes will be allowed to stage/store in the working face at any time in the Plan.

RESPONSE:
Comments 4, 5, 6, and 7 all refer to the Manufactured Home Deconstruction Plan. The Manufactured Home Deconstruction Plan has been revised and renamed to address comments 4 through 7. See the attached revised Manufactured Home Disposal Plan in Attachment 3.

5. Will the manufactured home be completely deconstructed at the same day as it delivered to the landfill facility? If not, please describe the maximum duration [please consider the periodical cover requirement stated in Rule .0542(f)(1)] that is required by trained personnel to completely deconstruct a manufactured home at the working face. Please revise the Plan accordingly.

RESPONSE:
See the attached revised Manufactured Home Disposal Plan in Attachment 3.

6. Will the recyclable material removed from a manufactured home be transported to the designated stockpile areas such as white good staging area, convenience center, etc in the end of each working day? If not, the Plan needs to describe the maximum duration that recyclable material can be temporarily allowed to store in the working face. Additionally, any removed non-recyclable material must be disposed in the working face in the end of each working day. Please revise the Plan accordingly.

RESPONSE:
See the attached revised Manufactured Home Disposal Plan in Attachment 3.

7. The Plan needs to discuss the special deconstruction approaches or methods to protect landfill personnel and environment when a manufactured home containing asbestos material is identified. The disposal asbestos-containing waste needs to be consistent with the proposed approaches described in the Section 2.1.2 in the Operation and Waste Acceptance Plan.

RESPONSE:
See the attached revised Manufactured Home Disposal Plan in Attachment 3.

If Edgecombe County wants to conduct mobile home deconstruction activities at a designated area, not in the C&D waste working face but within the permitted landfill property boundaries, the two documents – an example of the operating plan and the operating guidance prepared by the Solid Waste Section are enclosed for your reference to prepare the Manufactured Home Deconstruction Plan.

RESPONSE:
Edgecombe County does not intend to conduct manufactured home deconstruction at designated area that is not located in or immediately adjacent to the C&D waste working face.

Section D – Closure and Post-Closure Plan

8. (Section 2.1.3 Landfill Gas Collection System) This office understands the proposing LFGCCS will be subjected to change meeting the landfilling sequences; however, the Plan needs to provide the following information [please also see ***Comment 3****]:*

> *a. A brief description of the 3-phased LFGCCS as shown on Drawing 3 of 9 or provide a reference to the Section 4.5 of the Facility Plan.*

RESPONSE:
The following text was inserted into Section 2.1.3 in the Closure and Post-Closure Plan after the last paragraph (page 4):

The passive landfill gas venting system and the proposed active landfill gas collection system are further described in Sections 4.4 and 4.5 of the Facility Plan.

Insert Attachment 4 to revise pages 4 and 5 of the Closure and Post-Closure Plan.

b. Pursuant to Rule .1626(9)(a)(ii), gas condensate derived from a unlined MSWLF unit can not be placed in the unit; therefore, a plan needs to address, in a minimum, temporary on-site storage the condensate/leachate, spill prevention measures, and proper disposal of gas condensate including state and/or local permit approval and the information of a waste transporter and the waste water treatment plant.

RESPONSE:
The final design for the LFGCCS has not been prepared and approved by the County. Once the final design is complete the County will provide the Section with detailed design specifications for the LFGCCS including procedures to properly manage and disposed of condensate.

c. Personnel training of operation and maintenance the LFGCCS. (for example, operating personnel completes the SWANA's "Landfill Gas System Operations and Maintenance" training course). The training records must be placed in the on-site operating record.

RESPONSE:
The County agrees that training records must be placed in the on-site operating record. Once the final design for the LFGCCS is complete, the County will provide the Section with detailed design specifications and construction quality assurance documents for the LFGCCS with a request for a permit to operate. Along with the request for permit to operate, the County will amend the landfill Operations Plan or prepare a separate operations plan to address the operational requirements of the LFGCCS.

d. Local zoning approval document for installation of LFG flare system.

RESPONSE:
The final design for the LFGCCS has not been prepared and approved by the County. Once the final design is complete and if operation of a LFG Flare is included in the final design of the LFGCCS, Edgecombe County will request approval to construct and operate the LFG Flare in accordance with local zoning requirements.

e. On Drawing 3 of 9, many existing gas vents are proposing to be capped. Will the capping be a temporary or permanent approach? If the vent is determined to be abandoned and/or un-functional and buried into the C&D wastes, the Plan needs to propose the abandonment in accordance with 15A NCAC 2C .0114(b). The well abandonment record (GW-30 form) which must be certified by a Licensed Geologist needs to be submitted to the DWM within thirty (30) days or a duration established by a mutual agreement after the task is completed.

RESPONSE:
The final design for the LFGCCS has not been prepared and approved by the County. The proposed LFGCCS assumes that many existing gas vents may be temporarily or permanently removed from service. Edgecombe County assumes that vents temporarily removed from service by "capping" may be returned to service for use as passive vents or as active gas collection and recovery points. If a vent location is found necessary to abandon permanently, then the vent will be properly abandoned and documented. Documentation of vent abandonment will be submitted to DWM and a copy maintained in the operating record at the facility.

f. A plan defining the steps necessary to decommission the wells at the end of their useful life.

RESPONSE:
Refer to Section 2.1.3 and 3.2 for steps to decommission landfill gas extraction vents based on the preliminary design of the LFGCCS. The final design for the LFGCCS has not been prepared and approved by the County. Until the active LFGCCS is permitted to operate the landfill will continue to utilize the existing passive gas venting system. It is assumed that when the LFGCCS has reached the end of its useful life, active gas extraction wells will be converted to passive vents and the piping, valves, sumps, condensate tank, and flare will be removed. Once the final design is complete, the County will provide the Section with detailed design specifications and construction quality assurance documents for the LFGCCS with a request for a permit to operate. Along with the request for permitted to operate, the landfill Operations Plan and the Closure-Post Closure Plan will be amended to address the decommissioning requirements of the LFGCCS.

g. All necessary approvals and permits from the Division of Air Quality, if applicable.

RESPONSE:
The final design for the LFGCCS has not been prepared and approved by the County. Once the final design is complete, Edgecombe County will request approval and permits to construct and operate the LFGCCS in accordance with NCDENR Division of Air Quality requirements, if applicable.

h. Since the landfill unit is receiving or has accepted asbestos containing material or wastes for disposal, the Permittee needs to submit a work plan to the Health Hazards Control Unit of the Division of Public Health, Department of Health & Human Services for a review and approval prior to conducting new gas well installation (Phase II of the LFGCCS expansion). For preparing the work plan, please contact Mr. Jeff Dellinger, at phone 919-707-5950, or jeff.dellinger@ncmail.net for the details and requirements. A copy of correspondence/approval document issued by the Health Hazards Control Unit of the Division of Public Health needs to append to the construction completion documentations.

RESPONSE:
The final design for the LFGCCS has not been prepared and approved by the County. Once the final design is complete, Edgecombe County will prepare an updated work plan including a description for managing waste encountered during new gas well installation that will be submitted to the Health Hazards Control Unit of the Division of Public Health, Department of Health & Human Services for review and approval prior to installing new landfill gas wells. A copy of correspondence/approval document issued by the Health Hazards Control Unit of the Division of Public Health will be place in the operating record and will also append the construction quality assurance documentation submitted with the application for permit to operate the LFGCCS.

i. Within thirty (30) days or a duration established by a mutual agreement between the County and DWM upon completion of the construction of each of the three (3) phases of LFGCCS, Edgecombe County must submit DWM the construction completion report which is certified by a professional engineer or geologist registered in the State of North Carolina. The report includes, but not limited to, brief description of the construction activities, as-built drawings, a set of color photos of major phases of construction, gas vent data (survey data, well construction record [GW-1b form] and/or abandonment record [GW-30 form], approval letters/permits from other state and local government, and QA/QC testing results.

RESPONSE:
After completing the construction of each phase of the LFGCCS (if installed), Edgecombe County will submit to the DWM a construction completion report which is certified by a professional engineer or geologist registered in the State of North Carolina in general accordance with current rules. The report may include, but may not be limited to a description of the construction activities, as-built drawings, photographic documentation of activities from major construction phases, gas vent installation or abandonment records, approval letters/permits from other state and local government, and QA/QC testing results.

Section D – Appendix VI Construction Quality Assurance (CQA) Plan
9. (Section 3.4.1 and Part 3.5.C of the Technical Specifications in Appendix VII). Please specify the minimum testing frequency of the permeability test (ASTM Method D5084) on the constructed (in-placed) low permeability layer.

RESPONSE:
Section 3.2 of the CQA Plan refers to the specifications for a Test Pad that will be constructed in accordance with Technical Specification 02321 on the low permeability barrier. The data obtained during construction and testing of the low permeability barrier material used in the test pad will be used to document the correlation of density and permeability of the low permeable barrier material. The density versus permeability correlation data from the test pad will be used by the CQA Consultant to compare field density test results on the low permeable barrier material as a measure on the permeability of the placed barrier material.

Section D – Appendix VI Construction Quality Assurance (CQA) Plan Section 3.4.1 does not specify a frequency for an "in-place" permeability test on the low permeability layer based on the following:

The method referenced in this comment (D-5084) is a laboratory test method, not an in-place (field) test method. Field Density and Natural Moisture Content are the only in-place (field) test methods required by the CQA Plan.

The quality of the soil permeability results from laboratory tests on relatively "undisturbed" samples (i.e., Shelby Tube) are negatively impacted by sample collection, transport, and sample processing that occur before the permeability value is measured by the laboratory procedure. Remolded bulk samples of low permeability material from the field that are compacted in the lab, to the same density as the field specification, are found to yield results that more closely reflect the permeability of the constructed low permeability barrier than in-place field permeability testing.

Section 3.4.2 (page 7) of the Construction Quality Assurance Plan recommends that remolded permeability tests (as well as Standard Proctor, Atterberg Limits, and Grain size with hydrometer tests) be performed on samples at a frequency of once per every 3,000 cubic yards from the stockpile or borrow area low permeability soil source.

Part 3.5(C)(1) of the Technical Specifications for constructing the low permeability barrier (Appendix VII, Section 02321) specifies that the low permeability material must achieve required permeability per Part 2.1A.8 of this Section (1x10-5 cm/sec) in accordance with laboratory testing (ASTM D5804). Bulk samples will be taken by the CQA Consultant at intervals of 1 sample per 3,000 cubic yards of material to be placed from the stockpile/borrow area(s). The samples with moisture contents similar to field conditions will be compacted to at least 95% of the Standard Proctor Test or as specified based on laboratory test results (ASTM D2216). Remolded permeability tests (ASTM D5084) will be run with the maximum hydraulic gradient of 15 and maximum confining pressure of 10 psi.

Areas that are not consistent in density, moisture content, or classification with previously approved low permeability barrier material will require additional undisturbed permeability testing of the in-place low permeability barrier prior to final acceptance. The frequency of the in-situ permeability test is at the discretion of the CQA Consultant.

Section D – Appendix VII Technical Specifications
10. Please provide the specifications of the air and condensation lines in Appendix VII. If HDPE piping will be used for air and condensation lines, the Section 02500 needs to clearly describe the purposes and specify the methods or approaches for pipe flushing/cleaning and hydrostatic pressure testing on the installed fluid conveyance system (including piping, fittings, valves, etc). To pursuant Rule .1626(9)(a)(ii), gas condensate derived from a landfill unit may not be placed in the unit unless the unit is designed with a composite liner. Therefore, to prevent leachate spillage from the conveyance system, no leachate/

condensation lines shall be used for LFGCCS until successful pressure testing is completed. The testing results shall be a portion of the CQA report in Appendix VI or of the construction completion report for each incremental phase development of LFGCCS.

RESPONSE:
The final design for the LFGCCS has not been completed or approved by the County. Requirements for the air and condensation lines are not final for the LFGCCS. Once the final design is approved, required changes to the air and transfer piping materials will be addressed in revisions to the specifications prepared for contractor installation.

Edgecombe County has revised Section D – Appendix VII Technical Specifications Section 2500 High Density Polyethylene (HDPE) Piping and Miscellaneous Items. Please see the revised specifications in Attachment 5 to replace the previously submitted specification sections.

Edgecombe County has revised the following Sections of Appendix VI-Construction Quality Assurance Plan:

11. (Section 02611, Part 3) Please add the specifications associated with gas well installation as part of Phase II of LFGCCS which include, but not limited to, drilling method, health and safety requirement, wastes disposal, decontamination of drilling equipment, criteria to terminate boring advancement (e.g. encounter groundwater, liquid/leachate, obstructions, etc)

RESPONSE:
Edgecombe County has revised Section D – Appendix VII Technical Specifications Section 02611. Replace Technical Specifications Section 02611 with Attachment 6.

Section F - Facility Plan
12. (Section 1.2) Please provide the property deed information of the landfill facility which can be appended to the Facility Plan.

RESPONSE:
Edgecombe County has included the property deed information of the landfill facility. Please insert Attachment 7 to Section F, Facility Plan, Appendix III, Property Deeds.

*13. (Section 2.1.1) Please replace the description of the "C&D like wastes" in the acceptable waste stream by the description below [Please also see **Comment 2**]:*

"Solid waste that is generated by mobile or modular home manufacturers and asphalt shingle manufacturers in Edgecombe County. The waste must be source separated at the manufacturing site and must exclude municipal solid waste, hazardous wastes, and other wastes prohibited from disposal in a C&DLF. It must be transported to the Edgecombe County C&DLF in a shipment or container that consists solely of the separated waste to be disposed. Edgecombe County C&DLF will not accept this waste if it has not been separated and transported as specified."

RESPONSE:
Edgecombe County agrees with the suggestion and has made the revision to the Facility Plan, Section 2.1.1, Page 3, Bullet Five. Delete the original text for bullet five:

- C&D like waste that are similar to wastes typically found in the land clearing inert debris and C&D Waste streams consisting of roofing shingle waste from the manufacturer and waste building materials from mobile home/modular home manufacturer: and

and insert for Bullet Five:

- **Solid waste that is generated by mobile or modular home manufacturers and asphalt shingle manufacturers in Edgecombe County: the waste must be source separated at the manufacturing site and must exclude municipal solid waste, hazardous wastes, and other wastes prohibited from disposal in a C&DLF. It must be transported to the Edgecombe County C&DLF in a shipment or container that consists solely of the separated waste to be disposed. Edgecombe County C&DLF will not accept this waste if it has not been separated and transported as specified.**

Insert Attachment 8 to replace pages 3 through 10 of Section F - Facility Plan.

14. (Section 3.2) Rule .0537(c)(1) defines a phase is an area constructed that provides no more than approximately 5 years of operating capacity. The nomenclature for incremental phase development is usually identified by an Arabic number (such as Phase 1, 2, 3, ...) or a Roman numeral (Phase I, II, III, ...) rather than number of year (A non-official way but adopted by the waste industry in North Carolina). In Table 1, please adding an Arabic number or a Roman numeral in a separate column next to the number of year.

RESPONSE:
Edgecombe County has revised Table 1: 5-Year Filling Sequence Gross Airspace from Section 3.2 Phase Gross Capacity of the Facility Plan by inserting a new column as requested:

Table 1: 5-year Filling Sequence Gross Airspace

Phase	Filled to Date	Year End	Gross Airspace Not Yet Filled
1	605,500 cy	Current	-
2		5-Year	111,500 cy
3		10- Year	112,000 cy
4		15- Year	115,000 cy
5		20- Year	167,500 cy
6		25- Year	174,800 cy
7		30- Year	156,400 cy
8		35- Year	178,600 cy
9		38.5- Year	78,700 cy
Total			**1,700,000 cy**

Insert Attachment 8 to replace pages 3 through 10 of Section F - Facility Plan. Table replaces the Table of the same name originally included in the permit renewal application. This table was also revised in the Operation and Waste Acceptance Plan with the revision incorporated in Attachment 2.

15. (Section 3.4) The remaining operational life of the C&D unit is calculated by taking the remaining gross capacity (1,094,500 cy) of C&D unit minus the total soil required for landfill operation (final soil cover plus periodic soil cover = 300,000 cy as shown in Section 3.3 on Page 11), not the final soil cover volume alone, and multiplying that by the waste density. The remaining net air space of the landfill in tons is likely calculated as below:
*(1,094,500 cy – 300,000 cy)*0.55 tons/cy = 436,975 tons*
Then, the remaining operational life of the C&D unit is
436,975 tons /12,600 ton/year = 34.7 year
If County agrees the approach to calculate operational life, please revise related figures, tables, Appendix IX, and texts in the application document.

RESPONSE:
Edgecombe County has assumed that the historical unit weight (0.55 tons/cy) is based on the scale house records of waste weight and the change in volume of the landfill between two topographic surveys over a time interval. Since the density based on a volume that includes waste and operational soils, then the appropriate volume to use in predicting future landfill life is the volume of waste and operational soil. Therefore, the approach to the volume calculation as-is is appropriate. No changes to the related figures, tables, text, or appendices to the permit renewal are warranted.

16. (Section 4.1) This section needs to describe the Leachate Management System related to LFGCCS such as condensate tanks and sumps as shown on Drawing 6 of 7. The descriptions include, but not limited to, sizes of sump and tank, the second containment system, spill prevention measures, waste liquid disposal approach (the transporter and the disposal/treatment facility), and permit requirements. [Also see ***Comment*** *8b.]*

RESPONSE:
The final design for the LFGCCS has not been completed or approved by the County. Once the final design for the LFGCCS is complete, Edgecombe County will update the Facility Plan as necessary to describe the Leachate Management System related to the LFGCCS.

Please timely respond the above-referenced comments and submit the Solid Waste Section a revised portions of the Application (one hard copy and an electronic copy), which incorporates the requested information. Additionally, the Solid Waste Section approves the cost estimates for groundwater corrective action, closure, and post-closure care of the Edgecombe County Landfill. The approved costs, in year 2009 dollar values, are $2,342,000.00 for the 30-year groundwater corrective action program, $905,587.00 for the closure of 21.7-acre landfill unit, the estimated largest area of the C&DLF unit requiring the specific cover system at any time during the five-year permitted period, and $2,350,069.00 for

the 30-year post-closure cares at 68-acre landfill unit. Pursuant to Rule .0547(4), within 30 days upon receiving this letter, Edgecombe County must submit the DWM a financial assurance document in accordance with Rule .1628.

