



APPLICATION FOR A COASTAL ZONE ACT PERMIT

**State of Delaware
Department of Natural Resources & Environmental Control
Office of the Secretary**

February 26, 2013
Revised April 22, 2013
Millville Organic Center
Jeremy W. Smith

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Permit Application Instructions

1. Complete all parts of the application. For sections which are not applicable to your project, do not leave blank; present a statement that clearly states why the section is not applicable to your project.
2. Because all applicants' projects are different, this word document template will provide you flexibility for needed space to answer the questions. Please insert additional lines for text where needed for your application. If appropriate, attach extra pages referencing each answer by the corresponding section and question number.
3. Submit eight complete hard copies of the permit application to:

Office of the Secretary
Department of Natural Resources & Environmental Control
State of Delaware
89 Kings Highway
Dover, DE 19901

In addition to the eight hard copies, submit a complete electronic "pdf" copy of the permit application and a copy of the Offset Matrix in Microsoft Word format on cd-rom.

4. Comply, if required, or as requested by the DNREC Secretary, with 7 Delaware Code, Chapter 79, Section 7902. If requested, but not completed, your application will not be considered administratively complete until this form is reviewed.
5. Be sure to include your permit application fee of \$3,000; otherwise the application will not be considered administratively complete. Make checks payable to the "State of Delaware."
6. Be advised that the application for a Delaware Coastal Zone Act Permit is a public document, which may be displayed at DNREC offices, public libraries, and the web, among others. If this application requires you to place confidential information or data in the application to make it administratively complete, note the Delaware Freedom of Information Act (29 Delaware Code, Chapter 100) and DNREC's Freedom of Information Act Regulation, Section 6 (Requests for Confidentiality), for the proper procedure in requesting confidentiality.

Note: This application template was last revised by DNREC on January 30, 2008. Please discard any previous versions.

PART 1

CERTIFICATION BY APPLICANT

Under the penalty of perjury pursuant to 11 Delaware Code §1221-1235, I hereby certify that all the information contained in this Delaware Coastal Zone Act Permit Application and in any attachments is true and complete to the best of my belief.

I hereby acknowledge that any falsification or withholding of information will be grounds for denial of a Coastal Zone Permit.

I also hereby acknowledge that all information in this application will be public information subject to the Delaware Freedom of Information Act, except for clearly identified proprietary information agreed to by the Secretary of the Department of Natural Resources & Environmental Control.

Jeremy W. Smith
Print Name of Applicant


Signature of Applicant

Proprietor
Title

February 26, 2013
Date

PART 2

APPLICANT INFORMATION AND SITE IDENTIFICATION

2.1 Identification of the applicant: Jeremy W. Smith

Company Name: Millville Organic Center

Address: 2 Smithfield Court - Unit 106; Ocean View, DE 19970

Telephone: cell 302-423-2601

Fax: N/A

Email: jeremysmith302@gmail.com

2.2 Primary contact: Please list the name, phone number and email of a preferred contact within your company in case the DNREC needs to contact you regarding this permit application.

Jeremy W. Smith cell 302-423-2601; jeremysmith302@gmail.com

2.3 Authorized agent (if any):

Name: N/A

Address:

Telephone:

Fax:

If you have an authorized agent for this permit application process, provide written authorization from client for being the authorized agent.

2.4 Project property location (street address):

West side of Whites Neck Road; 1,850 ft. south of Old Mill Road

2.5 In a separate attachment, provide a general map of appropriate scale to clearly show the project site.

ATTACHED

2.6 Is the applicant claiming confidentiality in any section of their application?

YES

NO

If yes, see instructions on page 3.

PART 3

PROJECT SUMMARY

Provide a one-page summary describing the proposed project. Include a brief quantitative description of the anticipated environmental impacts, and how the Environmental Offset Proposal will “clearly and demonstrably” more than offset any negative impacts.

SEE ATTACHMENT “PART 3 PROJECT SUMMARY”

Part 3 Project Summary

Millville Organic Center (MOC) will be a yard waste recycling and composting facility. We are going to accept organic yard waste, as defined in the Guidelines for Yard Waste Composting Facilities and detailed in Conditional Use #1913, from area homeowners and landscaping contractors. A copy of C/U #1913 is attached.

The yard waste will be broken down using a variety of equipment and incorporated into windrows. The windrows will be monitored and maintained over an 11-13 month period, during which time we will be using the Process to Further Reduce Pathogens (PFRP) as a guideline to accomplish a successful composting cycle.

The finished material will be sent to a certified independent laboratory in the State of Delaware, where it will be tested and certified by the USDA as an Organic compost/mulch or soil amendment. Pending the results of the tests and classification of our product, it will become available to the consumers and for landscaping/aesthetic purposes around the facility and property.

MOC will offer retail mulch, compost and topsoil for the convenience of our consumers. At the time our product is available, it will be stored separately and marketed accordingly.

Included in this application are the detailed air emissions calculations for the equipment in use and anticipated vehicle traffic for the facility, along with the storm water design and permit. Obtaining the storm water management permit has taken the environmental impact and offsets into consideration.

PART 4

**PROJECT PROPERTY RECORD AND
EVIDENCE OF LOCAL ZONING AND PLANNING APPROVAL**

PROJECT PROPERTY RECORD

4.1 Name and address of project premises owner(s) of record:

MILLVILLE ASSOCIATES

ATTENTION: KENNETH SIMPLER
30560 TOPSIDE COURT
OCEAN VIEW, DE 19970

4.2 Name and address of project premises equitable owner(s):

MILLVILLE ASSOCIATES

ATTENTION: KENNETH SIMPLER
30560 TOPSIDE COURT
OCEAN VIEW, DE 19970

4.3 Name and address of lessee(s):

JEREMY W. SMITH
2 SMITHFIELD COURT UNIT 106
OCEAN VIEW, DE 19970

4.4 Is the project premises under option by permit applicant?

YES

4.5 What is the present zoning of the land for this entire project site?

38+/- ACRES AR-1

17 acres +/- LOCATED WITHIN THE 38 ACRES ARE ZONED FOR A
YARD WASTE & COMPOSTING FACILITY. CONDITIONAL USE # 1913

EVIDENCE OF LOCAL ZONING AND PLANNING APPROVAL
**SEE ATTACHED “CONDITIONAL USE #1913” & OTHER AGENCY
APPROVALS**

I, _____, for _____
(Name of County, City of Town)

do hereby affirm that the project proposed by _____
(Name of Applicant)

located at _____, in
(Address)

the _____ zoning district is in
full compliance with the zoning code as it applies to this project.

The above named applicant’s project is in compliance with the adopted comprehensive development plan for the geographic area within which the project will be located.

(Signature)

(Title)

(Date)

This part is essential for a complete Coastal Zone Act Permit Application. No application will be considered administratively complete without it. While the applicant is strongly advised to use this form, the local zoning jurisdiction may utilize a different form or document to demonstrate “evidence of local zoning approval,” provided such documents are signed and dated by the proper official.



February 8, 2012

Jeremy W. Smith
2 Smithfield Court; Unit 106
Ocean View, DE 19970

RE: Conditional Use #1913
Yard Waste and Composting Facility

Dear Mr. Smith,

This is to inform you that on February 7, 2012 the Sussex County Council approved the above referenced Conditional Use application with 12 conditions. This approval is valid for a three-year period. The conditions of this approval are:

- A. The use shall be limited to an organic yard waste composting facility only. No poultry manure, sludge or other agricultural or solid or liquid wastes shall be accepted at the site. No lumber, stumps, or construction waste shall be accepted at the site.
- B. The use shall comply with all DNREC and Sussex Conservation District requirements and permits necessary for the Organic Yard Waste Composting Facility.
- C. The Applicant shall install a 20-foot landscaped buffer between the roadway and the common boundary between the site and Lots 12 through 18 of the Squirrel's Run development. The buffer area shall comply with the requirements for buffers set forth in Section 99-5 of the Sussex County Code. The buffer area shall be shown on the Final Site Plan.
- D. As offered by the Applicant, there shall be a 50-foot buffer along the rear of the site.
- E. Sales, composting, and processing hours will be limited to 9:00 a.m. to 6:00 p.m., Monday through Friday, and 9:00 a.m. to noon on Saturday. No Sunday hours shall be permitted.
- F. There shall be no composting, grinding, processing or mulch storage operations within 300 feet of any neighboring property line. The areas set aside for composting, grinding and processing shall be shown on the Final Site Plan.
- G. The areas set aside for any mulch storage shall be shown on the Final Site Plan. Processed mulch shall be stored in bins as shown on the Final Site Plan.
- H. Delivery hours will be limited to 9:00 a.m. to 6:00 p.m., Monday through Friday, and 9:00 a.m. to noon on Saturday, with no Sunday hours. The site shall be gated at the entrance along White's Neck Road so that after-hours deliveries or dumping do not occur.

February 8, 2012
Page 2

- I. Water shall be available to control dust and for fire prevention within the site.
- J. The site shall have one (1) non-illuminated on-premise sign not to exceed 32 square feet per side.
- K. Any security lighting shall not shine on neighboring roadways or properties.
- L. The Final Site Plan shall be subject to the review and approval of the Planning and Zoning Commission.

The final site plan shall be prepared by a Delaware Licensed Surveyor or Professional Engineer and shall contain the conditions of approval shown and depicted on it. Final site plan approval shall be subject to the review and approval of the Planning and Zoning Commission upon receipt of all agency approvals. The following approvals are required: DeIDOT, DNREC, Department of Agriculture, Office of the State Fire Marshal and Sussex Conservation District.

An approved Ordinance will be sent to you in the near future from the Clerk of the County Council.

Should you have any questions, please do not hesitate to contact this office.

Sincerely,


Shane Abbott
Assistant Director

cc: Millville Associates

Sussex County
Planning & Zoning Commission
P.O. Box 417
Georgetown, DE 19947
302 855-7878
302-854-5079 (Fax)



Robert C. Wheatley
Michael B. Johnson
Rodney Smith
Martin L. Ross
Irwin G. Burton, III
Lawrence B. Lank, Director

February 8, 2012

Jeremy W. Smith
2 Smithfield Court; Unit 106
Ocean View, DE 19970

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- H. Delivery hours will be limited to 9:00 a.m. to 6:00 p.m., Monday through Friday, and 9:00 a.m. to noon on Saturday, with no Sunday hours. The site shall be gated at the entrance along White's Neck Road so that after-hours deliveries or dumping do not occur.

February 8, 2012

Page 2

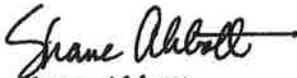
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- L. The Final Site Plan shall be subject to the review and approval of the Planning and Zoning Commission.

The final site plan shall be prepared by a Delaware Licensed Surveyor or Professional Engineer and shall contain the conditions of approval shown and depicted on it. Final site plan approval shall be subject to the review and approval of the Planning and Zoning Commission upon receipt of all agency approvals. The following approvals are required: DelDOT, DNREC, Department of Agriculture, Office of the State Fire Marshal and Sussex Conservation District.

An approved Ordinance will be sent to you in the near future from the Clerk of the County Council.

Should you have any questions, please do not hesitate to contact this office.

Sincerely,


Shane Abbott
Assistant Director

cc: Millville Associates

SHANE ABBOTT
ASSISTANT DIRECTOR OF PLANNING & ZONING

(302) 856-7888 T
(302) 854-5079 F
sabbott@sussexcountysde.gov



Sussex County
DELAWARE
sussexcountysde.gov

June 1, 2012

Mark Davidson
Pennoni Associates, Inc.
18072 Davidson Drive
Milton, DE 19968

RE: Millville Organic Center
CU #1913

Dear Mark,

Please be advised that on May 31, 2012 the Sussex County Planning and Zoning Commission approved your request to amend Condition of Approval #6 of Ordinance No. 2236 (CU #1913) to read as follows "There shall be no yard waste composting operations, including storage, composting and curing within 300-feet measured horizontally from an occupied dwelling and within 25-feet of a property line. There shall be no yard waste grinding within the same setbacks previously stated within this condition. These setbacks for yard waste composting operations, including storage, composting and curing yard waste grinding shall be shown on the Final Site Plan". This condition replaces the original condition.

The Planning and Zoning Commission also granted preliminary site plan approval for this conditional use with the following stipulation:

- 1. The revised Condition of Approval #6 shall be noted and depicted on the Final Site Plan.**
- 2. Final Site Plan approval shall be subject to this office receiving all agency approvals.**

The following agency approvals are required for this project: DeIDOT, DNREC, Department of Agriculture, Office of the State Fire Marshal and Sussex Conservation District.

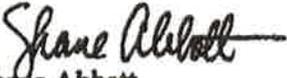
Please be reminded that the approved use needs to be substantially underway by February 7, 2015.

Should you have any questions, please do not hesitate to contact this office.

COUNTY ADMINISTRATIVE OFFICES
2 THE CIRCLE | PO BOX 417
GEORGETOWN, DELAWARE 19947

June 1, 2012
Page 2

Sincerely,


Shane Abbott
Assistant Director

cc: Jeremy W. Smith
C.E. Rupert Smith



STATE OF DELAWARE
DEPARTMENT OF NATURAL RESOURCES AND
ENVIRONMENTAL CONTROL
DIVISION OF WATER
89 KINGS HIGHWAY
DOVER, DELAWARE 19901

SURFACE WATER
DISCHARGES SECTION

PHONE: (302) 739-9946
FAX: (302) 739-8369

**AUTHORIZATION TO DISCHARGE UNDER THE
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
GENERAL STORM WATER PERMIT PROGRAM**

August 8, 2012

Millville Organics Center
Jeremy Smith
2 Smithfield Court, Unit 106
Ocean View, DE 19970

RE: Authorization to Discharge Under the NPDES General Storm Water Permit Program at Millville Organics Center

Dear Mr. Smith:

The Department of Natural Resources and Environmental Control (DNREC) has approved your request for Full Coverage under the NPDES Storm Water General Permit Program. This approval means the site, located at Whites Neck Road (SCR 347) - approximately 1826' south of Old Mill Road, Millville, DE 19947 is authorized to discharge storm water to a surface water body of the State, and must comply with Section 9.1 of "The Regulations Governing Storm Water Discharges Associated with Industrial Activities", 7 Del. Admin. C. §7201. Permit coverage began on August 8, 2012 and will expire on August 7, 2017, upon which a new Notice of Intent (NOI) form must be submitted to DNREC for review and approval within 60 days of the expiration date in order to continue permit coverage.

Any changes in facility operations or contact information will require the Storm Water Plan (SWP) to be amended. A signed copy of the SWP must be maintained at the facility and on file at DNREC (digital or hard copy accepted). NOI forms and other resources can be found online at:
<http://www.wr.dnrec.delaware.gov/Information/SWDInfo/Pages/SWDSSStormWater.aspx>.

Please maintain this approval on file at the facility at all times. If you have any questions or require further assistance, please contact Bill Tanner at (302) 739-9946 or by e-mail at Bill.Tanner@state.de.us.

Sincerely,

Glenn F. Davis
Program Manager
Surface Water Discharges Section

Delaware's good nature depends on you!



STATE OF DELAWARE
DEPARTMENT OF NATURAL RESOURCES AND
ENVIRONMENTAL CONTROL
DIVISION OF WATER
89 KINGS HIGHWAY
DOVER, DELAWARE 19901

SURFACE WATER
DISCHARGES SECTION

PHONE: (302) 739-9946
FAX: (302) 739-8369

August 8, 2012

Millville Organics Center
Jeremy Smith
2 Smithfield Court, Unit 106
Ocean View, DE 19970

RE Storm Water Plan Approval for National Pollutant Discharge Elimination System (NPDES) General Permit Coverage for Industrial Storm Water at Millville Organics Center

Dear Mr. Smith:

The Storm Water Plan (SWP) that you submitted has been reviewed and found to meet the applicable requirements of 7 Del. Admin. C. §7201, 9.1.01.5 Storm Water Plan of the "Regulations Governing Storm Water Discharges Associated with Industrial Activities" (Subsection 9.1).

If you have any questions, please contact me at (302) 739-9946 or by email at Bill.Tanner@state.de.us.

Sincerely,

Bill Tanner
Environmental Scientist
Surface Water Discharges Section

Delaware's good nature depends on you!



STATE OF DELAWARE

DEPARTMENT OF TRANSPORTATION

400 GUYTON ROAD
DOVER, DELAWARE 19903

SPENCER P. BOWEN
SECRETARY

May 24, 2012

Mr. Lawrence B. Lank
Director, Sussex County Planning & Zoning Commission
Sussex County Administration Building
P.O. Box 417
Georgetown, DE 19947

**DelDOT
NO OBJECTION
TO RECORDATION**

**SUBJECT: SSR 9398; Millville Organic Center
Tax Parcel #1-34-12.00-02.00
SCR 347 (White's Neck Road)
Sussex County**

Dear Mr. Lank:

The Department of Transportation has reviewed the Site Plan, dated April 5, 2012 (last revised 05/21/12), for the above referenced site, and has no objection as shown on the enclosed drawings and noted below. **This letter is for entrance location only and does not authorize the commencement of entrance construction.**

Note:

This site shall have access from SCR 347, as shown on the site plan.

A permanent drainage easement of 3,207.58 S.F. shall be established along SCR 347, as shown on the site plan.

Entrance plans shall be developed in accordance with the Department's rules and regulations prior to entrance approval.

DelDOT shall require a copy of the recorded Site Plan showing the DelDOT "No Objection to Recordation" stamp and all appropriate signatures, seals, Plot Book and Page Number, prior to issuing the entrance permit.

Furthermore, the owner must obtain an entrance permit from the DelDOT South District Public Works Section (302-853-1340) any time the property is subdivided, sold, leased, or the change of use of the property will significantly alter the flow or volume of traffic and/or drainage (at the sole discretion of the Department) and/or the owner transfers the interest in the property.



SSR 93-8, Millville Organic Center
Mr. Lawrence B. Lank
Page 2
May 24, 2012

This "No Objection to Recordation" approval shall be valid for a period of five (5) years. If the site plan is not recorded and an entrance permit obtained prior to the expiration of the "No Objection to Recordation", the applicant shall be required to start a new application for a "No objection to Recordation" letter.

The recordation of this no objection plan only satisfies DelDOT requirements and does not constitute the approval or imply final site plan approval by the local land use agency.

This "No Objection to Recordation" letter is not a DelDOT endorsement of the project discussed above. Rather, it is a recitation of the transportation improvements, which the applicant may be required to make as a pre-condition to recordation steps and deed restrictions as required by the respective county/municipality in which the project is located. If transportation investments are necessary, they are based on an analysis of the proposed project, its location, and its estimated impact on traffic movements and densities. The required improvements conform to DelDOT's published rules, regulations and standards. Ultimate responsibility for the approval of any project rests with the local government in which the land use decisions are authorized. There may be other reasons (environmental, historic, neighborhood composition, etc.) which compel that jurisdiction to modify or reject this proposed plan even though DelDOT has established that these enumerated transportation improvements are acceptable.

If I can be of any further assistance, please call me at 760-2266.

Very truly yours,

Marc Côté
Subdivision Engineer, Development Coordination

MC/RF

Enclosure (1)

Cc: Gomez W. Norwood, South District Entrance Permit Supervisor (1)
Jessica L. Watson, Sussex Conservation District
Douglas D. Barry, Pennoni Associates, Inc. (3)
File (1)



STATE OF DELAWARE

DEPARTMENT OF TRANSPORTATION

800 BAY ROAD
P.O. BOX 778
DOVER, DELAWARE 19903

SHAILEN P. BHATT
SECRETARY

May 25, 2012

Mr. Douglas D. Barry, P.E.
Pennoni Associates, Inc.
18072 Davidson Drive
Milton, DE 19968

**DeIDOT
ENTRANCE
PLAN APPROVAL**

**SUBJECT: SSR 9398; Millville Organic Center
Tax Parcel #1-34-12.00-02.00
SCR 347 (White's Neck Road)
Sussex County**

Dear Mr. Barry:

The commercial entrance plan dated February 24, 2012 (last revised 05/21/12), was approved by the Department of Transportation on DATE, as shown on the enclosed plans and as noted. As per the approved entrance plan, this site will not be permitted to discharge any stormwater runoff into the existing State Highway drainage system.

Note:

The South District Permit Supervisor will not issue an entrance permit until the Department is in receipt of a copy of the recorded Site Plan showing the DeIDOT "No Objection to Recordation" stamp and all appropriate signatures, seals, Plot Book and Page Number.

South District Maintenance shall to re-grade the swale from Squirrels Run to the proposed entrance culvert, as per the approved entrance plan. All remaining entrance improvements, including the installation of the culvert and re-grading the swale to the existing crossroad pipe is the responsibility of the developer. The work shall be coordinated at the pre-construction meeting.