RESPONSE:
Edgecombe County will submit to the DWM a financial assurance document in accordance with Rule .1628.

In accordance with the NCGS 130A-295.2(h), effective August 1, 2009, Edgecombe County must also provide financial assurance sufficient to cover a minimum required amount of three million dollars ($3,000,000.00) for potential assessment and corrective action at the facility. This financial assurance requirement is in addition to the financial responsibility requirements for site closure, post-closure cares, and corrective actions. Please submit the requested financial assurance document within 30 days upon receiving this letter. Within the next 12 months, Edgecombe County will be required to evaluate the solid waste management facility to determine the estimated costs of potential assessment and corrective action based on the criteria established in the above-reference statute. Depending on this determination, the required financial assurance amount in the future may be higher than the minimum amount of three million dollars.

RESPONSE:
Edgecombe County has already stated financial assurance for groundwater assessment and corrective action program in the amount of $2,342,000 for the closed MSW facility. Edgecombe County understands that new legislation now requires financial assurance for an additional $3,000,000 for potential future assessment and corrective measures for the C&D facility. Edgecombe County will submit to the DWM a financial assurance document for the additional $3,000,000.

Please call us at (919) 872-2660 if you have any questions or comments, or if we can be of further assistance.

Sincerely,
S&ME, Inc.

David B. Wells, P.G.
Project Manager

Samuel P. Watts, P.G.
Senior Project Manager

cc: Mr. Danny Bagley - Edgecombe County Solid Waste Manager
File

Insert the following Attachments into the Permit Application, Edgecombe County *C&D Landfill (Permit #33-01)*, dated June 30, 2008, Revised August 2009, as Revision 2, Permit Application, Edgecombe County *C&D Landfill (Permit #33-01)* dated November 2009:

ATTACHMENTS:

Attachment 1 Division of Land Resources, Land Quality Section
(Approval Letter with Modifications Dated May 20, 2009)

Attachment 2 Operation and Waste Acceptance Plan Appendix B of the Permit Application
(Pages 3 through 12)

Attachment 3 Section B – Operation and Waste Acceptance Plan Appendix IV
(Revised Manufactured Home Disposal Plan)

Attachment 4 Section D – Closure and Post-Closure Plan
(Pages 4 and 5)

Attachment 5 Section D – Appendix VII Technical Specifications
(Section 02500 High Density Polyethylene (HDPE) Piping and Miscellaneous Items)

Attachment 6 Section D – Appendix VII Technical Specifications
(Section 02611 Landfill Gas Wells)

Attachment 7 Section F – Facility Plan Appendix III
(Property Deeds)

Attachment 8 Section F – Facility Plan
(Pages 3 through 9)

ATTACHMENT 1

Division of Land Resources, Land Quality Section
(Approval Letter with Modifications Dated May 20, 2009)

NCDENR

North Carolina Department of Environment and Natural Resources

Division of Land Resources

Land Quality Section

James D. Simons, PG, PE
Director and State Geologist

Beverly Eaves Perdue, Governor
Dee Freeman, Secretary

May 20, 2009

LETTER OF APPROVAL WITH MODIFICATIONS

County of Edgecombe
ATTN :- Danny Bagley
P.O. Box 10
Tarboro, NC 27886

RE: Project Name: Edgecombe County Landfill
Project ID: EDGEC-2009-009 Acres Approved: 30.00
County: Edgecombe, Colonial Road, Tarboro, NC
River Basin: Tar-Pamlico Stream Classification: Other
Submitted By: John A Moody, S&ME
Date Received by LQS: 3/18/09; 4/13/09; 5/15/09
Plan Type: New

Dear Sir or Madam:

This office has reviewed the subject erosion and sedimentation control plan. We find the plan to be acceptable with modifications and hereby issue this letter of Approval with Modifications. The Modifications Required for Approval are listed on the attached page. This plan approval shall expire three (3) years following the date of approval, if no land-disturbing activity has been undertaken, as is required by Title 15A NCAC 4B .0129.

Please be advised that Title 15A NCAC 4B .0118(a) requires that a copy of the approved erosion control plan be on file at the job site. Also, you should consider this letter to give the Notice required by G.S. 113A-61.1(a) of our right of periodic inspection to insure compliance with the approved plan.

North Carolina's Sedimentation Pollution Control Program is performance-oriented, requiring protection of existing natural resources and adjoining properties. If, following the commencement of this project, it is determined that the erosion and sedimentation control plan is inadequate to meet the requirements of the Sedimentation Pollution Control Act of 1973 (North Carolina General Statute 113A-51 through 66), this office may require revisions to the plan and implementation of the revisions to insure compliance with the Act.

Acceptance and approval of this plan is conditioned upon your compliance with Federal and State water quality laws, regulations, and rules. In addition, local city or county ordinances or rules may also apply to this land-disturbing activity. This approval does not supersede any other permit or approval.

Please be aware that your project will be covered by the enclosed NPDES General Stormwater Permit NCG01000 (Construction Activities). You should first become familiar with all of the requirements for compliance with the enclosed general permit.

Due to the location of this project, it should be noted that a rule to protect and maintain existing buffers along watercourses in the Tar-Pamlico River Basin became effective on January 1, 2000. The Tar-Pamlico River Riparian Area Protection and Maintenance Rule (15A NCAC 2B .0259) applies to all perennial and intermittent streams, lakes, ponds and estuaries in the Tar-Pamlico River Basin with existing vegetation on the adjacent land or "riparian area". In riparian areas with existing vegetation in the first 30 feet directly adjacent to the stream, the rule prohibits land disturbance or new development within the first 30 feet of land next to the water (the remaining 20 feet of the total buffer must be revegetated upon completion of any proposed land-disturbing activity). In riparian areas with existing vegetation that is less than 30 feet wide, the rule prohibits land disturbance or new development within the area that contains the existing vegetation (but not the entire 50 foot riparian area). For more information about this riparian area rule, please contact the Division of Water Quality's Wetland/401 Unit at 919-733-1786, or a Division of Water Quality representative at this regional office.

Please note that this approval is based in part on the accuracy of the information provided in the Financial Responsibility Form, which you have provided. You are requested to file an amended form if there is any change in the information included on the form. In addition, it would be helpful if you notify this office of the proposed starting date for this project. Please notify us if you plan to have a preconstruction conference.

Your cooperation is appreciated.

Sincerely,

Karyn Pageau

Karyn Pageau, EIT, CPESC
Assistant Regional Engineer
Land Quality Section

Enclosures: Certificate of Approval
Modifications Required for Approval
NPDES Permit

cc: John A Moody, PE, S&ME, 3201 Spring Forest Road, Raleigh, NC 27616
Danny Smith, DWQ – SWP Supervisor, Raleigh Regional Office

MODIFICATIONS REQUIRED FOR APPROVAL

Project Name: Edgecombe County Landfill

Project ID: EDGEC-2009-009

County: Edgecombe

1.Provide energy dissipators that were shown on drawings downstream of pipe discharge for skimmer basins 1, 2, and 3. 2.Revise staking detail for coir rolls to show stakes being placed along outside edge of roll through a minimum of 2 appertures. Provide either alternate spacing of stakes upstream side then downstream side or stakes spaced along the downstream side of roll. 3.Provide 1 copy of drawings revised as a result of requested changes to this office by June 15, 2009 or prior to construction beginning, whichever is sooner.

STATE OF NORTH CAROLINA
DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES
DIVISION OF WATER QUALITY

GENERAL PERMIT

TO DISCHARGE STORMWATER UNDER THE

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provision of North Carolina General Statute 143-215.1, other lawful standards and regulations promulgated and adopted by North Carolina Environmental Management Commission and the Federal Water Pollution Control Act as amended,

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All owners or operators of stormwater point source discharges associated with construction activities including clearing, grading and excavation activities resulting in the disturbance of land are hereby authorized to discharge stormwater to the surface waters of North Carolina or to a separate storm sewer system conveying stormwater to the surface waters.

The General Permit shall become effective on October 1, 2008.

The General Permit shall expire at midnight on June 30, 2009.

Signed this day October 20, 2008.

Original Signed by Coleen H. Sullins
Coleen H. Sullins, Director
Division of Water Quality
By the Authority of the Environmental Management Commission

PERMITTED ACTIVITIES

Until this permit expires or is modified or revoked, the permittee is authorized to discharge stormwater which has been adequately treated and managed in accordance with an approved Erosion and Sedimentation Control Plan by the North Carolina Division of Land Resources, Land Quality Section, or a delegated local program under the provisions and requirements of North Carolina General Statute 113A - 54.1 to the surface waters of North Carolina or to a separate storm sewer system. All discharges shall be in accordance with the attached schedules as follows:

Part I: Monitoring, Controls, and Limitations for Permitted Discharges
Part II: Standard Conditions

Any other point source discharge to surface waters of the state is prohibited unless covered by another permit, authorization or approval. The discharges allowed by this General Permit shall not cause or contribute to violations of Water Quality Standards. Discharges allowed by this permit must meet applicable wetland standards as outlined in 15A NCAC 2B .0230 and .0231 and water quality certification requirements as outlined in 15A NCAC 2H .0500.

This permit does not relieve the permittee from responsibility for compliance with any other applicable federal, state, or local law, rule, standard, ordinance, order, judgment, or decree.

General Permit Coverage

This General Permit is applicable to point source discharges from construction activities disturbing five acres of land prior to March 10, 2003. As of March 10, 2003, this permit will be applicable to point source discharges of stormwater from construction activities disturbing one or more acres of land. The submission of a proposed Erosion and Sedimentation Control Plan to the Division of Land Resources or delegated local program shall be considered to take the place of a Notice of Intent for coverage under this General Permit for those projects requiring this Permit coverage. Coverage under this General Permit shall become effective upon issuance of an approval for the Erosion and Sedimentation Control Plan by the Land Quality Section of the Division of Land Resources or delegated local program. Prior to the commencement of construction and land disturbing activities approval of the Erosion and Sedimentation Control Plan shall be obtained.

Any owner or operator not wishing to be covered or limited by this General Permit may make application for an individual NPDES permit in accordance with NPDES procedures in 15A NCAC 2H .0100, stating the reasons supporting the request. Any application for an individual permit should be made at least 180 days prior to the time the permit is needed .

This General Permit does not cover activities or discharges covered by an individual NPDES permit until the individual permit has expired or has been rescinded. Any person conducting an activity covered by an individual permit but which could be covered by this General Permit may request that the individual permit be rescinded and coverage under this General Permit be provided.

PART I

MONITORING, CONTROLS, AND LIMITATIONS FOR PERMITTED DISCHARGES

SECTION A: FINAL LIMITATIONS AND CONTROLS FOR STORMWATER DISCHARGES

During the period beginning on the effective date of the permit and lasting until expiration, the Permittee is authorized to discharge stormwater associated with construction activity. Such discharges shall be controlled, limited and monitored as specified below.

1. Prior to the commencement of construction, the permittee shall submit for approval a Erosion and Sedimentation Control Plan (plan) to the Department of Environment, and Natural Resources, Division of Land Resources, Land Quality Section, (or an approved local program) pursuant to the requirements of NC G.S. 113A-54.1 and in conformity with rules adopted by the North Carolina Sedimentation Control Commission.

2. The Permittee shall implement the plan, which has been approved by the approval authority. The approved plan is considered a requirement or condition of this general permit. Deviation from the approved plan, or approved amendment to the plan, shall constitute a violation of the terms and conditions of this general permit except that deviation from the approved plan will be allowed (1) to correct an emergency situation where sediments are being discharged off the site or (2) when minor modifications have been made for the purpose of improving the performance of the erosion and sedimentation control measures and notification of the minor modification has been made to the Division of Land Resources (or approved local program). Such a deviation from the approved plan shall be noted on the approved plan maintained at the job site. During active construction, a copy of the approved plan shall be maintained on the site.

3. Equipment utilized during the construction activity on a site must be operated and maintained in such a manner as to prevent the potential or actual pollution of the surface or ground waters of the state. Fuels, lubricants, coolants, and hydraulic fluids, or any other petroleum products, shall not be discharged onto the ground or into surface waters. Spent fluids shall be disposed of in a manner so as not to enter the waters, surface or ground, of the state and in accordance with applicable state and federal disposal regulations. Any spilled fluids shall be cleaned up to the extent practicable and disposed of in a manner so as not to allow their entry into the waters, surface or ground, of the state.

4. Herbicide, pesticide, and fertilizer usage during the construction activity shall be consistent with the Federal Insecticide, Fungicide, and Rodenticide Act and shall be in accordance with label restrictions.

5. All wastes composed of building materials shall be disposed of in accordance with North Carolina General Statutes, Chapter 130A, Article 9 - Solid Waste Management, and rules governing the disposal of solid waste (North Carolina Administrative Code Section 15A NCAC 13B).

6. The Permittee shall control the management and disposal of litter and sanitary waste from the site such that no adverse impacts to water quality occur.

SECTION B: MINIMUM MONITORING AND REPORTING REQUIREMENTS

Minimum monitoring and reporting requirements are as follows unless otherwise approved in writing by the Director of the Division of Water Quality.

1. All erosion and sedimentation control facilities shall be inspected by or under the direction of the permittee at least once every seven calendar days (at least twice every seven days for those facilities discharging to waters of the State listed on the latest EPA approved 303(d) list for construction related indicators of impairment such as turbidity or sedimentation**) and within 24 hours after any storm event of greater that 0.5 inches of rain per 24 hour period. A rain gauge shall be maintained on the site and a record of the rainfall amounts and dates shall be kept by the permittee.

   (** The latest approved list may be obtained from the Division of Water Quality, or from the following website location: *http://h2o.enr.state.nc.us/sw/construction303d*)

2. Once land disturbance has begun on the site, stormwater runoff discharges shall be inspected by observation for stormwater discharge characteristics as defined below at the frequency in #1 above to evaluate the effectiveness of the pollution control facilities or practices. If any visible sedimentation is leaving the disturbed limits of the site, corrective action shall be taken immediately to control the discharge of sediments outside the disturbed limits.

Stormwater Discharge Characteristics	Monitoring Type[1]	Monitoring Location[2]
Clarity		SDO
Floating Solids		SDO
Suspended Solids		SDO
Oil Sheen		SDO
Other obvious indicators of stormwater pollution		SDO

Footnotes:

[1] Monitoring Type: The monitoring requires a qualitative observation of each stormwater outfall. No analytical testing or sampling is required.

[2] Sample Location: Stormwater Discharge Outfall (SDO)

3. The operator shall keep a record of inspections. Visible sedimentation found outside of the disturbed limits shall be recorded and a brief explanation kept with the records as to the measures taken to control future releases. Any measures taken to clean up the sediment that has left the disturbed limits shall also be recorded. These records shall be made available to DWQ or authorized agent upon request.

SECTION C: SCHEDULE OF COMPLIANCE

1. The permittee shall comply with Final Limitations and Controls specified for stormwater discharges once disturbance has begun on the site and until completion of construction or development and the establishment of a permanent ground cover..

2. During construction and until the completion of a construction or development and the establishment of a permanent ground cover, the permittee shall provide the operation and maintenance necessary to operate the storm water controls at optimum efficiency.

PART II
STANDARD CONDITIONS

SECTION A: DEFINITIONS

1. Act or "the Act" or CWA

   The Federal Water Pollution Control Act, also known as the Clean Water Act, as amended, 33 USC 1251, et. seq.

2. Best Management Practices (BMPs)

   Schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the United States. BMPs also include treatment requirements, operation procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

3. DWQ or Division

   The Division of Water Quality, Department of Environment, and Natural Resources.

4. Director

   The Director of the Division of Water Quality, the permit issuing authority.

5. EMC

The North Carolina Environmental Management Commission.

6. Permittee

   The person who signed as the financially responsible party on the Erosion and Sedimentation Control Plan.

7. Point Source Discharge

   Any discernible, confined and discrete conveyance, including but specifically not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, or concentrated animal feeding operation from which pollutants are or may be discharged to waters of the state.

8. Administrator

The Adminstrator of the U. S. Environmental Protection Agency.

SECTION B: GENERAL CONDITIONS

1. Duty to Comply.

The permittee must comply with all conditions of this general permit. Any permit noncompliance constitutes a violation of the Clean Water Act and is grounds for: enforcement action; certificate of coverage termination, revocation and reissuance, or modification; or denial of a certificate of coverage upon renewal application.

(a) The permittee shall comply with effluent standards or prohibitions established under section 307(a) of the Clean Water Act for toxic pollutants and with standards for sewage sludge use or disposal established under section 405(d) of the CWA within the time provided in the regulations that establish these standards or prohibitions or standards for sewage sludge use or disposal, even if the permit has not yet been modified to incorporate the requirement.

(b) The Clean Water Act provides that any person who violates section 301, 302, 306, 307, 308, 318 or 405 of the Act, or any permit condition or limitation implementing any such sections in a permit issued under section 402, or any requirement imposed in a pretreatment program approved under sections 402(a)(3) or 402(b)(8) of the Act, is subject to a civil penalty not to exceed $27,000 per day for each violation. The Clean Water Act provides that any person who negligently violates sections 301, 302, 306, 307, 308, 318, or 405 of the Act, or any condition or limitation implementing any of such sections in a permit issued under section 402 of the Act, or any requirement imposed in a pretreatment program approved under section 402(a)(3) or 402(b)(8) of the Act, is subject to criminal penalties of $2,500 to $25,000 per day of violation, or imprisonment of not more than 1 year, or both. In the case of a second or subsequent conviction for a negligent violation, a person shall be subject to criminal penalties of not more than $50,000 per day of violation, or by imprisonment of not more than 2 years, or both. Any person who knowingly violates such sections, or such conditions or limitations is subject to criminal penalties of $5,000 to $50,000 per day of violation, or imprisonment for not more than 3 years, or both. In the case of a second or subsequent conviction for a knowing violation, a person shall be subject to criminal penalties of not more than $100,000 per day of violation, or imprisonment of not more than 6 years, or both. Any person who knowingly violates section 301, 302, 303, 306, 307, 308, 318 or 405 of the Act, or any permit condition or limitation implementing any of such sections in a permit issued under section 402 of the Act, and who knows at that time that he thereby places another person in imminent danger of death or serious bodily injury, shall, upon conviction, be subject to a fine of not more than $250,000 or imprisonment of not more than 15 years, or both. In the case of a second or subsequent conviction for a knowing endangerment violation, a person shall be subject to a fine of not more than $500,000 or by imprisonment of not more than 30 years, or both. An organization, as defined in section 309(c)(3)(B)(iii) of the CWA, shall, upon conviction of violating the imminent danger provision, be subject to a fine of not more than $1,000,000 and can be fined up to $2,000,000 for second or subsequent convictions.