This letter does not authorize the commencement of entrance construction. You must obtain a permit for entrance construction from DeIDOT prior to beginning work. Please take this plan and your itemized cost estimate to the District Entrance Permit Supervisor, in order to issue the required entrance permit. This plan approval shall be valid a period of six (6) months. If an extension of time is needed, contact the District Entrance Permit Supervisor in writing before the six (6) month period has expired. Otherwise, the plan must be resubmitted for review.

SSR 9398; Millville Organic Center
Mr. Douglas D. Barry, P.E.
Page 2
May 25, 2012

A 150% bond based upon the itemized construction cost estimate will be required at the time an entrance permit has been requested. Please contact the District Entrance Permit Supervisor (853-1340) directly concerning any questions you may have relative to the bonding procedure and permit.

The entrance plans have been reviewed and is in general conformance with the current rules and regulations. By signing and sealing the plan set, the developer's engineer is attesting to the accuracy and completeness of the design. Any errors, omissions or required field changes will be the responsibility of the developer.

If you have any question, please do not hesitate to call.

Sincerely,



Marc Coté
Subdivision Engineer, Development Coordination

MC/jtf

Enclosure (2)

cc: Gemez W. Norwood, South District Entrance Permit Supervisor (2)
Lawrence Lank, Sussex County Planning and Zoning (1)
Jessica L. Watson, Sussex Conservation District w/o enclosure



OFFICE OF STATE FIRE MARSHAL



2307 MacArthur Road
New Castle, DE 19720-2426
Phone: 302-323-5365
Fax: 302-323-5366

Technical Services
1537 Chestnut Grove Road
Dover, DE 19904-9610
Phone: 302-739-4394
Fax: 302-739-3696

22705 Park Avenue
Georgetown, DE 19947
Phone: 302-856-5298
Fax: 302-856-5800

FIRE PROTECTION PLAN REVIEW REPORT

Plan Review Number 2012-04-0190-MJS-03
Review Status APPROVED AS SUBMITTED

Tax Parcel Number 1-34-12.00-2.00
Review Date 08/29/2012

PROJECT

MILLVILLE ORGANIC CENTER

Phase#	Building #	Unit #
30580 TOPSOIL CT		
OCEAN VIEW, DE 19970		

SCOPE OF PROJECT

Project Type <u>MJS Major Site</u>	Occupant Load _____
Number of Stories <u>1</u>	Occupancy Code <u>9784</u>
Square Footage _____	Fire District <u>84</u>
Construction Class <u>I (332) FIRE RESISTIVE</u>	

APPLICANT

OWNER

PENNONI ASSOC INC
18072 DAVIDSON DR
MILTON, DE 19968

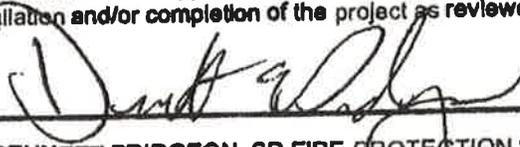
JEREMY SMITH
2 SMITHFIELD COURT
UNIT 106
OCEAN VIEW, DE 19970

This office has reviewed the plans and specifications of the above described project for compliance with the Delaware State Fire Prevention Regulations, in effect as of the date of this review.

A Review Status of "Approved as Submitted" or "Not Approved as Submitted" must comply with the provisions of the attached Plan Review Comments.

Any Conditional Approval does not relieve the Applicant, Owner, Engineer, Contractor, nor their representatives from their responsibility to comply with the plan review comments and the applicable provisions of the Delaware State Fire Prevention Regulations in the construction, installation and/or completion of the project as reviewed by this Agency.

This Plan Review Project was prepared by:


DENNETT PRIDGEON, SR FIRE PROTECTION SPECIALIST

FIRE PROTECTION PLAN REVIEW COMMENTS

Project Name MILLVILLE ORGANIC CENTER
Plan Review Number 2012-04-0190-MJS-03 Tax Parcel Number 1-34-12-00-2-00
Review Status APPROVED AS SUBMITTED Review Date 08/29/2012

PROJECT COMMENTS

- 2000 This project has been reviewed under the provisions of the Delaware State Fire Prevention Regulations (DSFPR) Effective November 11, 2009. The current Delaware State Fire Prevention Regulations are available on our website at www.statefiremarshal.delaware.gov. These plans were not reviewed for compliance with the Americans with Disabilities Act. These plans were not reviewed for compliance with any Local, Municipal, nor County Building Codes.
- Project work must be started within two years from the issuance of the permit, otherwise, the permit will be terminated.
-
- 1014 Per Regulation 702, Chapter 6, Fire Flow Table 1, Storage, Industrial, and Mercantile Occupancies shall not exceed 5,000 aggregate gross square feet; and shall have a minimum setback of 15 feet from all property lines and 15 feet setback from exposure hazards on the same property; OR shall not exceed 10,000 aggregate square feet; and shall have a minimum setback of 25 feet from all property lines and 15 feet from exposure hazards on the same property.
-
- 9999 THIS REVIEW IS FOR THE SITE PLAN ONLY, BUILDINGS ARE NOT TO BE USED UNTIL PLANS ARE SUBMITTED, REVIEWED, AND APPROVED.
-
- 1010 The following water for fire protection requirements apply: NONE. On Site Wells Proposed. This site meets Water Flow Table 1, therefore the provisions of NFPA 1142 shall apply to this site (DSFPR Regulation 702, Chapter 6, Section 3). Since wells are proposed for this site, no additional requirements will be made by this Agency for water for fire protection.
-
- 1106 The access road into the subdivision from the main thoroughfare is to be constructed so fire department apparatus may negotiate it. If a "center island" is placed at an entrance, it shall be arranged in such a manner that it will not adversely affect quick and unimpeded travel of fire apparatus into the subdivision.
-
- 1408 All premises which the fire department may be called upon to protect in case of fire and which are not readily accessible from public roads shall be provided with suitable gates, access roads, and fire lanes so that all buildings on the premises are accessible to fire apparatus. (DSFPR Regulation 705, Chapter 1, Section 2)
-



Project Name MILLVILLE ORGANIC CENTER
Plan Review Number 2012-04-0190-MJS-03 Tax Parcel Number 1-34-12.00-2.00
Review Status APPROVED AS SUBMITTED Review Date 08/29/2012

PROJECT COMMENTS

- 1405 Where emergency services have to utilize access roadways between public streets or roads to reach designated fire lanes, such access roadways shall be a minimum of 24 feet in width and constructed to meet the minimum engineering specifications and/or requirements to support emergency apparatus. If access roadways have no parking on one or both sides, they shall comply with the required fire lane markings (signs & curbs/demarcation lines) (DSFPR Regulation 705, Chapter 5, Section 3)
-
- 1180 This report reflects site review only. It is the responsibility of the applicant and owner to forward copies of this review to any other agency as required by those agencies.
-
- 1190 Separate plan submittal is required for the building(s) proposed for this project.
-
- 2500 A final inspection is required for this project prior to occupancy (DSFPR Part I, Section 4-7). Contact this Agency to schedule this inspection. Please have the plan review number available. A MINIMUM OF FIVE (5) WORKING DAYS NOTICE IS REQUIRED.
-
- 2600 At the time of final inspection, the individual or firm responsible for the original submission of plans shall provide an Architectural/Engineering grade plan of the building footprint, on an 8-1/2"x11" sheet that will detail the following: (a) Name, address, location of building;
-
- 2606 (g) Name and phone number of personnel responsible (owner and/or manager) for responding during emergencies.
-
- 1501 If there are any questions about the above referenced comments please feel free to contact the Fire Protection Specialist who reviewed this project. Please have the plan review number available when calling about a specific project. When changes or revisions to the plans occur, plans are required to be submitted, reviewed, and approved.
-



March 11, 2012

Jeremy Smith
2 Smithfield Court
Unit 106
Ocean View, DE 19970

Re: Wetland Evaluation, Tax Map: 134-12 Parcel 2.00, Baltimore Hundred, Sussex County, DE

Mr. Smith:

At your request, Accent Environmental, LLC has conducted a field investigation within the above referenced parcel to determine the presence or absence of wetlands for the purposes of Section 404 of the Clean Water Act. The investigation was conducted on February 21, 2012 in accordance with the U.S. Army Corps of Engineers 1987 Wetland Delineation Manual and the Interim Regional Supplement to the Corps of Engineers Wetlands Delineation Manual: Atlantic and Gulf Coastal Plain Region (Version 2.0; November 2010).

The parcel is comprised of 39 acres +/- and the specific area of investigation (AOI) is comprised of approximately 32 acres +/- . Information available from the National Wetlands Inventory and the Delaware State Wetland Mapping Project indicate the possible presence of forested wetlands in the northwest corner of the parcel which was outside the AOI; available information did not indicate the presence of wetlands within the AOI.

Soil borings were excavated within the AOI and confirmed the absence of hydric soils. The depth to redoximorphic features (i.e. indications of seasonal high water table) ranged from 15" to 48" beneath the soil surface. Depth to free water was greater than 60 inches throughout the AOI; soil drainage class ranged from somewhat poorly drained to moderately well drained.

A small farm pond is located near the western boundary of the AOI. The farm pond is a shallow, man-made feature. The feature acts to drain local uplands in the immediate vicinity and has no connectivity to other conduits or features and is not considered a regulated feature. Several shallow drainage swales are also located within the AOI. However, the soils within the swales are not hydric, drain only upland areas, and lack an ordinary high water mark/feature and are not considered regulated features.

Based on the absence of wetland hydrology and hydrophytic vegetation, no wetlands are present within the AOI. Please contact me with any questions you may have concerning this project.