(c) Under state law, a daily civil penalty of not more than ten thousand dollars ($10,000) per violation may be assessed against any person who violates or fails to act in accordance with the terms, conditions, or requirements of a permit. [Ref: NC General Statutes 143-215.6A].

(d) Any person may be assessed an administrative penalty by the Administrator for violating section 301, 302, 306, 307, 308, 318 or 405 of this Act, or any permit condition or limitation implementing any of such sections in a permit issued under section 402 of this Act. Administrative penalties for Class I violations are not to exceed $11,000 per violation, with the maximum amount of any Class I penalty assessed not to exceed $27,500. Penalties for Class II violations are not to exceed $11,000 per day for each day during which the violation continues, with the maximum amount of any Class II penalty not to exceed $137,500.

2. Duty to Mitigate

The permittee shall take all reasonable steps to minimize or prevent any discharge in violation of this general permit which has a reasonable likelihood of adversely affecting human health or the environment.

3. Civil and Criminal Liability

Except as provided in Section C. of this permit regarding bypassing of stormwater control facilities, nothing in this general permit shall be construed to relieve the permittee from any responsibilities, liabilities, or penalties for noncompliance pursuant to NCGS 143-215.3, 143-215.6A, 143-215.6B, 143-215.6C or Section 309 of the Federal Act, 33 USC 1319. Furthermore, the permittee is responsible for consequential damages, such as fish kills, even though the responsibility for effective compliance may be temporarily suspended.

4. Oil and Hazardous Substance Liability

Nothing in this general permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject to under NCGS 143-215.75 et seq. or Section 311 of the Federal Act, 33 USC 1321. Furthermore, the permittee is responsible for consequential damages, such as fish kills, even though the responsibility for effective compliance may be temporarily suspended.

5. Property Rights

The issuance of this general permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.

6. Severability

The provisions of this general permit are severable, and if any provision of this general permit, or the application of any provision of this general permit to any circumstances, is held invalid, the application of such provision to other circumstances, and the remainder of this general permit, shall not be affected thereby.

7. Duty to Provide Information

The permittee shall furnish to the Director, within a reasonable time, any information which the Director may request to determine whether cause exists for modifying, revoking and reissuing, or terminating the certificate of coverage issued pursuant to this general permit or to determine compliance with this general permit. The permittee shall also furnish to the Director upon request, copies of records required to be kept by this general permit.

8. When an Individual Permit may be Required

The Director may require any owner/operator authorized to discharge under a certificate of coverage issued pursuant to this general permit to apply for and obtain an individual permit or an alternative general permit. Any interested person may petition the Director to require an individual permit pursuant to 15A NCAC 2H .0127. Cases where an individual permit may be required include, but are not limited to, the following:

a. The discharger is a significant contributor of pollutants;

b. Conditions at the permitted site change, altering the constituents and/or characteristics of the discharge such that the discharge no longer qualifies for a General Permit;

c. The discharge violates the terms or conditions of this general permit;

d. A change has occurred in the availability of demonstrated technology or practices for the control or abatement of pollutants applicable to the point source;

e. Effluent limitations are promulgated for the point sources covered by this general permit;

f. A water quality management plan containing requirements applicable to such point sources is approved after the issuance of this general permit.

g. The Director determines at his own discretion that an individual permit is required.

9. When an Individual Permit may be Requested

Any permittee operating under this general permit may request to be excluded from the coverage of this general permit by applying for an individual permit. When an individual permit is issued to an owner/operator the applicability of this general permit is automatically terminated on the effective date of the individual permit.

10. Signatory Requirements

a. All applications, reports, or information submitted to the Director shall be signed and certified as follows:

(1) For a corporation: by a responsible corporate officer. For the purpose of this Section, a responsible corporate officer means: (a) a president, secretary, treasurer or vice president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision making functions for the corporation, or (b) the manager of one or more manufacturing production or operating facilities provided the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

(2) For a partnership or sole proprietorship: by a general partner or the proprietor, respectively; or

(3) For a municipality, State, Federal, or other public agency: by either a principal executive officer or ranking elected official.

b. All reports required by the general permit and other information requested by the Director shall be signed by a person described above or by a duly authorized representative of that person. A person is a duly authorized representative only if:

(1) The authorization is made in writing by a person described above;

(2) The authorization specified either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or well field, superintendent, a position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.); and

(3) The written authorization is submitted to the Director.

c. Any person signing a document under paragraphs a. or b. of this section shall make the following certification:

> "I certify, under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations."

11. General Permit Modification, Revocation and Reissuance, or Termination

The issuance of this general permit does not prohibit the Director from reopening and modifying the general permit, revoking and reissuing the general permit, or terminating the general permit as allowed by the laws, rules, and regulations contained in Title 40, Code of Federal Regulations, Parts 122 and 123; Title 15A of the North Carolina Administrative Code, Subchapter 2H .0100; and North Carolina General Statute 143-215.1 et. seq.

SECTION C: OPERATION AND MAINTENANCE OF POLLUTION CONTROLS

1. Proper Operation and Maintenance

The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this general permit.

2. Need to Halt or Reduce not a Defense

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the condition of this general permit.

3. Bypassing of Stormwater Control Facilities

a. Definitions

(1) "Bypass" means the intentional diversion of stormwater from any portion of a stormwater control facility including the collection system, which is not a designed or established or operating mode for the facility.

(2) "Severe property damage" means substantial physical damage to property, damage to the control facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

b. Bypass Not Exceeding Limitations.

The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of Paragraphs c. and d. of this section.

c. Notice

(1) Anticipated bypass. If the permittee knows in advance of the need for a bypass, it shall submit prior notice, if possible at least ten days before the date of the bypass; including an evaluation of the anticipated quality and effect of the bypass.

(2) Unanticipated bypass. The permittee shall submit notice within 24 hours of an unanticipated bypass as required in Part II, E. 3.(b)(1) of this general permit. (24-hour notice).

d. Prohibition of Bypass

Bypass is prohibited and the Director may take enforcement action against a permittee for bypass, unless:

(1) Bypass was unavoidable to prevent loss of life, personal injury or severe property damage;

(2) There were no feasible alternatives to the bypass, such as the use of auxiliary control facilities, retention of stormwater or maintenance during normal periods of equipment downtime or dry weather. This condition is not satisfied if adequate backup controls should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and

(3) The permittee submitted notices as required under Paragraph c. of this section.

The Director may approve an anticipated bypass, after considering its adverse effects, if the Director determines that it will meet the three conditions listed above in Paragraph d. of this section.

4. Upsets

a. Definition

"Upset " means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment or control facilities, inadequate treatment or control facilities, lack of preventive maintenance, or careless or improper operation.

b. Effect of an Upset.

An upset constitutes an affirmative defense to an action brought for noncompliance with technology based permit effluent limitations if the requirements of paragraph c. of this condition are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.

c. Conditions Necessary for a Demonstration of Upset

A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:

(1) An upset occurred and that the permittee can identify the cause(s) of the upset;

2) The permitted facility was at the time being properly operated; and

(3) The permittee submitted notice of the upset as required in Part II, E. 3. (b) (2) of this general permit.

(4) The permittee complied with any remedial measures required under Part II, A. 2. of this general permit.

d. Burden of Proof

In any enforcement proceeding the permittee seeking to establish the occurrence of an upset has the burden of proof.

SECTION D: MONITORING AND RECORDS

1. Representative Sampling

Samples collected and measurements taken, as required herein, shall be characteristic of the volume and nature of the permitted discharge. Samples shall be taken on a day and time that is characteristic of the discharge. All samples shall be taken before the discharge joins or is diluted by any other waste stream, body of water, or substance. .

2. Penalties for Tampering

The Clean Water Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate, any monitoring device or method required to be maintained under this general permit shall, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than two years per violation, or by both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment is a fine of not more that $20,000 per day of violation, or by imprisonment of not more than 4 years, or both.

3. Records Retention

The permittee shall retain records of all monitoring information and copies of all reports required by this general permit, for a period of at least 5 years from the date of the sample, measurement, report or application. This period may be extended by request of the Director at any time.

4. Recording Results

For each measurement, sample, inspection or maintenance activity performed or taken pursuant to the requirements of this general permit, the permittee shall record the following information:

a. The date, exact place, and time of sampling, measurements, inspection or maintenance activity;

b. The individual(s) who performed the sampling, measurements, inspection or maintenance activity;

c. The date(s) analyses were performed;

d. The individual(s) who performed the analyses;

e. The analytical techniques or methods used; and

f. The results of such analyses.

5. Inspection and Entry

The permittee shall allow the Director, or an authorized representative (including an authorized contractor acting as a representative of the Director), or in the case of a facility which discharges through a municipal separate storm sewer system, an authorized representative of a municipal operator or the separate storm sewer system receiving the discharge, upon the presentation of credentials and other documents as may be required by law, to;

a. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this general permit;

b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this general permit;

c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this general permit; and

d. Sample or monitor at reasonable times, for the purposes of assuring general permit compliance or as otherwise authorized by the Clean Water Act, any substances or parameters at any location.

SECTION E: REPORTING REQUIREMENTS

1. Planned Changes

The permittee shall give notice to the Director as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required only when:

a. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in 40 CFR Part 122.29 (b); or

b. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in the general permit, nor to notification requirements under 40 CFR Part 122.42 (a) (1).

2. Anticipated Noncompliance

The permittee shall give advance notice to the Director of any planned changes in the permitted facility or activity which may result in noncompliance with the general permit requirements.

3. Twenty-four Hour Reporting

a. The permittee shall report to the central office or the appropriate regional office any noncompliance which may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the permittee became aware of the circumstances. A written submission shall also be provided within 5 days of the time the permittee becomes aware of the circumstances.

The written submission shall contain a description of the noncompliance, and its causes; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

b. The following shall be included as information which must be reported within 24 hours under this paragraph:

(1) Any unanticipated bypass which exceeds any effluent limitation in the general permit.

(2) Any upset which exceeds any effluent limitation in the general permit.

(3) Violation of a maximum daily discharge limitation for any of the pollutants listed by the Director in the general permit to be reported within 24 hours.

c. The Director may waive the written report on a case-by-case basis for reports under paragraph b. above of this condition if the oral report has been received within 24 hours.

4. Other Information

Where the permittee becomes aware that it failed to submit any relevant facts in any report to the Director, it shall promptly submit such facts or information.

5. Availability of Reports

Except for data determined to be confidential under NCGS 143-215.3(a)(2) or Section 308 of the Federal Act, 33 USC 1318, all reports prepared in accordance with the terms shall be available for public inspection at the offices of the Division of Water Quality. As required by the Act, discharge data shall not be considered confidential. Knowingly making any false statement on any such report may result in the imposition of criminal penalties as provided for in NCGS 143-215.6B or in Section 309 of the Federal Act.

6. Penalties for Falsification of Reports

The Clean Water Act provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this general permit, including monitoring reports or reports of compliance or noncompliance shall, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than two years per violation, or by both.

SECTION F: LIMITATIONS REOPENER

This general permit shall be modified or alternatively, revoked and reissued, to comply with any applicable effluent guideline or water quality standard issued or approved under Sections 302(b) (2) (c), and (d), 304(b) (2) and 307(a) of the Clean Water Act, if the effluent guideline or water quality standard so issued or approved:

a. contains different conditions or is otherwise more stringent than any effluent limitation in the general permit; or

b. controls any pollutant not limited in the general permit.

The general permit as modified or reissued under this paragraph shall also contain any other requirements in the Act then applicable.

ATTACHMENT 2

Section B – Operation and Waste Acceptance Plan
(Pages 3 through 12)

- Asphalt in accordance with G.S. 130A-294(m);

- Construction and demolition debris defined as solid waste resulting solely from construction, remodeling, repair or demolition operations on pavement, buildings, or other structures;

- Solid waste that is generated by mobile or modular home manufacturers and asphalt shingle manufacturers in Edgecombe County: the waste must be source separated at the manufacturing site and must exclude municipal solid waste, hazardous wastes, and other wastes prohibited from disposal in a C&DLF. It must be transported to the Edgecombe County C&DLF in a shipment or container that consists solely of the separated waste to be disposed. Edgecombe County C&DLF will not accept this waste if it has not been separated and transported as specified; and

- Asbestos waste as described in Section 2.1.2 below.

Other wastes may be approved by the Division upon receipt of a written request with the specific waste type, how its generated, how much is generated; along with any additional information the Division may request to render a final decision on the disposal options for the waste.

Yard trash, as defined in G.S. 130A-290, shall not be disposed in the landfill area. However, yard trash, along with land-clearing debris, may be accepted for processing in the Yard Waste Processing Area. Any manufactured home arriving at the landfill will be handled in accordance with the Manufactured Home Deconstruction Plan presented in **Appendix IV**.

The landfill operator shall notify the Division within 24 hours of any attempt to dispose of any waste products not approved by the Division for disposal at the facility.

2.1.2 Asbestos Waste

Regulated asbestos waste received at the landfill shall be managed in accordance with 40 CFR 61. Edgecombe County requires a 24 hour notice prior to receiving any shipment of asbestos. Each shipment will include the current North Carolina Asbestos Waste Shipment Record from North Carolina Department of Health and Human Services, Division of Public Health, Health Hazards Control Unit. The regulated asbestos waste will be disposed of at the bottom of the working face and covered immediately with soil in a manner that will not cause airborne conditions. Non-regulated asbestos waste may be comingled with other waste and disposed of in the landfill. If non-friable asbestos is identified by the County's waste screening and acceptance program and is separated from other wastes, it will be disposed of at the bottom of the working face and covered immediately with soil in a manner that will not cause airborne conditions.

2.2 Wastewater Treatment Sludge

The landfill shall not accept wastewater treatment sludge as waste for disposal in the landfill. However, the landfill may accept wastewater treatment sludge, with prior approval of the Division, for utilization as a soil conditioner and incorporated into or applied onto the vegetative growth layer. The wastewater treatment sludge shall neither be applied at greater than agronomic rates nor to a depth greater than six inches.

2.3 Waste Exclusions

The following waste shall not be accepted by the facility for disposal:

- Containers such as tubes, drums, barrels, tanks, cans, and bottles unless they are empty and perforated to ensure that no liquid, hazardous or municipal solid waste is contained therein;
- Garbage as defined in G.S. 130A-290(a)(7);
- Hazardous waste as defined in G.S. 130A-290(a)(8), to also include hazardous waste from conditionally exempt small quantity generators;
- Industrial solid waste unless a demonstration has been made and approved by the Division that the landfill meets the requirements of Rule .0503(2)(d)(ii)(A);
- Liquid wastes;
- Medical waste as defined in G.S. 130A-290(a)(18);
- Municipal solid waste as defined in G.S. 130A-290(a)(18a);
- Polychlorinated biphenyls (PCB) wastes as defined in 40 CFR 761;
- Radioactive waste as defined in G.S. 104E-5(14);
- Septage as defined in G.S. 130A-290(a)(32);
- Sludge as defined in G.S. 130A-290(a)(34);
- Special wastes as defined in G.S. 130A-290(a)(40);
- White goods as defined in G.S. 130A-290(a)(44); and
- Yard trash as defined in G.S. 130A-290(a)(45).

The following wastes shall not be accepted if separate from C&D landfill waste:

- Lamps or bulbs including but not limited to halogen, incandescent, neon or fluorescent; lighting ballast or fixtures;
- Thermostats and light switches;
- Batteries including but not limited to those from exit and emergency lights and smoke detectors;
- Lead pipes;
- Lead roof flashing;
- Transformers;
- Capacitors; and
- Copper chrome arsenate (CCA) and creosote treated woods.

Waste accepted for disposal in a landfill unit shall be readily identifiable as C&D waste. C&D waste that has been shredded, pulverized, or otherwise processed shall not be accepted for disposal from a facility unless that facility has received a permit from an authorized regulatory authority which specifies such activities are inspected by the authority, and whose primary purpose is recycling and reuse of the C&D material. A waste screening and acceptance program is provided below.

Edgecombe County shall not knowingly dispose any type or form of C&D waste that is generated within the boundaries of a unit of local government that by ordinance prohibits generators or collectors of C&D waste from disposing that type or form of C&D waste or requires generators or collectors of C&D waste to recycle that type or form of C&D waste.

2.4 Waste Screening and Acceptance Program

The County conducts a waste screening and acceptance program at the facility for detecting and preventing disposal of hazardous waste, liquid waste, MSW, industrial waste or waste not characterized as land clearing and inert debris (LCID) or C&D. The program consists of random inspections of incoming loads. One inspection is performed on a minimum weekly basis for commercial and industrial waste. The selection of the vehicle that will have its load inspected is the responsibility of the Operations Manager or a person he designates. The selection is made at the scales. The hauler is required to sign the Pre-Acceptance Agreement as shown in the **Appendix I**. The Scale Technician notifies the landfill facility's Screening Inspector (chosen by Operations Manager and adequately trained) to meet the designated hauler at an area specifically set aside for conducting screening inspections away from the working face and any on-going landfill operations. The hauler dumps the load of waste, and then the Screening Inspector sorts through the waste using a loader or other similar equipment for handling bulky materials and by hand with a rake or shovel. Once the waste is spread thin enough to observe the

entire load, the inspector records the information required on the Detailed Screening Report form and Waste Screening Check List as shown in **Appendix I**. If hazardous waste, liquid waste, MSW, industrial waste or waste not characterized as LCID or C&D are not found in the inspected load, then the waste is disposed of on the working face in the cell immediately after completion of the inspection.

If hazardous waste, liquid waste, MSW, industrial waste or waste not characterized as LCID or C&D are identified in the load, the Screening Inspector shall immediately notify the Operations Manager. If hazardous waste is identified, the Edgecombe County Emergency Services shall also be notified. If liquid waste is discovered, it shall be contained temporarily until an absorbent can be placed or until proper containers are available for pumping. The saturated absorbent or containers will then be disposed of at an appropriate facility. The hazardous waste shall be contained in the same manner as the liquid waste and will be disposed of at a suitable facility for hazardous waste as determined by the Edgecombe County Emergency Services or a qualified environmental/hazardous waste consultant. If MSW, industrial waste or waste not characterized as LCID or C&D are identified in the load, the material will be removed by the responsible party for disposal at an appropriate facility. The landfill staff will record the identity of the hauler and generator of the unauthorized waste.

In addition, the scale personnel and operators shall be educated to recognize probable violations to the acceptable waste guidelines. Personnel will attempt to halt the disposal of unauthorized waste and have the material removed by the responsible party if non-hazardous. If the waste is thought to be hazardous, the procedures described above will be implemented. If the presence of excluded waste is discovered only after spreading and compaction has commenced, the operator will contact the scale house to establish the hauler and generator responsible for the load so that they can be made aware of their mistake and their future loads inspected more carefully.

Records of the inspections shall be maintained in the Operating Record for the facility. Sample forms for the screening inspections are provided in **Appendix I**. Facility personnel involved with the screening inspections shall be trained for identification of hazardous and liquid wastes through programs offered by the State or by SWANA. Records of the training shall be maintained in the Operating Record for the facility and include the following:

1. Date of training.
2. A statement asserting that the training included:
   A. Recognition of regulated hazardous waste, liquid waste, PCBs and banned items.
   B. Hazardous waste safety precautions.
3. Written acknowledgement of training by facility personnel.

The landfill operator shall notify the Division within 24 hours of any attempt to dispose of any waste products not approved by the Division for disposal at the facility.

2.5 Phasing

In accordance with the Corrective Active Plan (CAP) the slopes in the western half of the landfill will be increased by filling with C&D waste. The County will place a 10-foot to 15-foot thick lift of C&D waste starting at the western edge of the existing C&D waste area and then work to the west and then north to the proposed limits of C&D waste (see **Drawing 5**). Once this lift is complete, the County will then return to the eastern edge of the C&D waste and begin filling up to the proposed final grades (see **Drawings 3, 4, 5** and **6**). The gross remaining airspace (including cap) is approximately 1,094,500 cubic yard (cy), and an estimated remaining life of approximately 38.5 years as of October 26, 2008 (see **Section 3** of the Facility Plan). A summary of the gross airspace of the 5-year filling sequences are as follows:

Table 1: 5-Year Filling Sequences Gross Airspace

Phase	Filled to Date	Year End	Gross Airspace Not Yet Filled
1	605,500 cy	Current	-
2		5-Year	111,500 cy
3		10-Year	112,000 cy
4		15-Year	115,000 cy
5		20-Year	167,500 cy
6		25-Year	174,800 cy
7		30-Year	156,400 cy
8		35-Year	178,600 cy
9		38.5-Year	78,700 cy
TOTAL			**1,700,000 cy**

Gross airspace as of October 26, 2008.

3. COVER MATERIAL

3.1 General Requirements

The solid waste disposed of in the landfill shall be covered with six inches of earthen material, or approved alternate cover material and thickness, when the waste disposal area exceeds one-half acre and at least once weekly. Cover shall be placed at more frequent intervals if necessary to control disease vectors, fires, odors, blowing litter, and scavenging. A notation of the date and time of the cover placement shall be recorded in the Operating Record. Any asbestos waste received at the landfill shall be covered immediately with cover material in a manner that will not cause airborne conditions.

3.2 Inactive Areas

Areas which will not have additional wastes placed on them for three months or more, but where final termination of disposal operations has not occurred, shall be covered and stabilized with vegetative ground cover or other stabilizing material.

3.3 Alternate Cover Material and Thickness

Currently, Edgecombe County does not utilize alternate cover materials or thicknesses. However, the landfill may utilize alternative materials or an alternative thickness of cover for the landfill units following approval by the Division. A demonstration shall be performed to show that the alternative material or thickness controls disease vectors, fires, odors, blowing litter, and scavenging without presenting a threat to human health and the environment. Once approval by the Division is given, this approval will extend to all units at the facility.

4. WASTE SPREADING AND COMPACTING

Edgecombe County shall restrict solid waste placement to the smallest area feasible for operations. The solid waste shall be compacted as densely as practical using landfill compactors and dozers. Fencing and/or diking shall be provided within the landfill area to confine solid waste which is subject to be blown by the wind. At the conclusion of each operating day, windblown material resulting from the operation shall be collected and disposed.

5. DISEASE VECTOR CONTROL

Control of vectors, such as rodents, flies, mosquitoes, or other animals or insects, capable of transmitting disease to humans, is an important environmental control. Control is accomplished by denying them a source of food and water through the use of cover, proper grading, and only accepting waste the facility is permitted to receive.

6. AIR CRITERIA AND FIRE CONTROL

6.1 Compliance

The following State Implementation Plan (SIP) applies to Edgecombe County:

> Edgecombe County Redesignation Demonstration and Maintenance Plan for the Rocky Mount, North Carolina 8-hour Ozone Nonattainment Area

The SIP includes federal and state control measures. The measures which directly affect the Landfill include the on-board diagnostic vehicle inspection and maintenance program and an open burning ban during ozone action days. Currently, the Landfill is in general compliance with this SIP.

6.2 Open Burning

Open burning of solid waste, except for the approved burning of land clearing debris generated on-site or debris from emergency clean-up operations, shall be prohibited at the landfill. Prior to any burning which meets the above criteria, a request shall be sent to the Division for review and approval. A notation of the date of approval and the name of the Division personnel who approved the burning shall be included in the Operating Record.

6.3 Equipment

Equipment and stockpiled soil is available to control accidental fires. Edgecombe County has made arrangements with the Edgecombe County Fire Marshall to immediately provide fire-fighting services as needed. A copy of the memo is attached as **Appendix V**. All facility equipment is equipped with fire extinguishers.

6.4 Notification

Any fires or explosions that occur at the facility shall be verbally reported to the Division within 24 hours and written notification provided within 15 days. Written notification shall include the suspected cause of fire or explosion, the response taken to manage the incident, and the action(s) to be taken to prevent the future occurrence of fire or explosion.

7. ACCESS AND SAFETY

7.1 Site Access

Edgecombe County's Solid Waste operations are located on both the east and west side of Colonial Road. Access to the entrances to the site is controlled by means of gates. During operation, vehicles entering the site are directed to the east side of the facility (east of Colonial Road) to pass through the security check station and weigh scales. After loads have been weighed and approved for disposal by the scale personal, vehicles disposing of C&D Waste are directed to the landfill located on the west side of Colonial Road. The eastern boundary of the landfill, along Colonial Road, and the southeast boundary of the landfill are fenced. Access to the unfenced portions of the southern and western landfill boundary is prevented by dense woods and a deep perimeter ditch. Access to the unfenced northern landfill boundary is prevented by dense woods and Jerry's Creek.

7.2 Personnel

An individual trained in landfill operations shall be on duty at the site while the facility is open for public use and at all times during active waste management operations to ensure compliance with operational requirements.

7.3 Access Roads

Access roads to the site are of all weather construction and shall be maintained in good condition.

7.4 Dust Control

Dust generated due to landfill activities will be controlled through the application of water by truck or other approved dust control procedures, if necessary. Removal of mud and dirt from the roads will also be a part of the dust control measures and be accomplished with a motor grader. Additionally, cover will be stabilized, as required, which will minimize the blowing of dust on-site.

7.5 Facility Signs

Signs providing information on disposal procedures, the hours that the site is open for public use, the permit number, and other pertinent information, such as scale location, are posted at the site entrance. A sign is posted at the landfill entrance which states that liquid, hazardous, and municipal solid wastes are excluded from the C&D Landfill.

7.6 Traffic Signs

Traffic signs and markers are provided as necessary to promote an orderly traffic pattern to and from the disposal area and maintain efficient operating conditions

7.7 Waste Removal

The removal of solid waste from the C&D landfill is prohibited. The general public is prohibited from removal activities on the working face.

8. EROSION AND SEDIMENTATION CONTROL

8.1 Control Measures

Erosion/sedimentation control structures, which include sediment basins, check dams, and diversion ditches, are used to prevent excessive on-site erosion and prevent sediment from leaving the site. Vegetative cover is also used to reduce erosion and prevent off-site transportation of sediment. Installation and maintenance of the control structures will be in accordance with the approved Erosion and Sedimentation Control Plan for the site.

Sedimentation basins shall be checked after periods of significant run-off. Sediment shall be removed from the basin to its original dimensions when sediment accumulates to one half of the design depth. The sedimentation basins, embankments, spillways and outlets shall also be inspected for erosion damage. Necessary repairs shall be made immediately. Any trash or debris within the sedimentation basin riser pipe shall be removed.

Existing check dams and diversion ditches shall be inspected for damage after each significant rainfall event. Any sediment accumulated behind check dams shall be removed. Check dams, riprap-lined channels and outlet protection used to prevent damage to channel vegetation shall be inspected for wash-outs. Riprap shall be added to these areas as needed to maintain integrity of the structure. Siltation that has accumulated in diversion ditches shall be removed periodically to maintain adequate flow capacity.

Borrow areas shall be graded to promote positive drainage of surface water out of the area.

8.2 Vegetative Cover

Embankment slopes shall be periodically monitored for erosion and shall be mowed at least once a year. The embankment slopes shall be refertilized in the second year unless vegetation growth is fully adequate. Any damaged areas shall be reseeded, fertilized, and

mulched immediately. Seeding, fertilizing and mulching shall be in accordance with the North Carolina Erosion and Sedimentation Control Guidelines.

9. DRAINAGE CONTROL AND WATER PROTECTION

9.1 Surface Water Diversion

Surface water will be diverted from the operational area. A drainage feature at the center of the active area collects the surface water run-off and directs the flow toward Jerry's Creek.

Other surface drainage features collect surface water run-off from an area of the eastern side of the landfill. Surface water from this portion of the site flows around the eastern end of the landfill through drainage ditches that flow into Jerry's Creek and eventually to the Tar River.

9.2 Surface Water Impoundment

Surface water shall not be impounded over or in the waste. The waste surface shall be graded and soil berms used as necessary to divert surface water away from the operational area and away from the waste.

9.3 Waste Disposal

Waste shall not be disposed of in water. The waste surface shall be graded and soil berms used as necessary to divert surface water away from the operational area and away from the waste.

9.4 Leachate Handling

Leachate at the facility is currently contained on-site. If it becomes necessary to collect leachate, methods for leachate handling will be evaluated at that time. Leachate handling methods will be submitted to NCDENR and other relevant and appropriate agencies for review and approval at that time.

9.5 Pollution Discharge

Edgecombe County shall operate the landfill in ways to prevent the discharge of pollutants into waters of the United States, including wetlands, that violates any requirements of the Clean Water Act, including the National Pollutant Discharge Elimination System (NPDES) requirements, pursuant to Section 402.

Edgecombe County shall also operate the landfill in ways to prevent the discharge of a nonpoint source of pollution to waters of the United States, including wetlands, that violates any requirement of an area-wide or State-wide water quality management plan that has been approved under Section 208 or 319 of the Clean Water Act, as amended.

10. SURVEY FOR COMPLIANCE

In accordance with Solid Waste Management Rules, Section .0542(m), within 60 days of Edgecombe County's receipt of the Division's written request, Edgecombe County shall

conduct a survey of active or closed portions of unit or units at the facility in order to determine whether operations are being conducted in accordance with the approved design and operational plans. The survey shall be performed by a registered land surveyor (RLS) duly authorized under North Carolina law to conduct such activities. Edgecombe County shall then report the results of such survey, including a map produced by the survey, to the Division within 90 days of receipt of the Division's request.

Operations personnel will periodically monitor landfill top and side slope elevations with a level or through construction staking by a land surveyor. When top and side slope elevations approach design grades, the final waste grades will be staked to provide filling operations consistent with the approved Drawings.

11. OPERATING RECORD AND RECORDKEEPING

11.1 Recorded Information

Edgecombe County shall maintain on-site the following information:

- Records of random waste inspections, monitoring results, certifications of training, and training procedures required by the Solid Waste Management Rules, Section .0544;
- Amounts by weight of solid waste received at the facility to include, consistent with G.S. 130A-309.09D, county of generation;
- Any demonstration, certification, finding, monitoring, testing, or analytical data required by the Solid Waste Management Rules, Sections .0544 through .0545;
- Any closure or post-closure monitoring, testing, or analytical data as required by the Solid Waste Management Rules, Section .0543;
- Any cost estimates and financial assurance documentation required by the Solid Waste Management Rules, Section .0546;
- Notation of date and time of placement of cover material; and
- All audit records, compliance records and inspection reports.

11.2 Information Availability

Information contained in the Operating Record shall be furnished to the Division according to the permit or upon request, or be made available for inspection by the Division.

11.3 Additional Items Included in Operating Record

The Operating Record shall also include:

- A copy of the approved operation plan;
- A copy of the current Permit to Construct and Permit to Operate; and
- The Monitoring Plan included as appendices to the Operation Plan.

ATTACHMENT 3

Section B – Operation and Waste Acceptance Plan Appendix IV
(Revised Manufactured Home Disposal Plan)

MANUFACTURED HOME DISPOSAL PLAN

Acceptance

Any manufactured home arriving at the landfill will be charged at the same tipping fee as for construction and demolition (C&D) debris. For manufactured homes that will not fit across landfill scales, the County has established a single item flat fee based on size. The manufactured home will be staged in an area adjacent to the working face of the C&D landfill, and the acceptance date to the landfill shall be painted on the side, end, or frame of the mobile home for identification. No more than four (4) manufactured homes will be staged in the area adjacent to the working face at any time. A manufactured home that is not immediately placed into the C&D landfill will be staged a maximum duration of not more than forty-five (45) days from acceptance into the landfill.

Disposal Preparation

Once the manufactured home is in the staging area, properly trained personnel will remove the following item items for recycling or proper disposal without disturbing asbestos containing materials:

1. Mercury-containing thermostats, fluorescent light bulbs, and, light ballasts, that are intact and do not have signs of leaks, if possible;
2. Freon-containing refrigerators and AC units;
3. White goods; and
4. Recyclable items readily accessible.

Manufactured home disposal preparation activities will only take place in the disposal preparation area adjacent to the C&D landfill working face. No open flames or cutting torches are permitted within 100 feet of the C&D landfill or during deconstruction activities.

At the end of each working day, items removed from the manufactured home shall be removed from the staging/disposal preparation area near the C&D working face to their designated staging areas or disposal locations. Mercury-containing thermostats, light ballasts, and CFL bulbs shall be placed in plastic bags and temporarily stored in a designated container at the Convenience Center until they are taken for proper disposal. White goods shall be taken to the white goods staging area for temporary storage until they are taken to be recycled. Items containing Freon shall be taken to the white goods staging area to have the Freon properly removed by properly trained personnel prior to recycling. Other recyclable items shall be taken to the convenience center and placed in the proper container located there.

Disposal

A backhoe or trash compactor, which is normally located at the C&D landfill, shall be used to pull the manufactured home to the edge of the landfill's working face. The manufactured home will then be flipped on its side. Once the axle and frame are separated from the body of the manufactured home, the operator shall use the trash compactor to dispose of the manufactured home as close to the bottom of the working face as practically feasible. Once the unit is completely demolished, it will be covered immediately with soil in a manner that will not cause airborne conditions as described by the Operation and Waste Acceptance Plan.

The axle(s) and frame shall be taken to the white goods staging area for temporary storage until they are taken to be recycled. Any tires on the axle(s) shall then be removed and taken to the tire storage area for temporary storage until they are taken to be recycled.

ATTACHMENT 4

Section D – Closure and Post-Closure Plan
(Pages 4 and 5)

compliance with applicable air regulations. The gas collection lateral and header piping will be installed on-grade. It is assumed for closure that the active LFG collection system has already been installed.

Prior to placing the soil layers of the cap system, the gas collection piping shall be temporarily disconnected and moved out of the way for construction. The gas wells will be extended, as necessary, so that there is a minimum 3 feet of stick-up above the cap system vegetation/erosion layer. New gas wells installed shall consist of perforated 6-inch diameter HDPE pipe or Schedule 80 PVC pipe surrounded by gravel. The perforations in the HDPE or PVC pipe shall end 15 feet below the final elevation of the cap system and the remainder of the pipe shall be solid. A bentonite plug shall be installed along the solid section of the pipe. The detail drawing for the gas well is provided on **Drawing 5**. The gas collection piping shall be reconnected following completion of the cap system. **The passive landfill gas venting system and the proposed active landfill gas collection system are further described in Sections 4.4 and 4.5 of the Facility Plan.**

2.2 Storm Water Management Systems

The proposed landfill is designed with a network of various storm water controls and conveyances to manage storm water during active operations, over interim cover soils, and upon final closure. Storm water will be conveyed to sediment basins and sediment traps located around the landfill perimeter. During active operations, storm water will be managed by interim cover soils, temporary drainage swales, down-drain pipes, and perimeter drainage channels. Upon landfill closure, storm water will be collected and conveyed through a network of drainage benches and down-drain pipes to the perimeter surface water management system. Plans and details illustrating the storm water management system are provided in the Drawings section. Engineering analyses supporting the storm water management system design are provided in **Appendix II**.