Sincerely,
for Accent Environmental, LLC

William Gangloff, PhD

**PO BOX 788
MILLSBORO, DE 19966
PHONE: 1-302-362-1700
FAX: 1-302-371-0091**

www.aedelmars.com



Map 1

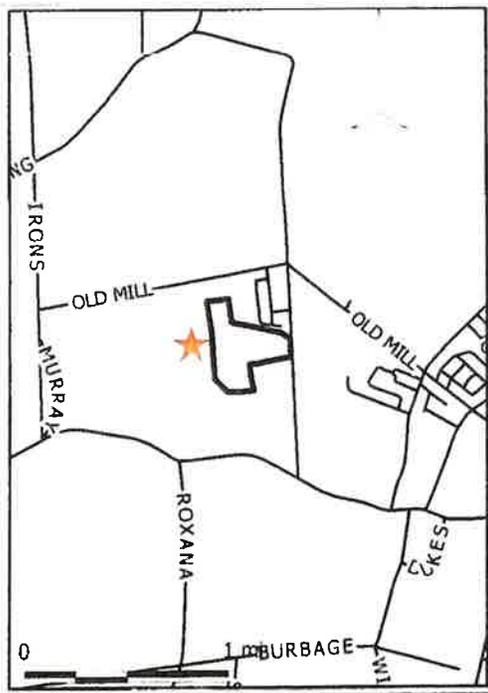
TM: 134-12.00-2.00

Job: 14-DS12-RC



0 500 ft

Accent Environmental, LLC
 PO Box 788
 Millsboro, DE 19966
 1-302-352-1700
 www.aedelmurva.com