2.3 Largest Area Requiring Capping

The maximum area of the landfill that would require closure is approximately 21.7 acres. This area includes the eastern portion of the landfill where C&D waste has already been placed and extends west to the year 5 filling area shown on **Drawing 3**.

2.4 Estimated Maximum Inventory of Wastes

The maximum amount of C&D waste at the facility will be approximately 835,414 tons. The amount of MSW in the landfill beneath the C&D landfill is approximately 1,218,816 tons. The waste volume calculation is provided in **Appendix IX**.

2.5 Closure Schedule

Prior to closure of any area, the County shall notify NCDENR, Division of Waste Management that a notice of intent to close the area has been placed in the Operating Record.

The County shall begin closure activities of each area no later than 30 days after the final known date on which the area receives wastes. If the area has remaining capacity and

there is a reasonable likelihood that the area will receive additional wastes, the area will be closed no later than one year after the most recent receipt of wastes. If an extension beyond the one-year deadline for beginning closure is required, the County will demonstrate to NCDENR that the area has the capacity to receive additional wastes and the County has taken and will continue to take all steps necessary to prevent threats to human health and the environment from the unclosed area.

The County shall complete closure activities of each area in accordance with the closure plan within 180 days following the beginning of closure. If an extension of the closure period is required, the County will demonstrate to NCDENR that closure will, of necessity, take longer than 180 days and County has taken and will continue to take all steps to prevent threats to human health and the environment from the unclosed area.

Following closure of each area, the County shall submit a certification report documenting construction activities associated with the closure of the area to the Division for their review and approval.

Following closure of all units, the County shall record a notation on the deed to the landfill facility property, or some other instrument that is normally examined during title search, and notify the Division that the notation has been recorded and a copy has been placed in the operating record. The notation on the deed shall in perpetuity notify any potential purchaser of the property that:

- The land has been used as a landfill facility; and
- Its use is restricted under the closure plan approved by the Division.

The County may request permission from the Division to remove the notation from the deed if all wastes are removed from the facility.

2.6 Financial Assurance

The County has prepared a detailed written estimate, in current dollars, of the cost of hiring a third party to close the largest area of the C&D landfill at any time during the active life of the facility. A copy of the detailed closure cost estimate is included as **Appendix III** and shall be placed in the facility Operating Record.

The largest area to be closed is 21.7 acres. The cost estimate includes the following items:

- Final cap system (including soil, aggregate, testing, and documentation);
- Sedimentation and erosion control devices;
- Gas controls;
- Final landscaping (including seeding, fertilizing, and mulching);
- Mobilization/demobilization;
- Engineering construction management and construction quality assurance (CQA);
- Administration (including announcements, deeds, and fees); and
- Labor.

ATTACHMENT 5

Section D – Appendix VII Technical Specifications
(Section 02500 High Density Polyethylene (HDPE) Piping and Miscellaneous Items)

SECTION 02500
HIGH DENSITY POLYETHYLENE (HDPE) PIPING AND MISCELLANEOUS ITEMS

PART 1 GENERAL

The Contractor shall furnish all labor, material, and equipment to complete installation of HDPE Pipe in accordance with the Contract Drawings and these Specifications. The Contractor shall also clean and test pipelines where required.

1.1 SUMMARY

A. Section Includes:
1. **Materials, placement and installation of perforated and solid HDPE pipe for passive landfill gas venting, active landfill gas venting, and active landfill gas collection system.**
2. **Flushing/cleaning and hydrostatic pressure testing on the installed fluid conveyance system (including piping, fittings, valves, etc).**

B. Related Sections:
1. **Section 02611** – Landfill Gas Wells.

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1.2 UNIT PRICE - MEASUREMENT AND PAYMENT

A. Pipe and Fittings
1. Basis of Payment: Basis of Payment: Not applicable. HDPE pipe payment included in other sections.

1.3 REFERENCES

A. American Society for Testing and Materials:
1. ASTM D638 – Standard Test Method for Tensile Properties of Plastics.
2. ASTM D695 – Standard Test Method for Compressive Properties of Rigid Plastics.
3. ASTM D696 – Standard Test Method for Coefficient of Linear Thermal Expansion of Plastics Between -30°C and 30°C With a Vitreous Silica Dilatometer.
4. ASTM D746 – Standard Test Method for Brittleness Temperature of Plastics and Elastomers by Impact.
5. ASTM D790 – Standard Test Method for Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials.
6. ASTM D1238 – Standard Test Method for Flow Rates of Thermoplastics by Extrusion Plastometer.
7. ASTM D1248 – Standard Specification for Polyethylene Plastics Extrusion Materials for Wire and Cable.
8. ASTM D1505 – Standard Test Method for Density of Plastics by the Density Gradient Technique.
9. ASTM D1603 – Standard Test Method for Carbon Black in Olefin Plastics.
10. ASTM D1693 – Standard Test Method for Environmental Stress Cracking of Ethylene Plastics.
11. ASTM D2240 – Standard Test Method for Rubber Property - Durometer Hardness.
12. ASTM D2513 – Standard Specification for Thermoplastic Gas Pressure Pipe, Tubing, and Fittings.
13. ASTM D2657 – Standard Practice for Heat Fusion Joining of Polyolefin Pipe and Fittings.
14. ASTM D 2837 – Standard Test Method for Obtaining Hydrostatic Design Basis for Thermoplastic Pipe materials.

15. ASTM D3261 – Standard Specification for Butt Fusion Polyethylene (PE) Plastic Fittings for Polyethylene (PE) Plastic Pipe and Tubing.
16. ASTM D3350 – Standard Specification for Polyethylene Plastics Pipe and Fittings Materials.
17. ASTM F405 – Standard Specification for Corrugated Polyethylene (PE) Pipe and Fittings.
18. ASTM F667 – Standard Specification for Large Diameter Corrugated Polyethylene Pipe and Fittings.
19. ASTM F714 – Standard Specification for Polyethylene (PE) Plastic Pipe (SDR-PR) Based on Outside Diameter.
20. ASTM F1473 – Standard Test Method for Notch Tensile Test to Measure the Resistance to Slow Crack Growth of Polyethylene Pipes and Resins.

B. Plastics Pipe Institute (PPI):
1. PPI TR4 – Recommended Hydrostatic Strengths and Design Stresses for Thermoplastic Pipe and Fittings Compound.

1.4 QUALITY CONTROL

The Contractor shall perform pressure testing of HDPE Pipe as described in this section.

1.5 QUALITY ASSURANCE

Quality Assurance during placement of HDPE Pipe will be provided by theOwner as by this Specification.

1.6 SUBMITTALS

A. **Section 01300** – Administrative Requirements: Submittal procedures.

B. HDPE Pipe
1. Shop Drawings: Submit shop drawings for HDPE Pipe. Indicate piece numbers and locations.
2. Product Data: The Contractor or Supplier shall submit a complete description of and data indicating pipe material used, and pipe accessories and fittings proposed for use to the CQA Consultant for approval at least two weeks prior to installation. Pipe data shall conform to the standards set in Table 02500-A found in **Part 2.1** of this Section.
3. Shop drawings for fabricated fittings shall be submitted to the Engineer at least two weeks prior to fabrication for approval.
4. Manufacturer's Certificates:
   a. Certification of the analysis for the HDPE resin.
   b. Certify products meet or exceed specified requirements specified in Table 02500-A found in **Part 2.1** of this Section.
   c. Certifications must be submitted to CQA Consultant for approval at least two weeks prior to installation.

C. Manufacturer's Installation Instructions: Indicate special procedures required to install products specified.

1.7 CLOSEOUT SUBMITTALS

A. **Section 01700** – Execution Requirements: Closeout Procedures.

B. Project Record Documents: Record location and elevations of active landfill gas collection system.

C. Identify and describe unexpected variations to subsoil conditions or discovery of uncharted utilities.

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1.8 QUALITY ASSURANCE

A. The pipe, outlet structure, and/or fitting manufacturer's production facilities shall be open for observation by the owner or his designated agents with a reasonable advanced notice.

B. During observation, the manufacturer shall demonstrate that it has facilities capable of manufacturing and testing the pipe, manholes, sumps, and/or fittings to standards required by this Specification.

C. Pipe which has been tested by the manufacturer and falls outside of the appropriate limits set forth in Table 02500-A found in **Part 2.1** of this Section will be cause for rejection.

D. The Owner or the CQA Consultant may request certified lab data to verify the physical properties of materials not meeting the requirements of this specification.

1.9 PRE-INSTALLATION MEETINGS

A. Convene meeting a minimum of one week prior to commencing work pertaining to this Section.

1.10 FIELD MEASUREMENTS

A. Verify field measurements and elevations are as indicated on the Drawings.

1.11 DELIVERY, STORAGE, AND HANDLING

A. **Section 01600** – Product Requirements: Product Delivery Requirements; Product Storage and Handling Requirements.

B. Packaging, handling, and shipment shall be in accordance with the manufacturer's standards, instructions, and recommendations.

C. Transportation to Site:
1. The manufacturer shall package the pipe, fittings, structures, and/or other miscellaneous HDPE items in a manner designed to deliver it or them to the project neatly, intact, and without physical damage.
2. The transportation carrier shall use appropriate methods and intermittent checks to ensure the materials are properly supported, stacked, and restrained during transport such that it is not nicked, gouged, or physically damaged.

D. Storage:
1. Pipe, structures, and other miscellaneous HDPE items shall be stored on clean, level ground to prevent undue scratching or gouging and as needed to protect them from being covered with excessive dirt, water, moisture, and mechanical abrasion.
2. The handling of pipe, structures, and other miscellaneous HDPE items shall be done in such a manner that there is no damage. Nylon slings are often used.
3. If the pipe must be stacked for storage, such stacking shall be done in accordance with the pipe manufacturer's recommendations.
4. Store gaskets for mechanical and push-on joints in cool, dry location out of direct sunlight and not in contact with petroleum products.

E. Care shall be taken to minimize the amount of soil collected inside the pipe, structures, and other miscellaneous HDPE items while handling and installing.

F. The pipe, structures, and other miscellaneous HDPE items shall be handled in such a manner that it is not pulled over sharp objects or cut by chokers or lifting equipment, and care shall be exercised during installation not to damage the pipes and fittings.

G. Any pipe section, structure, fitting, joint or other miscellaneous HDPE items that become broken, cracked, crushed, cut, scratched, gouged or otherwise rendered unsuitable, as determined by the CQA Consultant, shall be removed and replaced by the Contractor. Scratches greater than 6 inches in length and gouges exhibiting a depth in excess of 8 percent of the wall thickness of the pipe shall be cause for rejection of pipe or fittings to the extent designated by the CQA Consultant.

H. Fused Pipe Segment Handling:
1. Fused segments of pipe shall be handled so as to avoid damage to the pipe.
2. Chains or cable type chokers must be avoided when lifting fused sections of pipe. Nylon slings are preferred.
3. Spreader bars are recommended when lifting long fused sections.
4. Pipe shall be fused in lengths not to exceed that which can be moved and placed easily and safely, causing no damage to the fused pipe or welds.

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1.12 COORDINATION

A. Coordinate the Work with construction of other elements of active landfill gas collection system and with construction of the soil cover system.

PART 2 PRODUCTS

2.1 HIGH DENSITY POLYETHYLENE (HDPE) PIPING

A. Base Resin (HDPE Material)
1. HDPE material used for the manufacture of HDPE pipe and fittings under this specification shall be produced from approved pipe material base resin that is high density, high molecular weight polyethylene (HDPE) pipe grade resin with the nominal physical properties:
   a. Equivalent to Type III, Category 5, Class C, Grade PE 3408 in accordance with ASTM D1248.
   b. Equivalent to cell classification PE345464C in accordance with ASTM D3350.
   c. As outlined in Table 02500-A below.
2. The material shall be listed by PPI (Plastics Pipe Institute, a division of the Society of the Plastics Industry) in PPI TR-4 with a 73°F hydrostatic design basis of 1,600 psi and a 140°F hydrostatic design basis of 800 psi. The PPI listing shall be in the name of the pipe manufacturer and shall be based on ASTM D 2837 testing.
3. The resin shall contain not less than 97% of the base polymer and not less than 2% carbon black as defined in ASTM D1248, Class C to impart maximum weather resistance.
4. The pipe material shall contain no more than 3% carbon black, anti-oxidants, and heat stabilizers combined, and no other additives, fillers or extenders.
5. The pipe shall contain no recycled compound except that generated in the manufacturer's own plant from resin of the same raw material, including both the base resin and the co-extruded resin.

B. Physical Appearance
1. All pipes shall have good appearance qualities.
2. The pipe shall be homogeneous throughout and the surfaces shall be smooth and uniform with no visible defects.

3. The pipes shall be free of visible cracks, holes, voids, nicks, cuts, gouges, scratches, blisters, gels, undispersed ingredients, any signs of contamination by foreign inclusions, or other defects that may affect the wall integrity or the pipe's serviceability.
4. Holes for perforated HDPE pipes shall be cleanly cut, identical in geometry, and evenly spaced.

C. Physical Properties

1. Pipe and fitting dimensions, workmanship, standard dimension ratio (SDR) and corresponding pressure rating shall be in accordance with the requirements of ASTM F714.
2. HDPE piping shall have an SDR of 26 unless otherwise specified on the Drawings.
3. Pipe supplied under this Specification shall have a nominal OD indicated on the Drawings unless otherwise specified.
4. The chemical and corrosion resistance of the PE pipe and all fittings shall be in keeping with typical properties of high quality polyethylene products currently available through commercial sources.
5. All mechanical fasteners or fittings shall be stainless steel.
6. At a minimum, the pipe material shall meet the properties presented in Table 02500-A below:

TABLE 02500-A
REQUIRED PIPE AND BASE RESIN PHYSICAL PROPERTIES

Property	Test Method	Unit	Nominal Value
Material Designation	PPI-TR4		PE 3408
Cell Classification	ASTM D3350		345464C
Material Classification	ASTM D1248		Type III, Category 5, Class C
Density	ASTM D1505		≥0.945 g/cm^3
Melt Index	ASTM D1238 (Condition E)	g/10min	<0.1
Carbon Black Content/Color; UV Stabilizer	ASTM D1603	% range	2 to 3
Flexural Modulus	ASTM D790 2% Secant	psi	>125,000
Tensile Strength @ Ultimate	ASTM D638	psi	3,200
Tensile Strength @Yield	ASTM D638 (Type IV, 2 ipm) [1]	psi	>3,000
Elongation @ Yield	ASTM D638 (Type IV, 2 ipm) [1]	%	>8
Ultimate Elongation @ Break	ASTM D638	%	>750
Modulus of Elasticity	ASTM D638 (Type IV, 2 ipm) [1]	psi	>100,000
Environmental Stress Crack Resistance (ESCR)	ASTM D1693 F_o, Condition C	hrs	>5,000
Hardness	ASTM D2240	Shore "D"	>60
Compressive Strength at Yield	ASTM D695	psi	>1,600
Slow Crack Resistance (SCG) (PENT test)	ASTM F1473	hours	>100
Hydrostatic Design Basis @	ASTM D2837	psi	>1,600

73.4°F (23°C) 140°F (60°C)			>800
Low Temperature Brittleness	ASTM D746	°F(°C)	< - 180 (-117)
Linear Thermal Expansion Coefficient	ASTM D696	in/in/°F	9×10^{-5}

Note:
1. Dumb-bell tested at a rate of strain of 2 inches/minute (ipm)

D. Pipe Fittings
1. All fittings specified on the Drawings, or otherwise, needed to make pipe connections (ex: 90° elbow) shall be in accordance with ASTM D2513 and ASTM D3261 and shall be manufactured by injection molding, a combination of extrusion and machining, or fabrication from HDPE pipe conforming to this specification.
2. The fittings shall be fully pressure rated and provide a working pressure equal to that of the pipe with an included 2:1 safety factor.
3. The fittings shall be manufactured from the same base resin type and cell classification as the pipe itself as specified in **Parts 2.1A, 2.1B,** and **2.1C** of this Section. The fittings shall be homogeneous throughout and free from cracks, holes, foreign inclusions, voids, or other injurious defects.
4. Molded socket fittings shall not be used.
5. Pre-fabricated fittings:
   a. Shall not be permitted unless molded fittings are not available from the pipe Manufacturer, and only after obtaining specific approval from the Engineer.
   b. Shall be made using pipe segments meeting all base resin, physical, and property requirements presented in **Parts 2.1A, 2.1B,** and **2.1C** of this Section.
   c. All pipe segments in a pre-fabricated fitting shall be pressure rated to exceed by 20% the highest pipe pressure rating to which they are intended to be connected.

E. HDPE Joints
1. The method of joining for high density polyethylene pipe shall be the heat butt fusion method of high density polyethylene pipe per ASTM D2657 and shall be performed in strict accordance with the pipe manufacturer's recommendations, subject to the CQA Consultant's approval. The heat fusion equipment used in the joining procedures should be capable of meeting all conditions recommended by the pipe manufacturer.
2. All joints shall be made by trained technicians qualified by the Manufacturer and using equipment and controlled procedures approved by the Manufacturer.
3. All pipe joints shall be stronger than the pipe itself under both tension and hydrostatic loading conditions.
4. The joints shall be leak-tight, homogeneous and uniform throughout.
5. Properly executed electrofusion fittings may be used. Extrusion welding or hot gas welding of HDPE shall not be used for pressure pipe applications or fabrications where shear or structural strength is important, as determined by the CQA Consultant. Mechanical joint adapters, flanges, unions, grooved-couplers, transition fittings, and some mechanical couplings may be used to mechanically connect HDPE pipe. Refer to the manufacturer's recommendations.

F. Perforated Pipes
1. The HDPE pipe sections shall be perforated as shown on the Drawings.
2. Perforations shall be cleanly cut, identical in geometry, and evenly spaced.

G. Bedding And Cover Materials
1. Bedding: Fill Type as specified in **Section 02060** and as shown on the Drawings.
2. Cover: Fill Type as specified in **Section 02320** and as shown on the Drawings.

H. Identification

1. The following shall be continuously indent printed on the pipe, or spaced at intervals not exceeding 5 feet:
   a. Name and/or trademark of the pipe manufacturer.
   b. Pipe series designation.
   c. Nominal pipe size.
   d. Standard dimension ratio (SDR).
   e. The letters PE followed by the polyethylene grade per ASTM D1248, followed by the Hydrostatic Design basis in 100's of psi (e.g., PE 3408).
   f. Manufacturing Standard Reference (e.g., ASTM F714-1).
   g. A production code from which the date and place of manufacture can be determined.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify active landfill gas collection system location is ready to receive work and excavations, dimensions, and elevations are as indicated on the Drawings.

3.2 PREPARATION

A. Correct over excavation with fill material.

3.3 INSTALLATION

A. Pipe and Outlet Structures

1. Excavate, as necessary, to accommodate installation of active landfill gas collection system.
2. Place bedding material at trench bottom, level materials in continuous layer not exceeding 8 inches (if applicable).
3. Maintain optimum moisture content of bedding material to attain required compaction density.
4. Install pipe, fittings, and accessories in accordance with the Drawings, these Specifications, and the Manufacturer's recommendations.
5. Route piping in straight line.
6. Pipe shall be fused in lengths not to exceed that which can be moved and placed easily and safely, causing no damage to the fused pipe or welds.
7. Care shall be taken not to drop the pipe while moving it, and to avoid excess stress or strain during installation.
8. Pipe installation and, if required, placement of backfill around pipes shall be performed when the pipe is in a contracted state, i.e., during the cool of the morning, at night, or during periods of over-cast skies.
9. Install bedding at sides of pipe as shown on the Drawings.
10. Immediately after placement, the pipe shall be thoroughly and completely embedded and supported.
11. Refer to **Section 02320** for backfilling and compacting requirements. Do not displace or damage pipe when compacting.
12. HDPE pipe shall be joined using butt fusion. All butt fusion welds shall be made as described in ASTM D 2657. Electrofusion welding can be used for making pipe welds. Hot air and extrusion welding are not permitted for pipe joining.
13. Clean and test landfill gas transfer line and condensate transfer line systems using pipe flushing/cleaning procedures and hydrostatic pressure testing on the installed fluid conveyance system including piping, fittings, valves, etc outlined in Table 02500-A).

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B. Miscellaneous HDPE Items

1. Install in accordance with the Drawings and the Manufacturer's recommendations.

C. Pipe Connections: Joining of HDPE Pipe shall be as follows:

1. General pipe sections shall be butt-fusion welded according to the Manufacturer's recommendations and shall be performed by a Manufacturer's authorized, trained fusion technician.
2. Pipe ends to be butt-fusion welded shall be clean and dry at the time of welding. No welding shall occur during precipitation or excessive moisture
3. The Contractor shall grind burrs or other potentially damaging areas in the welds prior to placement of the pipe.
4. Specified bolted pipe connections shall be made as specified on the Contract Drawings using stainless steel hardware and neoprene gaskets.
5. Polyethylene stub ends and flanges must be at the ambient temperature of the surrounding soil at the time they are bolted tight to prevent relaxation of the flange bolts and loosening of the joint due to thermal contraction of the polyethylene.
6. Properly executed electrofusion fittings may be used.
7. Perforated HDPE Pipe shall be placed during construction as shown on the Contract Drawings.

D. Cleaning:

1. All HDPE Pipe shall be cleaned of any accumulation of silt, debris, or foreign matter of any kind and shall be kept clear of such accumulation until final acceptance of the work.
2. Final Flushing: The Contractor shall flush all leachate collection piping accessible by cleanout ports with potable water at or near the completion of the work. Any sediment remaining at collection points (sumps, manholes, etc.) shall be removed and disposed of as directed by the Engineer.

E. Pressure Testing:

1. All solid piping where factory or field joints have been performed require pressure testing except as noted below.
   (a) Any unjointed section of pipe showing visual signs of damage or that is of questionable quality may be required to be pressure tested as directed by the CQA Engineer.
   (b) Cleanout risers within the containment areas do not require pressure testing.
2. All leachate discharge piping shall be pressure tested by the Contractor prior to approval by the CQA Engineer.
3. Pressure testing shall be conducted by the Contractor in a manner approved by the Engineer. Such testing shall be observed by the CQA Engineer.
4. The leachate discharge lines shall be tested as follows:
   (a) All gravity piping shall be tested using low-pressure air in accordance with ASTM F 1417.
   (b) All force main piping shall be tested using hydrostatic pressure in accordance with ASTM F 2164. The pressures used in testing must not exceed the working pressure of the lowest rated component in the system (i.e. valves, meters, flanges, unions, etc.). The Manufacturer's recommendation for pressure testing may also be acceptable as an alternative if approved in advance by the Engineer. Pressure testing of short sections of leachate discharge line or leachate discharge line to be placed in confined or inaccessible areas may be pressure tested by the Contractor prior to installation when approved by the Engineer. Temporary fittings, etc. required to plug section ends shall be provided by the Contractor at no expense to the Owner. Any leachate discharge line that does not meet

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the pressure test criteria shall be repaired and retested at the Contractor's expense. No leachate discharge line shall be approved until successful pressure testing is completed.

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3.4 FIELD QUALITY CONTROL

A. **Section 01400** – Quality Requirements and **Section 01700** – Execution Requirements.

B. The CQA Consultant or his representative will undertake observations to determine compliance of the materials and work with this Specification.

C. Quality control by the CQA Consultant will include observation:
1. The HDPE pipe and fittings for correct size, SDR rating workmanship, and fabrication.
2. Damage during installation.
3. The installation, alignment and welding of all pipe, and fittings.
4. Pipe flushing/cleaning and hydrostatic pressure testing procedures and results on the installed fluid conveyance system including piping, fittings, valves, etc).

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D. Contractor shall request observation by CQA Consultant prior to and immediately after placing bedding.

E. Compaction Testing: In accordance with **Section 02320**.

F. When tests indicate Work does not meet specified requirements, remove work, replace and retest.

G. HDPE pipes and other miscellaneous items shall be subject to rejection on account of failure to conform to these Specifications. In addition, individual sections of these items may be rejected because of any of following reasons:
1. Any pipe section, fitting, joint, or outlet structure that becomes broken, cracked, crushed, cut, scratched, gouged or otherwise rendered unsuitable, as determined by the CQA Consultant, shall be removed and replaced by the Contractor.
2. Scratches greater than 6 inches in length and gouges exhibiting a depth in excess of 8 percent of the wall thickness of the pipe, fitting, or outlet structure shall be cause for rejection of a pipe section, fitting, or outlet structure to the extent designated by the CQA Consultant.

3.5 PROTECTION OF FINISHED WORK

A. **Section 01700** – Execution Requirements: Protecting installed construction.

B. Protect pipe, aggregate cover, and outlet structures from damage or displacement.

C. Care shall be exercised during construction not to damage the pipes and fittings.

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ATTACHMENT 6

Section D – Appendix VII Technical Specifications
(Section 02611 Landfill Gas Wells)

SECTION 02611
LANDFILL GAS WELLS

PART 1 GENERAL

1.1 SUMMARY

The Contractor shall furnish all labor, material, and equipment to complete installation of Landfill Gas Wells in accordance with the Contract Drawings and these Specifications. Health and Safety and equipment decontamination will be in accordance with the Site Specific Health and Safety Plan prepared for the subject facility.

A. Section includes:
   1. Horizontal Landfill gas wells.
   2. Vertical Landfill Gas Wells

B. Related Sections
   1. **Section 02060** – Aggregate.
   2. **Section 02320** – Structural Fill.
   3. **Section 02321** – Backfill – Low Permeability Barrier.
   4. **Section 02500** – High Density Polyethylene (HDPE) Piping and Miscellaneous Items.
   5. **Section 02674** – Nonwoven Geotextile.

1.2 UNIT PRICE - MEASUREMENT AND PAYMENT

A. Landfill Gas Wells:
   1. Basis of Measurement: By each unit installed.
   2. Basis of Payment: By each unit installed times the unit price for each unit.
      a. Includes excavating, placing non-woven geotextile filter, drainage aggregate, installation of perforated and solid pipe and fittings and insect screen, geocomposite drainage layer, and backfilling.

1.3 REFERENCES

A. American Society for Testing and Materials:
   1. ASTM D2321 – Standard Practice for Underground Installation of Thermoplastic Pipe for Sewers and Other Gravity Flow Applications.
   2. ASTM F405 – Standard Specification for Corrugated Polyethylene Pipe and Fittings.
   3. ASTM F667 – Standard Specification for Large Diameter Corrugated Polyethylene Pipe and Fittings.
   4. ASTM D3231 – Standard Specification for HDPE pipe.

B. NCDOT Standard Specifications for Roads and Structures (latest edition).

1.4 QUALITY ASSURANCE:

Quality Assurance during installation of LFG Wells will be provided by the Owner as described in the accompanying Project CQA Manual.

1.5 SITE CONDITIONS:

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Obstructions and saturated conditions are sometimes encountered when drilling in a landfill, many of which can be drilled through. The Contractor is expected to make reasonable efforts to drill through obstructions and saturated conditions and will be paid for offset re-drilling and boring abandonment only if prior written approval is obtained from the Owner. The Contractor will be paid for abandonment of abandoned hole and for well installation at the new location.

1.6 SUBMITTALS

A. **Section 01300** – Administrative Requirements: Requirements for submittals.
Product Data: See **Sections 02060, 02500,** and **02674** for respective sections on drainage aggregate, HDPE pipe and fittings, and nonwoven geotextile.

B. **The Contractor shall furnish copies of the delivery tickets or other approved receipts to the Engineer as evidence for materials received that will be incorporated into construction.**

1.7 CLOSEOUT SUBMITTALS

A. **Section 01700** – Execution Requirements: Closeout procedures.

B. Project Record Documents:
1. Accurately record actual locations and elevations of landfill gas wells.

1.8 PRE-INSTALLATION MEETING

A. **Section 01300** – Administrative Requirements: Pre-installation meeting.

PART 2 PRODUCTS

2.1 Horizontal Landfill Gas Wells.

A. Product Data: See **Sections 02060, 02500,** and **02674** for respective sections on drainage aggregate, HDPE pipe and fittings, and nonwoven geotextile.

2.2 Vertical Landfill Gas Wells.

A. Solid/Perforated/Slotted Pipe

1. All pipe and fittings shall be SDR 11 HDPE. Alternately, rigid PVC Schedule 80 pipe and fittings may be used, if approved in advance by the Engineer.

2. Perforations in HDPE or PVC well piping shall be 2 inch diameter holes, spaced at 90 degrees around the circumference of the pipe and 6 inches on center. Stagger adjacent rows of perforations evenly along the pipe. Alternatively, slots in HDPE or PVC well piping shall be 6 to 8 inches long by 1 inch wide, spaced at 90 degrees around the circumference of the pipe and 12 inches center to center. Stagger adjacent rows of slots evenly along the pipe. perforated HDPE or PVC piping may be used if approved in advance by the Engineer.

3. Bentonite:

Coarse-ground, pelletized bentonite from an approved source is to be mixed thoroughly

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with potable water at a ratio of 5 gallons of water to every 50 lbs. of bentonite.

4. Stone Backfill:

Stone backfill for Landfill Gas Wells shall be No. 4 stone (1.5 inch nom.), or approved equal.

5. Soil Backfill:

Soil backfill shall be on-site soils as approved by the Engineer.

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PART 3 EXECUTION

3.1 EXAMINATION

A. **Section 01400** – Quality Requirements: Examination.

B. Coordinate landfill gas well installation with other portions of the work. All landfill gas wells shall be constructed at the locations and according to the details shown on the Contract Drawings. Care shall be taken to ensure that these locations are not in areas which are prone to pond water. The Engineer shall be notified prior to drilling Landfill Gas Wells, such that he may observe the installation.

3.2 EXCAVATION HORIZONTAL LANDFILL GAS WELLS

A. Excavate area for landfill gas well to the dimensions shown in the Details and in a location where shown on the Drawings. Remove large stones or other hard matter which could damage geotextile installation.

B. Perform temporary dewatering as necessary to keep bearing soils from softening.

3.3 DRILLING VERTICAL LANDFILL GAS WELLS

A. Landfill Gas Wells are to be 36 inch diameter, drilled to the depth shown on the Contract Drawings. The Contractor must use dry drilling equipment; wet rotary drilling equipment may not be used. All borings shall be made with bucket type augers.

B. The boring depths shown on the Contract Drawings are estimated and may be adjusted in the field by the Engineer. One reason limiting depth might be as follows:

1 If water is encountered in a boring, the Contractor may be directed to drill beyond the point at which it was encountered. If wet conditions remain, the boring may be terminated and the length of perforated pipe adjusted by the Engineer, or the well may be relocated. If wet conditions cease (e.g. due to trapped water layer), then drilling will continue to the design depth.

2 If the engineer believes the well borehole may penetrate the protective cover or bottom liner.

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C. As soon as drilling is completed, a safety screen shall be placed over the top of the bore. This screen shall stay in place until backfilling is within 4 feet of the surface. Safety screen size should be large enough to accommodate all backfill materials and any tools used during backfill yet not large enough for any human to accidentally fall through.

3.4 HORIZONTAL LANDFILL GAS WELL INSTALLATION

A. Place base layer of drainage aggregate (NCDOT NO. 57 Washed Stone) in bottom of excavation.

B. Construct HDPE landfill gas well pipe and install. Installation of HDPE pipe shall be in accordance with ASTM D2321, the manufacturer's recommendations, and as described elsewhere in these specifications.

C. Backfill excavation with drainage aggregate. Ensure that perforated portion of pipe is entirely within the drainage aggregate portion of the landfill gas well system.

D. Install a fabric donut on top of drainage aggregate.

E. Backfill with 1 foot of structural fill.

F. Install 2-foot thick bentonite pellet plug hydrated with clean water adequate for hydration.

G. Backfill remainder of hole with structural fill.

H. Install low permeability barrier and erosion layer soil backfill. Refer to **Section 02321** and **02320** for respective sections on low permeability barrier and erosion layer soil backfill.

3.5 VERTICAL LANDFILL GAS WELL INSTALLATION

A. The bore for the well shall be straight and the well pipe shall be installed in the center of the bore hole. The Contractor will take all tension off of the pipe by mechanical means and center the pipe in the middle of the borehole before starting to backfill.

B. HDPE well pipe will be welded joint or if approved by the Engineer, PVC shall be flush threaded, and or lag bolted using stainless steel hardware.

C. Backfilling of the well shall commence immediately after well drilling is completed and the well piping has been installed in the borehole. Backfill materials shall be installed as indicated on the Contract Drawings and as approved by the Engineer.

1. Stone backfill shall be poured or scooped through the screen at a rate that will not endanger the integrity of the well casing.

2. The well seal will be formed by evenly distributing two 50 lb. bags of bentonite material around the annulus of the well and then adding 10 gallons of fresh water in a manner that will allow for a thorough saturation of the bentonite material. This process will be continued until a minimum plug thickness of 3 feet has been achieved.

3. Soil backfill shall be used above the bentonite seal up to the existing top of intermediate cover elevation.

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D. Abandonment of Boreholes:

1. Borings which have been advanced into the waste and which have been required to be abandoned by the Engineer shall be backfilled up to the top of existing intermediate cover elevations with on-site soils. Final cover materials will be installed above this elevation.

E. Disposal of Waste:

1. C&D Waste from well drilling operations shall be disposed of within the active C&D landfill area as directed by the Owner and Engineer.

2. MSW waste from well drilling operations shall be disposed of in the active MSW Transfer Station as directed by the Owner and Engineer.

3.6 ERECTION TOLERANCES

A. Maximum offset of landfill gas well from indicated alignment: 1 foot.

3.7 FIELD QUALITY CONTROL

A. **Section 01400** – Quality Requirements: Testing and observation requirements.

B. Request observation prior to placing backfill around pipe.

C. When tests indicate Work does not meet specified requirements, remove Work, replace, and retest.

3.8 PROTECTION OF INSTALLED CONSTRUCTION

A. **Section 01700** – Execution Requirements: Protecting installed construction.

B. Protect landfill gas wells from damage or displacement during backfilling operations and subsequent earthwork operations.