- ▲ Soil Boring showing Inches to Redox Features
- Shallow Farm Pond (no connectivity)
- - - Ag Swale (non hydric/not a watercourse)
- Elevation Contour (feet)
- ~~~~ Woods Line
- Area of Investigation
- - - Property Boundary

NWI Mapped Wetland Areas:

Freshwater Forested Wetland

NRCS Mapped Soil Areas:

- Hammonton loamy sand (Hma; 0-2%)
- Henlopen loamy sand (HpB; 2-5%)
- Klej loamy sand (KsA; 0-2%)
- Rosedale loamy sand (RoA; 0-2%)

PART 5

PROJECT OPERATIONS

- 5.1 Describe the characteristics of the manufactured product and all the process and/or assembly operations utilized by the proposed project. Include in the description (use attachments if necessary):
- a. the raw materials, intermediate products, by-products and final products and characteristics of each. Review any materials' risk of carcinogenicity, toxicity, mutagenicity and/or the potential to contribute to the formation of smog. Provide material safety data sheets (MSDS) if available;
SEE ATTACHED "PART 5 PROJECT OPERATIONS"
 - b. the step-by-step procedures or processes for manufacturing and/or assembling the product(s). Provide a flow diagram to illustrate procedures;
SEE ATTACHED "PART 5 PROJECT OPERATIONS"
 - c. the nature of the materials mentioned above in 4.1(a) as to whether or not the materials require special means of storage or handling;
N/A
 - d. list the machinery (new and/or existing) to be utilized by this project;
SKIDSTEER, FARM TRACTORS, FRONT END LOADER, CHIPPER AND A TUB GRINDER
 - e. list any new buildings or other facilities to be utilized;
POLE SHED FOR STORAGE
 - f. list the size and contents of any anticipated aboveground or underground storage tank systems that may be constructed or utilized in support of facility operations;
N/A
 - g. if this project represents an increase or decrease in production at an already existing facility, what will be the new rate of maximum production?
N/A
 - h. if this project represents a totally new facility at a new or existing site, what will be the maximum production rate?
THE AMOUNT OF ACREAGE AT THE FACILITY WILL ALLOW FOR 36,000 CUBIC YARDS OF YARD WASTE TO BE STORED. THE MAXIMUM PRODUCTION RATE WILL BE DETERMINED BY THE AMOUNT OF INCOMING MATERIAL AND THE ABILITY TO ACHIEVE SUCCESSFUL COMPOSTING CYCLES.
- 5.2 Describe daily hours of plant operations and the number of operating shifts.
- MONDAY – FRIDAY 9 – 6 SATURDAYS 9 – 12 1 SHIFT

- 5.3 Provide a site plan of this project with:
- a. a north arrow;
 - b. a scale of not less than one inch to 200 feet;
 - c. identity of the person responsible for the plan, including any licenses and their numbers;
 - d. the acreage of the applicant's entire property and acreage of the proposed project;
 - e. property lines of entire property;
 - f. lines designating the proposed project area for which application is being made, clearly distinguished from present facilities and operating areas (if any);
 - g. existing and proposed roads, railroads, parking and loading areas, piers, wharfs, and other transportation facilities;
 - h. existing water bodies and wetlands and proposed dredge and fill areas, and;
 - i. existing and proposed drainage ways, gas, electric, sewer, water, roads, and other rights-of-way.

ATTACHED

5.4 How many acres of land in total are required for this proposed project?

Existing/ currently utilized/ developed land: _____ acres.

New land: 17 +/- _____ acres.

5.5 Has the property been involved with a state or federal site cleanup program such as Superfund, Brownfields, HSCA Voluntary Cleanup Program, RCRA Corrective Action, Aboveground or Underground Storage Tank Cleanup Programs? If so please specify which program. N/A

5.6 With regards to environmental cleanup actions, has a Uniform Environmental Covenant, Final Plan of Remedial Action, or no further action letter been issued by the Department? If so are the planned construction activities consistent with the requirements or conditions stated in these documents? N/A

Part 5 Project Operations

5.1

a. The raw materials that will be accepted and onsite will be organic yard waste and limited too: Plant material residues resulting from lawn maintenance and other horticultural, gardening and landscaping activities and includes fresh cut grass, leaves, prunings, brush, shrubs, garden material, Christmas trees and tree limbs up to 4" in diameter.

The raw material will be broken down using a chipper and grinder and incorporated into a windrow. At that point, the material will begin to decompose using the Aerobic Composting Method. This method relies on moisture content and turning the material to allow oxygen to biologically decompose the waste material.

The finished product(s) will be compost and mulch and sent to an independent laboratory for testing and certification. The anticipated organic yard waste, compost and mulch on the site will have little to no contribution to the formation of smog.

b. Consumers and employees will unload acceptable yard waste in designated tipping areas. The yard waste will be sorted and broken down using the equipment detailed in 5.1 d.

The material will be moved and incorporated into windrows where water will be applied and the interior conditions monitored and maintained for the next 11-13 months following the Process to Further Reduce Pathogens (PFRP). This process will determine the watering and turning schedules for the windrow so that it can achieve a successful composting cycle.

A sample from the finished material will be sent to an independent laboratory quarterly where it will be tested for its nutrient value. This will determine the type of certification our compost and mulch products receive and determine the type of consumer/market for our end product.

Please refer to the attached site plan for tipping area, composting area and mulch & compost storage areas and how everything will flow from the back of the facility to the front, where the proposed storage bins are located.

PART 6A

ENVIRONMENTAL IMPACTS

Air Quality

6.1 Describe project emissions (new, as well as any increase or decrease over current emissions) by type and amount under maximum operating conditions:

Pollutant	Existing Emissions		Net Increase/Decrease		New Total Emissions		Percent Change (compare tons/year)
	Lbs/day	Tons/year	Lbs/day	Tons/year	Lbs/day	Tons/year	
V O C	0	0	0.82	0.149	0.82	0.149	-
C O	0	0	10.08	1.839	10.08	1.839	-
N O x	0	0	5.58	1.019	5.58	1.019	-
P M	0	0	1.90	0.347	1.90	0.347	-
S O x	0	0	0.330	0.330	0.330	0.330	-

- **Numbers provided above are for proposed emissions only. The existing area of the proposed composting operations consists of an abandoned chicken house and undisturbed meadow.**
- **Numbers provided above are based on the equipment operation which includes idling in addition to run time.**
- **Please refer to attached air emissions calculations and support documentation**

6.2 Describe how the above emissions change in the event of a mechanical malfunction or human error.
 EMISSIONS WOULD BE SIGNIFICANTLY REDUCED IF A PIECE OF EQUIPMENT BROKE DOWN OR A MISTAKE WAS MADE. IT COULD LEAD TO A COMPLETE SHUTDOWN IN PRODUCTION.

6.3 Describe any pollution control measures to be utilized to control emissions to the levels cited above in 5.1.
 SERVICE EQUIPMENT FREQUENTLY

6.4 Show evidence that applicant has, or will have, the ability to maintain and utilize this equipment listed in 5.3 in a consistently proper and efficient manner. (For example, provide college transcripts and/or records of training courses and summary of experience with this pollution control equipment of person(s) responsible for pollution control equipment, and/or provide copies of contracts with pollution control firms to be responsible for maintaining and utilizing this equipment.)
 N/A

Water Quality

6.5 Describe wastewater discharge (new, as well as any increase or decrease over current discharge levels) due to project operations:

Pollutant	Current Discharge Concentration (ppm)	New or Changed Discharge Concentration (ppm)	Current Discharge		Net Increase/Decrease		New Total Emissions	
			Lbs/day	Tons/year	Lbs/day	Tons/year	Lbs/day	Tons/year
T S S								
P P								
S P								
O N								
N H 3								
N O 3								
Cu								
Z n								

- Since water emissions from this development will only be generated during a rainfall event, it is impossible to quantify a pounds-per-day emission rate (as provided in the table). Therefore, a modified table was created which summarizes the pre- and post-development water emissions, as well as the corresponding reduction. All data was taken directly from the DNREC-issued Delaware Urban Runoff Management Model (“DURMM”) calculations. These calculations were provided and approved by the Sussex Conservation District and it is our opinion that this is best way to summarize pre- and post-development water emissions for this project. The DURMM calculations and associated exhibits are provided.

6.6 Describe the current method of employee sanitary wastewater disposal and any proposed changes to that system due to this proposed project.

N/A (PORTABLE TOILET)

6.7 Identify the number, location, and name of receiving water outfall(s) of any and all process wastewater discharge (new or current) affected by this proposed project. Provide NPDES Permit Numbers for each discharge affected.

N/A

6.8 If any effluent is discharged into a public sewer system, is there any pretreatment program? If so, describe the program.

N/A

6.9 Stormwater:

- a. Identify the number, location, and name of receiving waters of stormwater discharges. Provide permit number for each discharge. INDIAN RIVER BAY VIA MILLVILLE TAX DITCH (PERMIT #3987)
- b. Describe the sources of stormwater run-off (roofs, storage piles, parking lots, etc). CHICKEN HOUSE ROOF, ASPHALT AREAS WHERE MULCH & COMPOST WILL BE STORED
- c. Describe the amount of stormwater run-off increase over current levels that will result from the proposed project.
PLEASE REFER TO THE ATTACHMENT IDENTIFIED IN THE DESCRIPTION UNDER TABLE 6.5.
- d. Describe any pollutants likely to be in the stormwater.
TSS, PP, SP, ON, NH3, NO3, Cu, Zn (SEE ATTACHMENT): PLEASE NOTE THAT ALL LEVELS WILL BE REDUCED PRE-TO-POST PER ANALYSIS. THE POLLUTANT DESCRIPTIONS CAN ALSO BE FOUND IN THE ATTACHMENT.
- e. Describe any pollution control device(s) or management technique(s) to be used to reduce the amount of stormwater generated, and devices to improve the quality of the stormwater run-off prior to discharge.
STORMWATER DETENTION POND, FILTER STRIP, BIOFILTRATION SWALES
- f. Describe any new or improved stormwater drainage system required to safely convey stormwater without flooding the project site or neighboring areas down gradient.
STORMWATER DETENTION POND & BIOFILTRATION SWALES

6.10 Will this project use a new water intake device, or increase the use (flow) from an existing intake device?

YES

NO

If yes, state:

- a. the volume of water to be withdrawn, and;
- b. describe what will be done to prevent entrainment and/or entrapment of aquatic life by the intake device.

6.11 Will this proposed project result in a thermal discharge of water, or an increase in the flow or temperature of a current thermal discharge?

YES

NO

If yes, state:

- a. the volume of the new flow or increase from the existing thermal discharge, both in flow and amount of heat;