END OF SECTION

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ATTACHMENT 7

Section F – Facility Plan Appendix III
(Property Deeds)

4725-77-9941-00

NORTH CAROLINA

EDGECOMBE COUNTY

THIS DEED made and executed this the 5th day of January, 1979, by and between J. B. WEBB, JR. and wife, MARY S. WEBB, of Edgecombe County, North Carolina, parties of the first part, to EDGECOMBE COUNTY, a body politic and corporate of the State of North Carolina, Edgecombe County Courthouse, Tarboro, North Carolina 27886, party of the second part;

WITNESSETH:

That for and in consideration of the sum of Ten Dollars and other valuable considerations paid to the parties of the first part by the party of the second part, the receipt of which is hereby acknowledged, the said parties of the first part have given, granted, bargained and sold and do by these presents give, grant, bargain and sell, alien and convey unto the said party of the second part, its successors and assigns (but subject to the retention of the crop allotments and time limited possession of certain structures as hereinafter set forth), all of that certain tract or parcel of land lying and being situated in Number Eight Township, Edgecombe County, North Carolina, and containing 169.31 acres, more or less, and being more particularly described as follows:

Real Estate Excise Tax 254.00

North Carolina JAN-5-79

Beginning at a point, an existing concrete monument in the northern property line of the land of John I. Eagles (see deed in Book 745, at page 485, Edgecombe Public Registry) and the southeastern corner of the lands heretofore conveyed by the parties of the first part to Edgecombe County by deed recorded in Book 787, at page 315, Edgecombe Public Registry; thence along and with the eastern line of the said lands of Edgecombe County, North 9° 57' 24" East 1,536.71 feet to an existing iron pipe in Jerry's Creek, a corner with said lands of Edgecombe County, cornering; thence along and with the lands of the said Edgecombe County and down the said Jerry's Creek the following courses and distances: North 67° 59' 02" East 251.35 feet, South 53° 34' 08" East 553.45 feet, North 54° 16' 44" East 200.45 feet, South 80° 59' 57" East 277.35 feet and South 58° 31' 45" East 127.23 feet to the center of State Road 1601, cornering; thence South 13° 58' 28" West 20.00 feet, cornering; thence along and with the southern boundary of lands of Gladys C. Shelton Pitt (see Map Book 9, page 7, Edgecombe County Registry) South 88° 00' 49" East 4,105.59 feet, more or less, to Tar River through an existing iron pipe in the western bank of Tar River, cornering; thence down Tar River South 12° 42' 9" West 1,378.76 feet to a new concrete monument in the bank of said River, a corner with the lands of W. S. Clark & Sons, cornering; thence North 88° 11' 36" West 4,006.87 feet, more or less, to an existing iron pipe in said line; thence North 88° 11' 36" West 42.51 feet to the centerline of said State Road 1601, cornering; thence along and with the centerline of said State Road North 7° 52' 43" East 129.62 feet, cornering; thence South 78° 41' 00" West 31.77 feet to a new concrete monument; thence crossing a pond South 78° 41' 00" West 499.93 feet; thence North 84° 39' 00" West 736.55 feet to the point of beginning; containing 169.31 acres according to a map entitled, "Property

of J. B. Webb, Jr. and wife, Mary S. Webb, No. 8 Township, Edgecombe County, Near Old Sparta, North Carolina", By: Brown, Edwards & Miller, Inc., Surveying - Engineering, 225 N. Bennett St., Southern Pines, N. C., Dated Dec. 15, 1978, to be recorded in the Edgecombe Public Registry, and reference is made to said map for further description. The same being all of the property conveyed by a deed from John I. Eagles, et ux, et al, to J. B. Webb, Jr. and William C. Webb recorded in Book 687, at page 273 of the Edgecombe County Public Registry, the interest of the said W. C. Webb in said lands having been conveyed by W. C. Webb and wife to J. B. Webb, Jr. and wife, Mary S. Webb, by deed recorded in Book 759, at page 450 of said Registry, except the portion thereof heretofore conveyed by the parties of the first part to the party of the second part by deed recorded in Book 787, at page 315 of the Edgecombe Public Registry, and reference is hereby made to said deeds and the map hereinbefore referred to for further and more particular description.

TO HAVE AND TO HOLD the above described land together with all rights, privileges and appurtenances thereto belonging, or in anywise thereto appertaining, unto the said party of the second part, its successors and assigns, in fee simple.

The parties of the first part expressly retain and reserve the right to remove from said lands the tobacco barns and grain bins now situate thereon at any time within twelve months from the date of this deed, and possession of the dwelling and mobile homes thereon until the termination of six months from the date of this deed or until the occupants thereof have been relocated, whichever shall first occur. The parties of the first part reserve and retain the crop allotments allotted to said lands under the United States Agriculture Stabilization and Conservation Program and the party of the second part by the acceptance of this deed covenants and agrees to execute any instruments of release or assignment necessary to enable the transfer of the same from said lands and to release any right of the party of the second part to said allotments.

And the said parties of the first part, their heirs, executors and assigns, covenant to and with the said party of the second part, its successors and assigns, that they are seized in fee of the lands hereinabove conveyed; that they have the right to convey the same in fee simple; that the same are free and clear of any and all encumbrances, except for the lien of an annual charge of $300.00 to be paid to Mrs. Daisy McLean Eagles Pope during her life pursuant to the provisions of Items Sixth and Twelfth of the Will of W. W. Eagles recorded in Will Book P, at page 439 in the office of the Clerk of Superior Court of Edgecombe County, as modified

by instrument executed by the said Daisy McLean Eagles (Pope) recorded in Book 571, at page 280 of the Edgecombe Public Registry, which annual charges parties of the first part shall pay as they become due, and all ad valorem taxes for the year 1979; and that they will forever warrant and defend the title thereto against the lawful claims of all persons whomsoever.

IN WITNESS WHEREOF, said parties of the first part have hereunto set their hands and adopted as their seals the typewritten word "(SEAL)" appearing beside their names, this the day and year first above written.

J. B. Webb (SEAL)
J. B. WEBB, JR.

Mary S. Webb (SEAL)
MARY S. WEBB

NORTH CAROLINA
~~EDGECOMBE~~ NASH COUNTY

I, Linda R. Wooten, a duly commissioned and qualified Notary Public in and for said County and State, do hereby certify that this day personally came before me J. B. WEBB, JR. and wife, MARY S. WEBB, who acknowledged the due execution by them of the foregoing instrument.

My commission expires 1-10-79.

Witness my hand and notarial seal, this the 5th day of January, 1979.

Linda R. Wooten
Notary Public

(Seal)

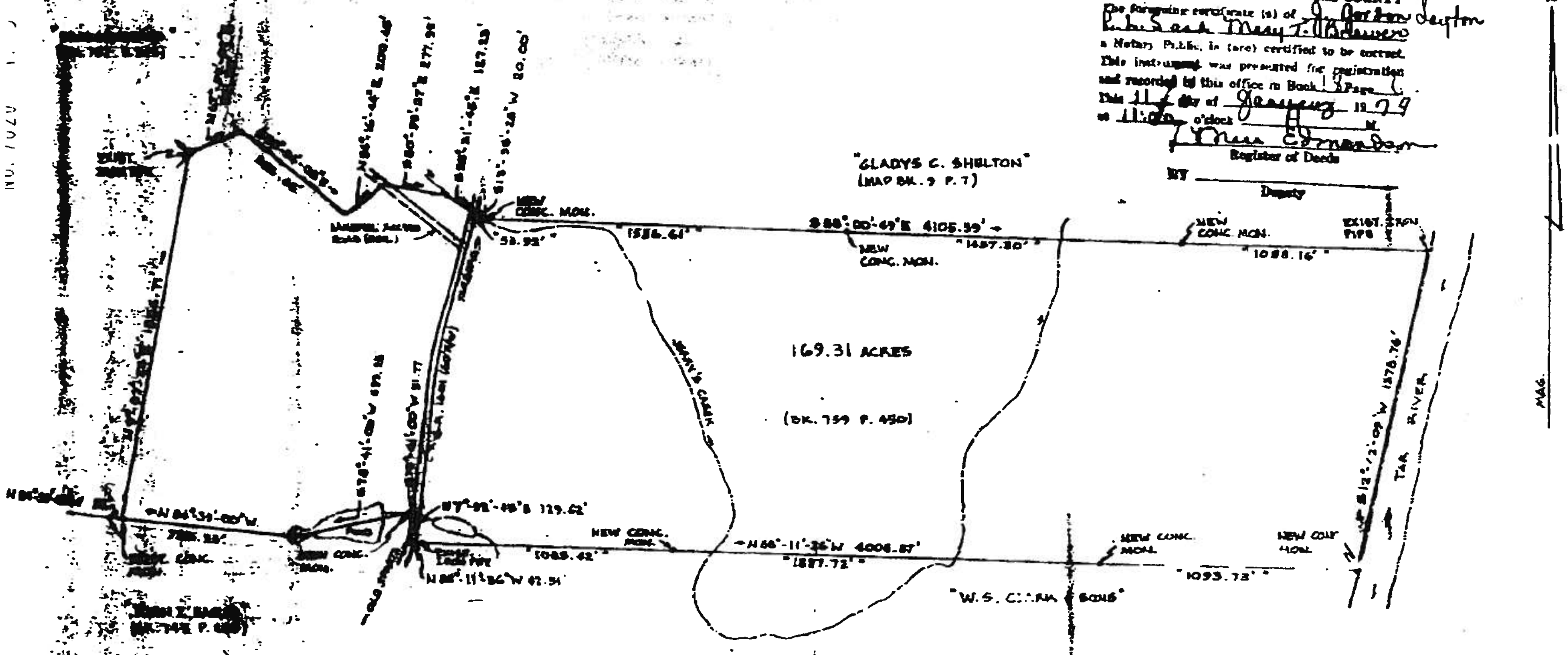
LINDA R. WOOTEN
Notary Public
NASH COUNTY, N.C.

NORTH CAROLINA, EDGECOMBE COUNTY

The foregoing certificate (s) of Linda R. Wooten a Notary Public, is (are) certified to be correct. This instrument was presented for registration and recorded in this office in Book ___ Page ___ This 5 day of January 19 79 at 4:50 o'clock P. M.

Mace Edmondson
Register of Deeds
BY Bettie L. Godfrey
Deputy

NORTH CAROLINA, EDGECOMBE COUNTY
The foregoing certificate (s) of J. Gordon Layton
Public and Mary T. Brewer
a Notary Public, is (are) certified to be correct.
This instrument was presented for registration and recorded in this office in Book 13 Page 6
This 11th day of January 1979
at 11:00 o'clock A M.
[signature]
Register of Deeds
BY ____________
Deputy



NOTE:
THIS PROPERTY CONSISTS OF TRACTS 3 & 4, OF 1910 MAP BY ATLANTIC COAST REALTY CO. (MAP BK. 1, P. 152); AND PART OF TRACTS 5 & 6, OF 1917 MAP BY ATLANTIC COAST REALTY CO. (MAP BK. 1, P. 64)

North Carolina
Edgecombe County

I, Mary T. Brewer, a Notary Public for said County and State, do hereby certify that J. Gordon Layton and ____________ personally appeared before me this day and acknowledged the due execution of the foregoing instrument.
Witness my hand and official seal, this the 5th day of January, 1979.
(Official Seal) Mary T. Brewer Notary Public
My Commission Expires Aug. 12, 1981
My commission expires ____________, 19____.

..., certify that this map ... under my supervision ... that this ... day of January, 1979
... L. 2489
... before me this 5th ... 1979.
My Commission Expires Aug. 12, 1981
Mary T. Brewer
Notary Public

SCALE: 1" = 400'
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PROPERTY OF
J. B. WEBB, JR. and MARY S. WEBB
NO. 8 TOWNSHIP, EDGECOMBE COUNTY
NEAR OLD SPARTA, NORTH CAROLINA
BROWN, EDWARDS, & MILLER, INC.
SURVEYING — ENGINEERING
215 N. BENNETT ST. SOUTHERN PINES, N.C.
919-692-2544 28387
DEC. 15, 1978

4775-77-9941-00

BOOK 787 PAGE 315

STATE OF NORTH CAROLINA Real Estate Excise Tax 37.00

4725-48-2383-00

NORTH CAROLINA

EDGECOMBE COUNTY

THIS DEED made and executed this the 30th day of November, 1971, by and between J. B. WEBB, JR. and wife, MARY S. WEBB, of Edgecombe County, North Carolina, parties of the first part, to EDGECOMBE COUNTY, a body politic and corporate of the State of North Carolina, party of the second part;

WITNESSETH:

That for and in consideration of the sum of Ten Dollars and other valuable considerations paid to the parties of the first part by the party of the second part, the receipt of which is hereby acknowledged, the said parties of the first part have given, granted, bargained and sold and do by these presents give, grant, bargain and sell, alien and convey unto the said party of the second part, its successors and assigns, all of that certain tract or parcel of land lying and being situated in Number Eight Township, Edgecombe County, North Carolina, and containing 105.0 acres, more or less, and being more particularly described as follows:

Beginning at a concrete monument and iron located in the southwest corner of Tract No. 5 as the same appears on a map recorded in Map Book 1, at page 66 of the Edgecombe County Public Registry, and also being the southwest corner of the Second Tract described in a deed from John I. Eagles, et ux, et al, to J. B. Webb, Jr. and William C. Webb recorded in Book 687, at page 273 of the Edgecombe County Public Registry, thence running along and with the western lines of Tract Nos. 5 and 6 as the same appear on said map recorded in Map Book 1, at page 66 of the Edgecombe Public Registry, North 32 degrees 18 minutes East 3,732.72 feet through five concrete monuments to an iron in the run of Wrights Creek, a corner with the property of Harvey and Porter McNair, cornering; thence running down and in the run of said Creek and with the line of Harvey and Porter McNair the following courses and distances: South 80 degrees 22 minutes East 92 feet, South 49 degrees 59 minutes East 169 feet, South 12 degrees 30 minutes West 84 feet, South 63 degrees 30 minutes East 93.92 feet, South 4 degrees 30 minutes West 122 feet, South 64 degrees 50 minutes West 63 feet, South 18 degrees 38 minutes East 226.6 feet, South 32 degrees 20 minutes East 54.05 feet, South 11 degrees 20 minutes East 130 feet, South 59 degrees 50 minutes East 219.92 feet, North 60 degrees 12 minutes East 96 feet, South 72 degrees 19 minutes East 99.9 feet, South 14 degrees 21 minutes East 39 feet, South 63 degrees 49 minutes East 54 feet, South 34 degrees 46 minutes East 118 feet, South 24 degrees 32 minutes West 70 feet, South 30 degrees 26 minutes East 79 feet, South 22 degrees 39 minutes West 116 feet, South 64 degrees 42 minutes East 175 feet, South 36 degrees 52 minutes East 126 feet, South 78 degrees 21 minutes East 101 feet, South 18 degrees 51 minutes East 122 feet, South 41 degrees 38 minutes West 128 feet, South 39 degrees 22 minutes East 122 feet, South 7 degrees 52 minutes East 121.95 feet, South 43 degrees 52 minutes East 96.95 feet, at the confluence of said Wrights Creek and Jerry's Creek, cornering; (being point A on the Staton Map hereinafter referred to), thence in a westerly and northwesterly direction up the run of said Jerry's Creek to a point in the said Creek (being point B on the Staton Map hereinaftar referred to, the same being South 8 degrees 50 minutes West 300 feet, North 49 degrees 00 minutes West 577 feet from the center of the run of Wrights Creek at the western right of way line of State Road 1601); thence running up said run the following courses and distances: South 87 degrees 53 minutes West 99.78 feet, North 52 degrees 33 minutes West 207.8 feet, North 25 degrees 18 minutes West 91.85 feet, North 46 degrees 18 minutes West 246.55 feet, North 85 degrees 29 minutes West 118.25 feet, South 7 degrees 14 minutes West 117.58 feet, and South 80 degrees 45 minutes West 116.05 feet, cornering; thence running South 10 degrees 10 minutes West 1,570.46 feet to the southern line of said Tract 5 as the same appears on said map recorded in Map Book 1, at page 66 of the Edgecombe County Public

Registry, a corner with John I. Eagles, cornering; thence running along and with the southern line of said Tract 5 and the line of John I. Eagles, North 84 degrees 39 minutes West 1,878.45 feet across a stream and through two concrete monuments to the point of beginning, and the same being a portion of the property described as the Second Tract in a deed from John I. Eagles, et ux, et al, to J. B. Webb, Jr. and William C. Webb recorded in Book 687, at page 273, of the Edgecombe County Public Registry, the interest of the said W. C. Webb in said lands having been conveyed by W. C. Webb and wife to J. B. Webb, Jr. and wife, Mary S. Webb, by deed recorded in Book 759 at page 450, of said Registry, and reference is hereby made to said deeds and the map hereinbefore referred to for further and more particular description. Reference is also made to a map entitled "Property of J. B. Webb, No. 8 Township, Edgecombe County, N. C." by Staton and Associates, Tarboro, N. C., dated November 3, 1971, a copy of which is in possession of Edgecombe County.

TO HAVE AND TO HOLD the above described land together with all rights, privileges and appurtenances thereto belonging, or in anywise thereto appertaining, unto the said party of the second part, its successors and assigns, in fee simple.

And the said parties of the first part for and in consideration of the sum of One Dollar and other valuable considerations paid to them by the said party of the second part, the receipt of which is hereby acknowledged, give and grant unto the said party of the second

for original map - See Joyner Keeny PLLC.
Surveyor 209 Pearl St.
Rocky Mt.
977-3124
they have Staton & assoc.
Originals Map

part, its successors and assigns, a right of way sixty feet in width extending from the western right of way line of State Road 1601 to the lands hereinabove conveyed for the purposes of the construction of a road and other utilities from said State Road 1601 to the lands hereinabove conveyed to the party of the second part; and the said parties of the first part, for themselves, their heirs, executors and administrators, covenant and agree to execute and deliver to the said party of the second part, or to the North Carolina State Highway Commission, if so directed by the party of the second part, a right of way agreement for the purposes hereinabove set forth, said right of way to be at such point selected by the said party of the second part within the area hereinafter described:

Beginning at the confluence of Wrights Creek and Jerry's Creek (being point A on the map entitled "Property of J. B. Webb, No. 8 Township, Edgecombe County, N. C.")made by Staton and Associates, and dated November 3, 1971, a copy of which is in the possession of Edgecombe County, thence down the run South 28 degrees 10 minutes East 140 feet to the western right of way line of State Road 1601, cornering; thence along and with the western right of way line South 8 degrees 50 minutes West 300 feet, cornering; thence North 49 degrees 00 minutes West 577 feet to the center of the run of Jerry's Creek, the same being point B as shown on said Map, thence down the center of the run of Jerry's Creek to the point of beginning.

And the said parties of the first part, their heirs, executors and assigns, covenant to and with the said party of the second part, its successors and assigns, that they are seized in fee of the lands hereinabove conveyed; that they have the right to convey the same in fee simple; that the same are free and clear of any and all encumbrances; and that they will forever warrant and defend the title thereto against the lawful claims of all persons whomsoever.

IN WITNESS WHEREOF, said parties of the first part have hereunto set their hands and affixed their seals, this the day and year first above written.

J. B. Webb, Jr. (SEAL)

Mary S. Webb (SEAL)

NORTH CAROLINA

EDGECOMBE COUNTY

I, Ramona M. Peterson, a duly commissioned and qualified Notary Public in and for said County and State, do hereby certify that this day personally came before me J. B. WEBB, JR. and wife, MARY S. WEBB, who acknowledged the due execution by them of the foregoing deed.

My commission expires September 1, 1974.

Witness my hand and notarial seal, this the 30 day of November, 1971.

Ramona M. Peterson
Notary Public

RAMONA M. PETERSON NOTARY PUBLIC EDGECOMBE COUNTY N.C.