- b. how warm will the water be when it is discharged into a receiving waterway, discharge canal, or ditch, and what will be the difference in discharge temperature and ambient temperature (delta T) at various seasons of the year after all cooling water mechanisms have been applied to the hot water?
- c. the equipment and/or management techniques that will be used to reduce the thermal load of the discharge water.

6.12 Will any proposed new discharge or change in existing discharge cause, or have potential to cause, or contribute to, the exceedence of applicable criteria appearing in the [“State of Delaware Surface Water Quality Standards”](#)?

YES

NO

If yes, explain:

6.13 Describe any oils discharged to surface waters due to this proposed project.

N/A

6.14 Describe any settleable or floating solid wastes discharged to surface waters due to this project.

N/A

6.15 Show evidence that the applicant has, or will have, the ability to maintain and utilize any water pollution control equipment listed in questions 5.5 through 5.14 in a consistently proper and efficient manner. (For example, provide operator license numbers, college transcripts and/or training courses and summary of prior

experience with this pollution control equipment of person(s) responsible for pollution control equipment, and/or provide copies of contracts with pollution control firms.)

N/A

- 6.16 Estimate the amount of water to be used for each specified purpose including cooling water. State daily and maximum water use in the unit of gallons per day for each purpose and source of water. State if water use will vary with the seasons, time of day, or other factors.

THE PRIMARY USE FOR WATER AT THE FACILITY IS TO MAINTAIN THE INTERIOR CONDITIONS OF THE COMPOST WINDROWS, DUST CONTROL MEASURES AND LANDSCAPING PURPOSES. WATER APPLICATION AND AMOUNTS WILL VARY GREATLY WITH THE SEASON, WEATHER AND MOISTURE CONTENT OF THE MATERIAL. THE AMOUNT OF WATER USED DAILY COULD RANGE FROM 0-15,000± GALLONS PER DAY.

- 6.17 Identify the source of water needed for the proposed project, including potable water supplies.

IRRIGATION WELL

- 6.18 Are wells going to be used?

YES
NO

If yes:

- a. Identify the aquifer to be pumped and the depth, size and pumping capacity of the wells.
TO BE DETERMINED
- b. Has a permit been applied for to do this?
NO
- c. How close is the proposed well(s) to any well(s) on adjacent lands?
I AM IN THE PROCESS OF SELECTING A COMPANY TO UPDATE AND/OR REPLACE AN IRRIGATION WELL ON THE PROPERTY. THIS COMPANY WILL BE LICENSED AND INSURED IN THE STATE OF DELAWARE, AND HAVE A VALID PERMIT FROM DNREC TO PERFORM THE NECESSARY WORK.

Solid Waste

6.19 Will this project result in the generation of any solid waste?

YES

NO

If yes, describe each type and volume of any solid waste (including biowastes) generated by this project, and the means used to transport, store, and dispose of the waste(s).

6.20 Will there be any on-site recycling, re-use, or reclamation of solid wastes generated by this project?

YES

NO

If yes, describe:

6.21 Will any waste material generated by this project be destroyed on-site?

YES

NO

If yes, how will that be done?

Hazardous Waste

6.22 Will this proposed project result in the generation of any hazardous waste as defined by the [“Delaware Regulations Governing Hazardous Waste”](#)?

YES

NO

If yes, identify each hazardous waste, its amount, and how it is generated:

6.23 Describe the transport of any hazardous waste and list the permitted hazardous waste haulers that will be utilized.

N/A

6.24 Will the proposed project cause the applicant to store, treat, and/or dispose of hazardous waste?

YES

NO

If yes, describe:

6.25 Does the applicant currently generate any hazardous waste at this site?

YES

NO

If yes, describe:

Habitat Protection

6.26 What is the current use of the land that is to be used for the proposed project?

UNIMPROVED & FARM LAND

6.27 Will the proposed project result in the loss of any wetland habitat?

YES

NO

If yes, describe:

6.28 Will any wastewater and/or stormwater be discharged into a wetland?

YES

NO

If yes, will the discharge water be of the same salinity as the receiving wetlands?

6.29 Will the proposed project result in the loss of any undisturbed natural habitat or public use of tidal waters?

YES

NO

If yes, how many acres?

6.30 Do threatened or endangered species (as defined by the DNREC and/or the Federal Endangered Species Act) exist at the site of the proposed project, or immediately adjacent to it?

YES

NO

If yes, list each species:

6.31 Will this proposed project have any effect on these threatened or endangered species (as defined by the DNREC and/or the Federal Endangered Species Act).

YES

NO

If yes, explain:

6.32 What assurances can be made that no threatened or endangered species exist on the proposed project site?
THERE HAS BEEN NO EVIDENCE OF THREATENED OR ENDANGERED SPECIES ON THE SITE FOR THE 22+ YEARS THAT MILLVILLE ASSOCIATES HAVE OWNED AND MANAGED THE ACTIVE FARM LAND, FORMER CHICKEN HOUSES AND RESIDENCES.

6.33 Describe any filling, dredging, or draining that may affect nearby wetlands or waterways.

N/A

6.34 If dredging is proposed, how much will occur and where will the dredged materials go for disposal?

N/A

Other Environmental Effects

- 6.35 Describe any noticeable effects of the proposed project site including: heat, glare, noise, vibration, radiation, electromagnetic interference, odors, and other effects. IT IS MY INTENTION TO KEEP ANY NOTICABLE ENVIRONMENTAL EFFECTS TO A MINIMUM. NOISE WILL INCREASE DUE TO VEHICLES ENTERING/EXITING THE SITE AND THE USE OF EQUIPMENT.
- 6.36 Describe what will be done to minimize and monitor such effects. THERE WILL BE A POSTED SPEED LIMIT FOR THE ROADWAY. WATER WILL BE APPLIED TO THE ROADWAY FOR DUST CONTROL MEASURES. EQUIPMENT WILL BE USED AS NEEDED, DURING BUSINESS HOURS, AND DICTATED BY THE CONDITIONS OF THE WINDROWS AND THE AMOUNT OF INCOMING MATERIAL. ODOR WOULD BE THE RESULT OF AN UN-KEPT SITE AND AN UNSUCCESSFUL COMPOSTING CYCLE. AN EMPLOYEE WILL BE RESPONSIBLE FOR INSPECTING THE GROUNDS FOR DEBRIS AND/OR LITTER AND MONITORING THE WINDROWS EVERY DAY WE ARE OPEN.
- 6.37 Describe any effect this proposed project will have on public access to tidal waters.
N/A
- 6.38 Provide a thorough scenario of the proposed project's potential to pollute should a major equipment malfunction or human error occur, including a description of backup controls, backup power, and safety provisions planned for this project to minimize any such accidents.
IF A PIECE OF EQUIPMENT WERE TO MALFUNCTION OR BREAK, IT WOULD BE SHUT DOWN IMMEDIATELY AND THE SITUATION ASSESSED. IF THERE IS A LEAK, THE LIQUID WILL BE CONTAINED AND DISPOSED OF PROPERLY. THE PIECE OF EQUIPMENT WOULD BE MOVED TO A SPECIFIC AREA WHERE IT WOULD BE FIXED. EQUIPMENT WILL BE SERVICED ROUTINELY AND EMPLOYEES WILL BE REQUIRED TO WEAR THE APPROPRIATE SAFETY GEAR AND TAKE THE PROPER PRECAUTIONS WHEN USING EQUIPMENT.
- 6.39 Describe how the air, water, solid and hazardous waste streams, emissions, or discharge change in the event of a major mechanical malfunction or human error.

AIR EMSSIONS WOULD BE SIGNIFICANTLY REDUCED IF A PIECE OF EQUIPMENT BREAKS OR AND EMPLOYEE MAKES A MISTAKE. IT COULD SHUT DOWN THE PROCESS COMPLETELY.

PART 6B

ENVIRONMENTAL OFFSET PROPOSAL REDUCTION CLAIM

Is applicant claiming the right to have a reduced offset proposal due to past voluntary improvements as defined in the “Regulations Governing Delaware’s Coastal Zone”?

YES

NO

If yes, provide an attachment to the application presenting sufficient tangible documentation to support your claim.

PART 6C

ENVIRONMENTAL OFFSET PROPOSAL

If the applicant or the Department finds that an Environmental Offset Proposal is required, the proposed offset project shall include all the information needed to clearly establish:

- A. A qualitative and quantitative description of how the offset project will “*clearly and demonstrably*” more than offset the negative impacts from the proposed project.
- B. How and in what period of time the offset project will be carried out.
- C. What the environmental benefits will be and when they will be achieved.
- D. What scientific evidence there is concerning the efficacy of the offset project in producing its intended results.
- E. How the success or failure of the offset project will be measured in both the short and long term.
- F. What, if any, negative impacts are associated with the offset project.
- G. How the offset will impact the attainment of the Department’s environmental goals for the Coastal Zone and the environmental indicators used to assess long-term environmental quality within the Coastal Zone.

Additional Offset Proposal Information for the Applicant

1. The offset proposals must “*clearly and demonstrably*”¹ more than offset any new pollution from the applicant’s proposed project. The applicant can claim (with documentation) evidence of past voluntary environmental investments (as defined in the Regulations) implemented prior to the time of application. Where the Department concurs with the applicant that such has occurred, the positive environmental improvement of the offset proposal against the new negative impact can be somewhat reduced.
2. The applicant must complete the Coastal Zone Environmental Impact Offset Matrix. This matrix can be found on the CZA web page (<http://www.dnrec.delaware.gov/Admin/CZA/CZAHome.htm>), or by clicking on [this link](#). On page one, the applicant must list all environmental impacts in the column labeled “Describe Environmental Impacts.” In the column to the immediate right, the applicant should reference the page number of the application or attachment which documents each impact listed. In the “Describe Environmental Offset Proposal” column, applicant must state what action is offsetting the impact. The offset action shall be referenced by page number in the column to the right to show how the offset will work. The applicant shall not utilize the far right column. *Please ensure the matrix is complete, detailed, and as specific as possible, given the allotted space. Also, thoroughly proof-read to ensure there are no spelling or grammatical errors.* The applicant must submit a completed matrix both in hardcopy and electronic form.
3. Please note: the entire offset proposal, including the matrix, shall be available to the public, as well as the evidence of past voluntary environmental enhancements.

¹ For purposes of this requirement, the DNREC will interpret the phrase “clearly and demonstrably” to mean an offset proposal that is obviously so beneficial without detailed technical argument or debate. The positive environmental benefits must be obviously more beneficial to the environment than the new pollution that minimal technical review is required by the Department and the public to confirm such. The total project must have a positive environmental impact. The burden of proof is on the applicant.

PART 7

ECONOMIC EFFECTS

Construction

- 7.1 Estimate the total number of workers for project construction and the number to be hired in Delaware.
MY BEST GUESS WOULD BE 6±. THE MAJORITY OF THE PROJECT CONSTRUCTION WORK WILL CONSIST OF INFRASTRUCTURE/SITE WORK. THE TRUE NUMBER WILL BE DETERMINED BY THE DELAWARE BASED COMPANY HIRED TO PERFORM THE SITE WORK.
- 7.2 Estimate the weekly construction payroll.
TO BE DETERMINED BY THE COMPANY HIRED TO PERFORM THE SITE WORK.
- 7.3 Estimate the value of construction supplies and services to be purchased in Delaware.
TO BE DETERMINED BY THE COMPANY HIRED TO PERFORM THE SITE WORK
- 7.4 State the expected dates of construction initiation and completion.
WITHIN 120 DAYS OF THIS APPLICATION'S APPROVAL.
- 7.5 Estimate the economic impact from the loss of natural habitat, or any adverse economic effects from degraded water or air quality from the project on individuals who are directly or indirectly dependent on that habitat or air or water quality (e.g. commercial fishermen, waterfowl guides, trappers, fishing guides, charter or head boat operators, and bait and tackle dealers).
N/A

Operations

- 7.6 State the number of new employees to be hired as a direct result of this proposed project and how many of them will be existing Delaware residents and how many will be transferred in from other states.
 2-3 NEW EMPLOYEES WILL BE HIRED FOR YEAR ROUND WORK. THEY WILL BE CURRENT RESIDENTS OF SUSSEX COUNTY.
- 7.7 If employment attributable to the proposed project will vary on a seasonal or periodic basis, explain the variation and estimate the number of employees involved.
 THERE COULD BE A NEED FOR UP TO 4 SEASONAL EMPLOYEES. THIS LOCATION HAS ALWAYS BEEN SEASONAL AND WORK WILL GENERALLY INCREASE DURING THE LATE SPRING, SUMMER AND FALL. COVERAGE WILL ALSO BE NEEDED WHEN COMPREHENSIVE WORK NEEDS TO BE DONE WITH THE TUB GRINDER AND/OR WINDROWS.
- 7.8 Estimate the percent distribution of annual wages and salaries (based on regular working hours) for employees attributable to this project:

<u>Wage/salary</u>	<u>Percent of employees</u>
<\$10,000	EMPLOYEE #1 \$15K-24,999K
\$10,000-14,999	EMPLOYEE #2 \$10K-14,999K
\$15,000-24,999	
\$25,000-34,999	SEASONAL
\$35,000-49,999	EMPLOYEE #1 <10K
\$50,000-64,999	EMPLOYEE #2 <10K
\$65,000-74,999	EMPLOYEE #3 <10K
\$75,000-99,999	EMPLOYEE #4 <10K
>\$100,000	

- 7.9 Estimate the annual taxes to be paid in Delaware attributable to this proposed project:

State personal income taxes:	\$ 5,000±
State corporate income taxes	\$ N/A
County and school district taxes:	\$ 300±
Municipal taxes:	\$ N/A

PART 8

SUPPORTING FACILITIES REQUIREMENTS

Describe the number and type of new supporting facilities and services that will be required as a result of the proposed project, including, but not limited to:

a. Roads

IMPROVE EXISTING GRAVEL ROADWAY TO SITE AND CREATE ROADWAY FOR FACILITY

b. Bridges

N/A

c. Piers and/or docks

N/A

d. Railroads

N/A

e. Microwave towers

N/A

f. Special fire protection services not now available

N/A

g. Traffic signals

N/A

h. Sewer expansion

N/A

i. Energy related facilities expansion

N/A

j. Pipelines

N/A

PART 9

AESTHETIC EFFECTS

- 9.1 Describe whether the proposed project will be located on a site readily visible from a public road, residential area, public park, or other public meeting place (such as schools or cultural centers).
THE FACILITY IS LOCATED APPROXIMATELY 1,000' WEST OF WHITES NECK ROAD AND IS EMCOMPASSED BY ACTIVE FARMLAND. THERE ARE PORTIONS OF THREE RESIDENTIAL COMMUNITIES ADJACENT TO THE PROPERTY.
- 9.2 Is the project site location within a half mile of a place of historic or scenic value?
NO
- 9.3 Describe any planned attempt to make the proposed facility aesthetically compatible with its neighboring land uses. Include schematic plans and/or drawings of the proposed project after it is complete, including any landscaping and screening.
THE PROPERTY HAS MATURE WOODS AND AN ESTABLISHED TREE LINE BORDERING THE PORTIONS OF THE THREE RESIDENTIAL COMMUNITIES. THE ACREAGE SURROUNDING THE FACILITY WILL REMAIN ACTIVE FARM LAND. THE TREE LINE THAT BORDERS THE PROPERTIES/RESIDENCES ADJACENT TO THE ROADWAY AND FACILITY WILL BE IMPROVED WITH A 20' LANDSCAPED BUFFER.

PLEASE REFER TO THE ATTACHED SITE PLAN, LANDSCAPE PLAN AND CONDITION C OF C/U 1913

PART 10

EFFECTS ON NEIGHBORING LAND USES

- 10.1 How close is the nearest year-round residence to the site of this proposed project?
300'
- 10.2 Will this proposed project interfere with the public's use of existing public or private recreational facilities or resources?
NO
- 10.3 Will the proposed project utilize or interfere with agricultural areas?
NO
- 10.4 Is there any possibility that the proposed project could interfere with a nearby existing business, commercial or manufacturing use?
NO

END OF APPLICATION

ATTACHMENTS TO FOLLOW

AIR EMISSION CALCULATIONS - MILLVILLE ORGANIC CENTER

SITE OPEN 48 HOURS A WEEK (PER SUSSEX COUNTY CONDITIONS OF APPROVAL)
 ASSUME SITE OPEN 45 WEEKS PER YEAR (CLOSED DURING INCLIMATE WEATHER CONDITIONS)
 ALL CALCULATIONS SHOWN ARE BASED ON THE EQUIPMENT OPERATIONAL USAGE WHICH INCLUDES IDLING.

EQUIPMENT

UNIT 1 - CARS/TRUCKS USING FACILITY (22,950/YEAR (88*5*45 + 14*5*45) - PER DELDOT APPROVED TRIP GENERATION)
 ASSUMED AVERAGE IDLE/RUN TIME PER VEHICLE DURING VISIT = 10 MINUTES
 UNIT 2 - LANDSCAPE/FARM TRUCK (1 USED DAILY BY SITE OPERATOR; ASSUMED WEEKLY IDLE/RUN TIME = 24 HOURS)
 UNIT 3 - SKID STEER BOBCAT (1 USED BY SITE OPERATOR; ASSUMED WEEKLY IDLE/RUN TIME = 24 HOURS)
 UNIT 4 - SIX-INCH (6") TO EIGHT-INCH (8") CHIPPER; ASSUMED WEEKLY IDLE/RUN TIME = 16 HOURS; ASSUME 18 HP)
 UNIT 5 - 215 HP TUB GRINDER (LEASED 4 TIMES PER YEAR; ASSUMED IDLE/RUN TIME PER LEASE EVENT = 80 HOURS)
 (SPECIFICATIONS PROVIDED WITH PERMIT APPLICATION)

UNIT 1, 2, & 3 DATA WAS TAKEN FROM ATTACHMENT 1 (EPA EMISSION FACTS)
 REFER TO TABLE "SUMMER CONDITIONS"

UNIT 1 - 50% LDGV/50% LDGT (USE AVERAGE RATE)
 UNIT 2 - LDGT
 UNIT 3 - LDDT

UNIT 1 (Total Hourly Idle/Run Time Per Year = 3,825 (10x22,950/60))

VOC	20.1 g/hr		76,883 grams		0.085 tons
CO	284 g/hr	>>>	1,086,300 grams	>>>	1.197 tons
NOx	5.22 g/hr		19,967 grams		0.022 tons

UNIT 2 (Total Hourly Idle/Run Time Per Year = 1,080 (24*45))

VOC	24.1 g/hr		26,028 grams		0.029 tons
CO	339 g/hr	>>>	366,120 grams	>>>	0.404 tons
NOx	5.71 g/hr		6,167 grams		0.007 tons

UNIT 3 (Total Hourly Idle/Run Time Per Year = 1,080 (24*45))

VOC	4.63 g/hr		5,000 grams		0.006 tons
CO	11.2 g/hr	>>>	12,096 grams	>>>	0.013 tons
NOx	6.67 g/hr		7,204 grams		0.008 tons

UNIT 4 & 5 DATA WAS TAKEN FROM ATTACHMENT 2 (CITY OF GREENSBORO ENVIRONMENTAL SERVICES DIVISION FOR AIR QUALITY PERMIT APPLICATION)

UNIT 4 (Total Hourly Idle/Run Time Per Year = 720 (16*45); 18 HP)

NOx	0.024 lb/hp/hr		311.0 lb		0.156 tons
CO	0.0055 lb/hp/hr		71.3 lb		0.036 tons
SOx	0.00809 lb/hp/hr	>>>	104.8 lb	>>>	0.052 tons
PM-10	0.000401 lb/hp/hr		5.2 lb		0.003 tons
VOC	0.000705 lb/hp/hr		9.1 lb		0.005 tons

UNIT 5 (Total Hourly Idle/Run Time Per Year = 320 (4*80); 215 HP)

NOx	0.024 lb/hp/hr		1,651.2 lb		0.826 tons
CO	0.0055 lb/hp/hr		378.4 lb		0.189 tons
SOx	0.00809 lb/hp/hr	>>>	556.6 lb	>>>	0.278 tons
PM-10	0.000401 lb/hp/hr		27.6 lb		0.014 tons
VOC	0.000705 lb/hp/hr		48.5 lb		0.024 tons

TOTALS

NOx	1.019 tons
CO	1.839 tons
SOx	0.330 tons
PM-10	0.347 tons
VOC	0.149 tons



Emission Facts

Attachment 1

Idling Vehicle Emissions

There are situations in which estimates of emissions from idling vehicles are needed. As with driving emissions, idle emissions are affected by a number of parameters. For analyses not requiring detailed specific emission estimates tailored to local conditions, this summary of idle emission factors can be used to obtain first-order approximations of emissions under idle conditions (e.g., drive-thru lanes).

Introduction

The following tables present idle emission factors, in grams per hour (g/hr) and grams per minute (g/min) of idle time, for volatile organic compounds (VOC), carbon monoxide (CO), and oxides of nitrogen (NO_x). Idle emissions of particulate matter (PM₁₀) are provided for heavy-duty diesel vehicles only; PM₁₀ emissions from gasoline-fueled vehicles are negligible, especially when the elimination of lead in gasoline and reductions of sulfur content are accounted for. Emission factors are provided for both summer and winter conditions for VOC, CO, and NO_x. These idle emission factors are from the MOBILE5b highway vehicle emission factor model (VOC, CO, NO_x) and the PART5 model (PM₁₀ for heavy-duty diesel vehicles only). These emission factors are national averages for all vehicles in the in-use fleet as of January 1, 1998 (winter) or July 1, 1998 (summer). PM₁₀ idle emission factors for heavy-duty diesels are as of January 1, 1998.

Acronyms:

- CO:** Carbon monoxide
- GVW:** Gross vehicle weight
- NOx:** Oxides of Nitrogen (mostly NO and NO₂)
- PM₁₀:** Particulate matter, diameter ≤ 10 microns
- psi:** Pounds per square inch
- RVP:** Reid vapor pressure, a common method of expressing the volatility (tendency to evaporate) of gasoline; RVP is vapor pressure measured at 100°F (38°C).
- VOC:** Volatile organic compounds (for vehicles, this refers to exhaust emissions from incomplete combustion of gasoline, which is composed of a blend of hydrocarbon compounds)

Definitions of Vehicle Types:

- LDGV:** Light-duty gasoline-fueled vehicles, up to 6000 lb Gross Vehicle Weight (GVW) (gasoline-fueled passenger cars)
- LDGT:** Light-duty gasoline-fueled trucks, up to 8500 lb GVW (includes pick-up trucks, minivans, passenger vans, sport-utility vehicles, etc.)
- HDGV:** Heavy-duty gasoline-fueled vehicles, 8501+ lb GVW (gas heavy-duty trucks)
- LDDV:** Light-duty diesel vehicles, up to 6000 lb GVW (passenger cars with diesel engines)
- LDDT:** Light-duty diesel trucks, up to 8500 lb GVW (light trucks with diesel engines)
- HDDV:** Heavy-duty diesel vehicles, 8501+ lb GVW (diesel heavy-duty trucks)
- MC:** Motorcycles (only those certified for highway use; all gasoline-fueled)

Winter Conditions (30°F, 13.0 psi RVP gasoline)

Pollutant	Units	LDGV	LDGT	HdGV	LDDV	LDDT	HDDV	MC
VOC	g/hr	21.1	30.7	44.6	3.63	4.79	12.6	20.1
	g/min	0.362	0.512	0.734	0.061	0.080	0.211	0.335
CO	g/hr	371	487	682	10.1	11.5	94.6	388
	g/min	6.19	8.12	11.4	0.168	0.191	1.58	6.47
NOx	g/hr	6.16	7.47	11.8	6.66	6.89	56.7	2.51
	g/min	0.103	0.125	0.196	0.111	0.115	0.945	0.042

Summer Conditions (75°F, 9.0 psi RVP Gasoline)

Pollutant	Units	LDGV	LDGT	HdGV	LDDV	LDDT	HDDV	MC
VOC	g/hr	16.1	24.1	35.8	3.53	4.63	12.5	19.4
	g/min	0.269	0.401	0.597	0.059	0.077	0.208	0.324
CO	g/hr	229	339	738	9.97	11.2	94.0	435
	g/min	3.82	5.65	12.3	0.166	0.187	1.57	7.26
NOx	g/hr	4.72	5.71	10.2	6.50	6.67	55.0	1.89
	g/min	0.079	0.095	0.170	0.108	0.111	0.917	0.028

Particulate Matter Emissions

The only vehicle category for which EPA has idle PM₁₀ emission factors is heavy-duty diesels. Particulate emissions are also observed to be relatively insensitive to temperature, and so "winter" and "summer" emission factors for idle PM₁₀ are the same.

Engine Size	Emissions
Light/Medium HDDVs (8501-33,000 lb GVW)	2.62 g/hr (0.044 g/min)
Heavy HDDVs (33,001+ lb GVW)	2.57 g/hr (0.043 g/min)
HDD buses (all buses, urban and inter-city travel)	2.52 g/hr (0.042 g/min)
Average of all heavy-duty diesel engines	2.59 g/hr (0.043 g/min)

For More Information

Additional documents on emissions from mobile sources are available electronically from the EPA Internet server at:

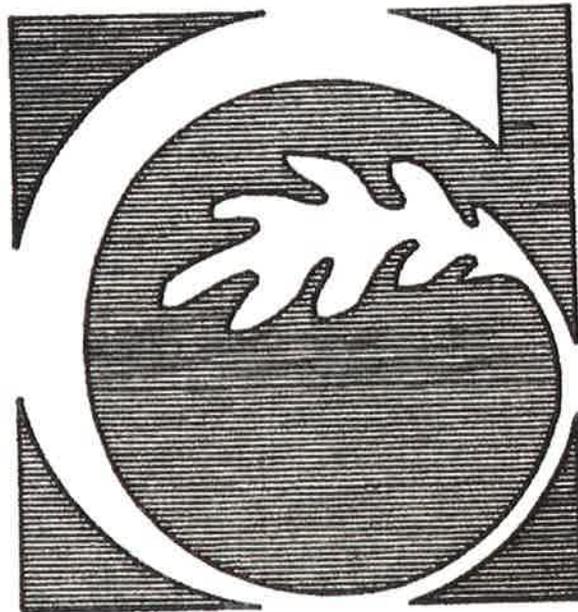
<http://www.epa.gov/OMSWWW>

Document information is also available by writing to:

**U.S. Environmental Protection Agency
Office of Mobile Sources
2565 Plymouth Road
Ann Arbor, MI 48105**

Attachment 2

CITY OF GREENSBORO
ENVIRONMENTAL SERVICES DEPARTMENT
SOLID WASTE MANAGEMENT DIVISION
WHITE STREET LANDFILL
TITLE V AIR QUALITY PERMIT APPLICATION



PO BOX 3136 GREENSBORO, NC 27402-3136