NORTH CAROLINA, EDGECOMBE COUNTY

The foregoing certificate (s) of Ramona M. Peterson a Notary Public, is (are) certified to be correct. This instrument was presented for registration and recorded in this office in Book ___ Page ___ This 30 day of November 1971 at 5:30 o'clock P M.

Register of Deeds

BY _____

ATTACHMENT 8

Section F – Facility Plan
(Pages 3 through 9)

2. WASTE STREAM

2.1 Waste Disposal Types

2.1.1 Waste Acceptance

The Edgecombe County C&D Landfill shall only accept those wastes it is permitted to receive, which includes the following:

- Land-clearing debris as defined in North Carolina General Statutes (G.S), 130A-290, specifically, solid waste which is generated solely from land-clearing activities, such as stumps, trees, etc.;
- Inert debris defined as solid waste which consists solely of material that is virtually inert, such as brick, concrete, rock and clean soil;
- Asphalt in accordance with G.S. 130A-294(m);
- Construction and demolition debris defined as solid waste resulting solely from construction, remodeling, repair or demolition operations on pavement, buildings, or other structures;
- Solid waste that is generated by mobile or modular home manufacturers and asphalt shingle manufacturers in Edgecombe County: the waste must be source separated at the manufacturing site and must exclude municipal solid waste, hazardous wastes, and other wastes prohibited from disposal in a C&DLF. It must be transported to the Edgecombe County C&DLF in a shipment or container that consists solely of the separated waste to be disposed. Edgecombe County C&DLF will not accept this waste if it has not been separated and transported as specified. and
- Asbestos waste as described in Section 2.1.2 below.

Other wastes may be approved by the Division upon receipt of a written request with the specific waste type, how its generated, how much is generated; along with any additional information the Division may request to render a final decision on the disposal options for the waste.

Yard trash, as defined in G.S. 130A-290, shall not be disposed in the landfill area. However, yard trash, along with land-clearing debris, may be accepted for processing in the Yard Waste Processing Area. Any manufactured home arriving at the landfill will be handled in accordance with the Manufactured Home Deconstruction Plan presented in **Appendix IV** of the Operation and Waste Acceptance Plan.

2.1.2 Asbestos Waste

Regulated asbestos waste received at the landfill shall be managed in accordance with 40 CFR 61. Edgecombe County requires a 24 hour notice prior to receiving any shipment of

asbestos. Each shipment will include the current North Carolina Asbestos Waste Shipment Record from North Carolina Department of Health and Human Services, Division of Public Health, Health Hazards Control Unit. The regulated asbestos waste will be disposed of at the bottom of the working face and covered immediately with soil in a manner that will not cause airborne conditions. Non-regulated asbestos waste may be comingled with other waste and disposed of in the landfill. If non-friable asbestos is identified by the County's waste screening and acceptance program and is separated from other wastes, it will be disposed of at the bottom of the working face and covered immediately with soil in a manner that will not cause a fiber release that adversely impacts airborne conditions.

2.1.3 Wastewater Treatment Sludge

The landfill shall not accept wastewater treatment sludge as waste for disposal in the landfill. However, the landfill may accept wastewater treatment sludge, with prior approval of the Division, for utilization as a soil conditioner and incorporated into or applied onto the vegetative growth layer. The wastewater treatment sludge shall neither be applied at greater than agronomic rates nor to a depth greater than six (6) inches.

2.1.4 Waste Exclusions

The following waste shall not be accepted by the facility for disposal:

- Containers such as tubes, drums, barrels, tanks, cans, and bottles unless they are empty and perforated to ensure that no liquid, hazardous or municipal solid waste is contained therein;
- Garbage as defined in G.S. 130A-290(a)(7);
- Hazardous waste as defined in G.S. 130A-290(a)(8), to also include hazardous waste from conditionally exempt small quantity generators;
- Industrial solid waste unless a demonstration has been made and approved by the Division that the landfill meets the requirements of Rule .0503(2)(d)(ii)(A);
- Liquid wastes;
- Medical waste as defined in G.S. 130A-290(a)(18);
- Municipal solid waste as defined in G.S. 130A-290(a)(18a);
- Polychlorinated biphenyls (PCB) wastes as defined in 40 CFR 761;
- Radioactive waste as defined in G.S. 104E-5(14);
- Septage as defined in G.S. 130A-290(a)(32);
- Sludge as defined in G.S. 130A-290(a)(34);
- Special wastes as defined in G.S. 130A-290(a)(40);
- White goods as defined in G.S. 130A-290(a)(44); and
- Yard trash as defined in G.S. 130A-290(a)(45).

The following wastes shall not be accepted if separate from C&D landfill waste:

- Lamps or bulbs including but not limited to halogen, incandescent, neon or fluorescent; lighting ballast or fixtures;
- Thermostats and light switches;

- Batteries including but not limited to those from exit and emergency lights and smoke detectors;
- Lead pipes;
- Lead roof flashing;
- Transformers;
- Capacitors; and
- Copper chrome arsenate (CCA) and creosote treated woods.

Waste accepted for disposal in a landfill unit shall be readily identifiable as C&D waste. C&D waste that has been shredded, pulverized, or otherwise processed shall not be accepted for disposal from a facility unless that facility has received a permit from an authorized regulatory authority which specifies such activities are inspected by the authority, and whose primary purpose is recycling and reuse of the C&D material.

Edgecombe County shall not knowingly dispose any type or form of C&D waste that is generated within the boundaries of a unit of local government that by ordinance prohibits generators or collectors of C&D waste from disposing that type or form of C&D waste or requires generators or collectors of C&D waste to recycle that type or form of C&D waste.

2.2 Disposal Rate

The 5-year average tonnage received from fiscal years 2003 through 2007 is 12,600 tons/year. This results in an average daily tonnage for the landfill of 42 tons per day.

2.3 Service Area

The service area for the facility includes the following North Carolina counties:

- Edgecombe
- Nash
- Halifax
- Wilson
- Pitt
- Martin

2.4 Other Facility Waste Operations

The locations of other facility waste operations are shown on **Figure 2**. The amounts of wastes handled in association with these other operations shall be documented in the Operating Record. Edgecombe County's list of off-site vendors with agreements in place for waste operations is summarized in **Appendix I**.

2.4.1 MSW Transfer Facility

The Edgecombe County MSW Transfer Facility (Transfer Facility) is located east of Colonial Road and is positioned northeast of the scale. The scale is used to weigh the loads delivered to the solid waste facility. Records of the tonnages of waste received at

the facility are maintained in the scale house. The maximum daily tonnage for the Transfer Facility is 210 tons per day.

The Transfer Facility consists of a 4,200 square foot covered tipping floor with a depressed truck-loading bay for top loading transfer trailers. Once a transfer trailer is full, it is moved to the trailer staging area where the top of the trailer is covered with a tarp. The transfer trailer is then weighed at the scales and driven to a permitted MSW facility (**Appendix I**) for disposal. Waste shall not be stored on the tipping floor after operating hours. Waste may be stored at the facility after hours in covered transfer trailers no longer than 48 hours. The transfer trailers are staged in two open gravel parking areas adjacent to the Transfer Facility.

Leachate from the Transfer Facility tipping floor flows to a floor drain in the loading bay where it is directed to an oil/water separator with grit chamber for treatment. Treated leachate is stored in a leachate tank. The leachate tank and oil/water separator grease trap are pumped out as necessary and the material is disposed of at a permitted wastewater treatment facility (WWTF). The Transfer Facility building as well as the positive grading sloped away from the Transfer Facility are measures that limit surface water contact with the waste.

2.4.2 Tire Collection Area

The Tire Collection Area is located northwest of the entrance to the C&D Landfill site which is west of Colonial Road. Tire transporters visit the scale house to document the load of used tires and to complete a scrap tire certification form for submittal to NCDENR, Division of Waste Management. A copy of the current North Carolina Scrap Tire Certification form, used to document disposal of scrap tires, is included in **Appendix II**. Tires are stored in an open-top trailer which is packed down using a front-end loader on the backhoe. When the trailer is approximately 90 percent full, an off-site vendor (**Appendix I**) replaces the full trailer with an empty trailer. Use of the open-top trailers limits the exposure of the tires to overland flow of surface water during storm events. Edgecombe County processed 1,119 tons of tires during the 2007-2008 reporting period.

2.4.3 Electronics and Oil Filter Collection Building

The Electronics and Oil Filter Collection Building is located west of the C&D Landfill site entrance from Colonial Road and is west of Storage Buildings 1 and 2. Oil filters are collected in two 55-gallon drums. When one drum is full and other drum is ½ full, an off-site vendor (**Appendix I**) replaces the full drums with empty drums. Edgecombe County processed two 55-gallon drums, or approximately 300 filters during the period from the start of the oil filter collection program in September 2008 through February 2009. Electronics that are recycled include old computers, hard drives, monitors, keyboards, speakers, printers, adding machines, copy/fax machines, cell phones, and telephones, which are stored in a 4-foot by 4-foot wire basket. Once the basket is approximately 90 percent full, an off-site vendor (**Appendix I**) replaces the full basket with an empty basket. The building used for storage of the used oil filters and electronics reduces the potential for surface water contact with the stored wastes.

2.4.4 Convenience Center

The convenience center is located east of Colonial Road and is accessed through Gate 2. The convenience center collects the items listed below.

MSW

The convenience center uses a stationary compactor with replaceable roll-off containers to collect MSW waste. Once a roll-off is full, it is weighed on the scale and dumped at the MSW transfer facility. Use of the roll-off container reduces the potential for surface water from contacting the MSW.

Recyclables

Glass, plastic, and paper are collected in separate roll-off containers. Once a roll-off is full, it is weighed at the scale and taken to a recycling center (**Appendix I**). Use of the roll-off container reduces the potential for surface water from contacting the recyclable materials.

Cardboard

Cardboard is collected in a separate roll-off container. Once the roll-off is full, it is weighed at the scale and taken to a recycling center (**Appendix I**). Use of the roll-off container reduces the potential for surface water from contacting the cardboard.

Scrap Metals

Scrap metals are collected in a separate roll-off container and taken to the White Goods Staging Area when it is full. Accumulated scrap metal is transported by an off-site vendor (**Appendix I**). Use of the roll-off container reduces the potential for surface water from contacting the scrap metals.

White Goods Pad

The White Goods Pad is a 10-foot by 20-foot concrete pad used to temporarily store white goods and large metal items prior to taking them to the White Goods Staging Area. Material is removed from the Convenience Center White Goods Pad twice a week. The area around the convenience center white goods pad is graded with a positive slope away from the pad to divert surface water around the pad.

Oyster Shells

The County participates in the North Carolina Oyster Shell Recycling Program. Shells are collected in two 55-gallon yellow plastic containers marked with the Program's logo. When one container is full and the second container is ½ full, an off-site vendor (**Appendix I**) replaces the full drums with empty drums. Use of the 55-gallon plastic containers reduces the potential for surface water from contacting shells.

Cooking Oil

Cooking oil is collected in an industrial 300-gallon plastic container. When the container is approximately 90 percent full, an off-site vendor (**Appendix I**) replaces the full container with an empty container. Use of the 300-gallon plastic container reduces the potential for surface water from contacting the oil.

Bulk Waste

Bulk waste, which includes furniture, sofas, mattresses, chairs, and other similar items, is collected in a separate roll-off container. Once the roll-off is full, it is weighed at the scale and then dumped at the MSW transfer facility. Use of the roll-off container reduces the potential for surface water from contacting the bulk waste.

Battery Collection

Car, light truck, and tractor batteries are stored on pallet. The batteries are taken to an off-site vendor (**Appendix I**) four times a year for recycling. Use of the pallet reduces the potential for surface water from contacting the batteries.

Oil Product Collection

Motor oil, diesel fuel, transmission fluid, hydraulic fluid, gear oil, and kerosene are collected in a 500-gallon drum. When the drum is approximately 90 percent full, an off-site vendor (**Appendix I**) replaces the full drum with an empty drum. Use of the 500-gallon drum reduces the potential for surface water from contacting the oil products.

Antifreeze

Antifreeze is collected in a 55-gallon drum. When the drum is approximately 90 percent full, an off-site vendor (**Appendix I**) replaces the full drum with an empty drum. Use of the 55-gallon drum reduces the potential for surface water from contacting the antifreeze. Edgecombe County processed 40 gallons of antifreeze during the 2007-2008 fiscal year.

CFL Bulbs and Mercury Thermostats

CFL bulbs and mercury thermostats are placed in plastic bags and collected in a 5-gallon bucket. When the bucket is approximately 90 percent full, an off-site vendor (**Appendix I**) removes the items. Use of the bucket reduces the potential for surface water from contacting the items.

2.4.5 Concrete Disposal Area

The Concrete Disposal Area is located east of Colonial Road, east of Gate 3 and north of the transfer trailer staging area and is approximately 0.40 acres. This area is a beneficial fill area, as set forth in 15A NCAC 13B .0562, to increase the size of the transfer trailer staging area. The fill consists of inert debris strictly limited to concrete, brick, concrete block, uncontaminated soil, rock, and gravel. Silt fence is used as an erosion and sediment control measure around the disposal area to limit potential impacts of surface water run-off.

2.4.6 Pesticide Container Storage Building

The Pesticide Container Storage Building is located east of Colonial Road and east of the scale house. The building is a metal structure with a concrete floor that is used to store pesticide containers. Containers delivered to the facility are inspected that they are thoroughly rinsed with labels removed and holes punched in them prior to being taken to the building. An off-site vendor (**Appendix I**) observes the contents of building to schedule site visits when the containers are shredded and then taken off-site. On average, this occurs yearly. Storing the waste containers in the building reduces the potential for

surface water contact. Edgecombe County processed 5,065 containers during the 2007-2008 fiscal year.

2.4.7 Yard Waste Processing Area

The Yard Waste Processing Area is located east of Colonial Road, within the limits of Borrow Area 1. Yard trash and land-clearing debris that are less than 6 inches in diameter and less than 4 feet long are accepted. The materials are weighed at the scale and then transported to the processing area where they are unloaded. A backhoe is used to push the material into one pile and reduce that area used. The yard waste area is limited to a 2-acre area located within Borrow Area 1. A soil berm maintained around the yard waste area serves to divert surface water away from the stockpile in this area. An off-site vendor (**Appendix I**) grinds up the stockpiled material and hauls it away annually. Edgecombe County processed 816 tons of yard waste during the 2007-2008 reporting period.

2.4.8 White Goods Staging Area

The White Goods Staging Area is located east of Colonial Road, within the limits of Borrow Area 1. A 180-foot by 120-foot concrete pad is used to temporarily store white goods and scrap metal prior to shipment to an off-site vendor (**Appendix I**). Properly trained Edgecombe County personnel recover Freon from white good units delivered to the staging area for recycling. White goods are weighed and then shipped off-site by the vendor when the concrete pad is full. The soil around the concrete pad is graded with a positive slope to divert surface water around the white goods pad. Edgecombe County processed 334 tons of white goods during the 2007-2008 reporting period.

2.4.9 Wood Pallet Staging Area

Edgecombe County has constructed a 120-foot by 20-foot concrete pad to temporarily store wood pallets. The Wood Pallet Staging Area is located within Borrow Area 1, adjacent to the White Goods Staging Area. Once the area is full of pallets, they will be ground into mulch and hauled away by a vendor (**Appendix I**). The soil around the concrete pad is graded with a positive slope to divert surface water around the wood pallet staging area.

2.5 Equipment

Equipment currently utilized at the C&D landfill includes the following:

- Landfill Compactor
- Wheel Tractor Scraper
- Backhoe Loader
- Two Tractors (used for mowing)

Other equipment currently utilized at the facility includes the following:

- Yard Dog (Transfer Facility)
- Wheeled Front-end Loader (Transfer Facility)
- Knuckle Boom Truck
- Roll-off Trucks

3. LANDFILL CAPACITY

3.1 Gross Capacity

The gross capacity of the landfill was calculated between the base grades of the C&D landfill (final cap grades of southern MSW landfill) and the top of the proposed final cover grades of the C&D landfill. AutoCAD Civil 3D 2008 software was used to calculate this volume. The gross capacity of the C&D landfill (waste, cover, and soil cap system) is approximately 1.7 million cubic yards (cy). The remaining gross airspace as of October 26, 2008 is approximately 1,094,500 cy.

3.2 Phased Gross Capacity

AutoCAD Civil 3D 2008 software was used to calculate the 5-year filling volumes as presented in Table 2 below.

Table 1: 5-year Filling Sequence Gross Airspace

Phase	Filled to Date	Year End	Gross Airspace Not Yet Filled
1	605,500 cy	Current	-
2		5-Year	111,500 cy
3		10- Year	112,000 cy
4		15- Year	115,000 cy
5		20- Year	167,500 cy
6		25- Year	174,800 cy
7		30- Year	156,400 cy
8		35- Year	178,600 cy
9		38.5- Year	78,700 cy
Total			**1,700,000 cy**

Gross airspace as of October 26, 2008.

3.3 Soil Required for Landfill Operation and Closure

The weekly/intermediate cover soil required for the operation of the C&D landfill is assumed to be approximately 10 percent of the remaining airspace minus the volume of the cap. The total cap thickness is 3 feet parallel to the slope. A plan view of the landfill site development at final closure is shown on **Figure 3**. The volume of soil required for the cap was calculated from the plan view area of the cap and multiplying by the cap thickness adjusted for the slope. The area of the final cap at a 4 horizontal to 1 vertical slope (4H:1V) is 1,514,500 square feet (sf). The volume of soil required for the cap on the 4H:1V slopes is calculated as follows:

$$1{,}514{,}500\ sf \times 3\ ft \times 1.031 \div 27\ cy/cf = 173{,}500\ cy$$

The area of the final cap at a 10 percent slope is approximately 341,600 sf. The volume of soil required for the cap on the 10 percent slopes is calculated as follows:

$$341{,}600\ sf \times 3\ ft \times 1.005 \div 27\ cy/cf = 38{,}200\ cy$$