SCS ENGINEERS, PC

**AIR OPERATING PERMIT APPLICATION
FOR THE
WHITE STREET LANDFILL
GREENSBORO, NORTH CAROLINA**

Presented to:

**NORTH CAROLINA DEPARTMENT OF THE ENVIRONMENT
AND NATURAL RESOURCES
DIVISION OF AIR QUALITY
P.O. Box 29580
Raleigh, North Carolina 27626-0580
(919) 733-1728**

Presented by:

**SCS ENGINEERS, PC
218 East Tremont Avenue, Suite C
Charlotte, North Carolina 28203
(704) 377-4766**

On Behalf of:

**DUKE ENGINEERING AND SERVICES
400 South Tryon Street, WC11B
P.O. Box 1004
Charlotte, NC 28201-1004
(704) 382-9170**

and

**CITY OF GREENSBORO
Solid Waste Management Division
2503 White Street
P.O. Box 3136
Greensboro, NC 27402-3136
(910) 375-2218**

**File No. 0298302.02
November 10, 1999**

SECTION 6

TUB GRINDER (ES-4)

GENERAL

A diesel-fueled, 850-hp tub grinder will be located in the Anaerobic Digestion Facility at the Landfill. The grinder is expected to begin operation in September of 1999 when the anaerobic digesters become operational. It will grind brush, yard waste, and other suitable wood waste received by the Landfill to be input into the anaerobic digester or processed as mulch. The manufacturer of the grinder (Model No.1300) will be Morbark of Winn, Michigan.

POTENTIAL EMISSIONS

The tub grinder's engine emissions factors for NO_x, CO, SO_x, PM-10, and VOC could not be obtained from the manufacturer; therefore, the emission factors used to estimate the maximum potential emissions were based on AP-42, Sections 3.3 and 3.4. The potential emissions listed in Table 6A assume the tub grinder will operate at approximately 3,744 hours per year. This is assuming an overly conservative operating estimate of 6 days per week at 12 hours per day. The actual emissions listed in Table 6A were set equal to the expected operating schedule of approximately 2,340 hours, or 260 working days, per year. According to correspondence with the City, the tub grinder will be used approximately 8 to 9 hours per day for an average of 5 days per week.

TABLE 6A. TUB GRINDER COMBUSTION EMISSIONS

Pollutant	Emission Factor ⁽¹⁾ (lb/hp/hr)	Potential Emissions ⁽²⁾ (tpy)	Actual Emissions ⁽³⁾ (tpy)
NO _x	2.4 x 10 ⁻²	38.2	23.9
CO	5.5 x 10 ⁻³	8.8	5.5
SO _x ⁽⁴⁾	8.09 x 10 ⁻³	12.9	8.0
PM-10 ⁽⁵⁾	4.01 x 10 ⁻⁴	0.64	0.40
VOC ⁽⁶⁾	7.05 x 10 ⁻⁴	1.1	0.70
HAPs			
Benzene ⁽⁶⁾	5.43 x 10 ⁻⁶	0.009	0.005
Toluene ⁽⁶⁾	1.96 x 10 ⁻⁶	0.003	0.002
Xylenes ⁽⁶⁾	1.35 x 10 ⁻⁶	0.002	0.001

Propylene ⁽⁶⁾	1.95 x 10 ⁻⁶	0.03	0.02
Formaldehyde ⁽⁶⁾	5.52 x 10 ⁻⁷	0.0009	0.0006
Acetaldehyde ⁽⁶⁾	1.76 x 10 ⁻⁷	0.0003	0.0002
Acrolein ⁽⁶⁾	5.52 x 10 ⁻⁸	0.00009	0.00006
Total PAH ^{(6) (7)}	1.48 x 10 ⁻⁵	0.002	0.002
Total HAPs		0.047	0.031

- ¹ The emissions factors for a large diesel-fueled engine (tub grinder) were based on Tables 3.4-1, 3.4-2, 3.4-3, and 3.4-4 in AP-42, Section 3.4.
- ² The potential emissions were calculated assuming the engine operates 3,744 hours per year.
- ³ The actual emissions were calculated assuming the engine operates 2,340 hours per year.
- ⁴ The sulfur content of No. 2 diesel fuel was assumed to be 0.3 percent.
- ⁵ The break-specific fuel consumption (BSFC) used to convert from lb/MMBtu to lb/hp-hr was 7,000 Btu/hp-hr. This was obtained from AP-42, Section 3.4, Table 3.4-1. The use of this conversion was necessary where AP-42 failed to provide sufficient information regarding emission factors.
- ⁶ The emission factors in Table 3.4-1 of AP-42 represent total organic compounds (TOC). The VOC potential emissions were calculated assuming VOC is equal to TOC. The emission factor includes exhaust and crankcase emissions.
- ⁷ PAH is an abbreviation for Polycyclic Aromatic Hydrocarbons.

Tub Grinder Emissions Sample Calculations:

Potential Emissions--

$$NO_x = \left(\frac{2.4 \times 10^{-2} \text{ lb}}{\text{hp-hr}} \right) (850 \text{ hp}) \left(\frac{3,744 \text{ hr}}{\text{yr}} \right) \left(\frac{1 \text{ ton}}{2,000 \text{ lb}} \right) = 38.2 \text{ tpy}$$

Actual Emissions--

$$NO_x = \left(\frac{2.4 \times 10^{-2} \text{ lb}}{\text{hp-hr}} \right) (850 \text{ hp}) \left(\frac{2,340 \text{ hr}}{\text{yr}} \right) \left(\frac{1 \text{ ton}}{2,000 \text{ lb}} \right) = 23.9 \text{ tpy}$$

LEASE AGREEMENT

This lease, made and executed this **9th** day of February 2012, by and between Millville Associates hereinafter called Lessor and, Jeremy W. Smith, hereinafter called Lessee.

Lessor does hereby rent to Lessee, all that property known as 1-34-12;2 (plat attached) White's Neck Road in Sussex County, Delaware for a term beginning on February 1, 2012 and ending on January 31, 2015, for the annual sum of \$1.00.

It is understood, mutually agreed and acknowledged by the parties to this agreement that:

1. **Utilities:** Unless otherwise noted herein Lessee is responsible for paying all utilities including electric, gas, fuel oil, sewer, water and any trash removal.
2. **Rules and Restrictions:**
 - a. Lessee agrees to abide by rules and regulations or laws of the municipality or governing body where the property is located.
 - b. The property shall not be used for any purpose or for any activity or purpose that is in violation of any regulation, or other requirement of any governmental authority having jurisdiction over the property.
 - c. Said property is to be used for agricultural and composting purposes unless otherwise agreed between Lessor and Lessee.
3. **Assignment of Lease:** It is further understood and agreed that this agreement is binding on, and may be legally enforced by, the parties hereto, their heirs, executors, administrators, successors and assigns, and that no waiver of any breach of any term or condition contained herein shall be construed to be a waiver of that term or condition or any subsequent breach thereof, or of this agreement. Lessor may assign this lease or any of its rights herein at any time. Lessor may mortgage or execute a deed of trust on subject premises, in which event said mortgage or deed of trust shall take precedence over this lease.

4. **Legal Action:** The parties hereto agree that any legal action brought by either party arising out of this agreement or to enforce this agreement shall be brought in Sussex County, Delaware. The parties hereto each specifically waive any venue, except as set for above.

 M.M.

Lessor
Millville Associates
30560 Topside Court
Ocean View, DE 19970

Date

2-9-12



Lessee
Jeremy W. Smith
2 Smithfield Court - #106
Ocean View, DE 19970

Date

3/1/12

MORBARK® 950 TUB GRINDER

BENEFITS

- A compact, easy to haul tub grinder for lower volume applications.
- Process yard waste, pallets and other mixed woody feedstocks into saleable products.
- Backed by a world class parts & service support team.
- Long lasting, durable machine that holds its value.
- Proven drive line protection system that protects against catastrophic damage from contaminants.
- Built in a quality-driven factory by highly experienced personnel.



HAMMERMILL

Laser-cut, factory balanced hammermills with forged hammers offer unsurpassed durability and smooth operation.



HYDRAULIC AUGERS

Quickly remove product from beneath the mill. During material surges, pressure sensors on the auger system automatically slow tub rotation to prevent plugging.



TORQUE LIMITER

The full breakaway torque limiter system protects the engine and clutch against shock and overload without stalling the engine.



TUB TILT

Provides easy access to grates and anvil for routine maintenance.

SPECIFICATIONS

GENERAL

Length (operating).....	29'5"
Length (transport).....	22'
Height (transport).....	12'5"
Width.....	8'4"
Gross weight.....	12,750 lbs.
Engine.....	CAT, Cummins, John Deere or Perkins
Horsepower.....	172 HP to 215 HP
Fuel capacity (tank).....	59 gallons
Hydraulic oil capacity.....	50 gallons
Tires.....	L7245/7SR16.0
Tow arrangement.....	Pintle hitch
Brake.....	Electric

TUB

Tub has 84" diameter opening across the top, 66" diameter at inside base, and 44" deep walls constructed of 1/4" reinforced steel plate, floor constructed of 1/4" thick T-1 wear-resistant steel.
 Tub supported by (5) rubber tire guide rolls.
 Hydraulic tub tilt for easy access to Hammermill with hydraulically powered variable RPM forward and reverse tub control with electronic sensor drive.
 Remote control
 Front Stabilizer
 Dual axles
 Tub cover for debris containment
HAMMERMILL AND SCREENS
 22-1/2" x 32-1/2" Hammermill system constructed of heavy duty 16" diameter laser cut rotor, (13) 1-1/8" thick 2-piece laser-cut rotor plates to ensure precision and enforce

steel strength. The plates are keyed on a 4-1/2" diameter rotor shaft with 2-15/16" bearings direct driven at engine RPM's and (8) 1-1/4" hammer retaining rods
DISCHARGE SYSTEM
 Two 12" diameter discharge augers
 28" wide x 12' upright discharge conveyor with hydraulic
OPTIONS
 Magnetized end pulley for discharge conveyor, complete with collecting slide tray for ferrous metal removal
 28" wide x 15' long hydraulic folding discharge conveyor
 Single tub slide tray assembly
 Dual tub slide tray assembly
 Fifth wheel towing arrangement
 1/3 Tub cover
 Hydraulic front stabilizer
 Variety of screens



800-831-0042 989-866-2381
 www.morbark.com

April 18, 2013

Lee Ann Walling
DNREC
Office of the Secretary
89 King's Highway
Dover, DE 19901

Re: CZA Application
Millville Organic Forested Buffer

Ms. Walling,

This letter is to confirm that the owners of the property, Millville Associates, will keep the forested buffer around the property intact during the life of the composting facility, Millville Organic Center.

Sincerely,


Millville Associates & Lessor


MOC, Proprietor & Lessee

ALL INFORMATION SHOWN IS TAKEN DIRECTLY FROM DURMM CALCULATIONS

<u>TSS</u>	<u>PRE Loads</u> <u>(g)</u>	<u>POST</u> <u>Loads (g)</u>	<u>BMP TOTAL</u> <u>DISCHARGE</u>	<u>% REMOVED</u> <u>FROM POST</u>	<u>TOTAL % REMOVED</u> <u>FROM PRE</u>
1S	256,504	25286	3297	87	
2S	1,000,000	9531	955	90	
3S	240,018	21437	2985	86	
TOTAL	1,496,522	56254	7237		99.5

<u>PP</u>	<u>PRE Loads</u> <u>(g)</u>	<u>POST</u> <u>Loads (g)</u>	<u>BMP TOTAL</u> <u>DISCHARGE</u>	<u>% REMOVED</u> <u>FROM POST</u>	<u>TOTAL % REMOVED</u> <u>FROM PRE</u>
1S	81	81	13	84	
2S	398	29	10.2	65	
3S	77	68	25.6	62	
TOTAL	556	178	48.8		91.2

<u>SP</u>	<u>PRE Loads</u> <u>(g)</u>	<u>POST</u> <u>Loads (g)</u>	<u>BMP TOTAL</u> <u>DISCHARGE</u>	<u>% REMOVED</u> <u>FROM POST</u>	<u>TOTAL % REMOVED</u> <u>FROM PRE</u>
1S	22	24	4.4	82	
2S	110	10	6.2	40	
3S	22	24	14.6	39	
TOTAL	154	58	25.2		84

<u>ON</u>	<u>PRE Loads</u> <u>(g)</u>	<u>POST</u> <u>Loads (g)</u>	<u>BMP TOTAL</u> <u>DISCHARGE</u>	<u>% REMOVED</u> <u>FROM POST</u>	<u>TOTAL % REMOVED</u> <u>FROM PRE</u>
1S	366	377	59.2	84	
2S	1805	107	36.4	66	
3S	349	263	96.3	63	
TOTAL	2,520	747	191.9		92

<u>NH3</u>	<u>PRE Loads</u> <u>(g)</u>	<u>POST</u> <u>Loads (g)</u>	<u>BMP TOTAL</u> <u>DISCHARGE</u>	<u>% REMOVED</u> <u>FROM POST</u>	<u>TOTAL % REMOVED</u> <u>FROM PRE</u>
1S	73	113	17.9	84	
2S	361	23	9.7	58	
3S	70	63	26.7	58	
TOTAL	504	199	54.3		89

	<u>PRE Loads</u>	<u>POST</u>	<u>BMP TOTAL</u>	<u>% REMOVED</u>
<u>NO3</u>	<u>(g)</u>	<u>Loads (g)</u>	<u>DISCHARGE</u>	<u>FROM POST</u>
1S	128	88	16	82
2S	630	23	13.7	41
3S	121	58	34.6	41
TOTAL	879	169	64.3	

92.7

	<u>PRE Loads</u>	<u>POST</u>	<u>BMP TOTAL</u>	<u>% REMOVED</u>
<u>CU</u>	<u>(g)</u>	<u>Loads (g)</u>	<u>DISCHARGE</u>	<u>FROM POST</u>
1S	1	8.3	1.15	86
2S	5.4	2	0.38	81
3S	1	5.1	1.13	78
TOTAL	8	15.4	2.66	

67

	<u>PRE Loads</u>	<u>POST</u>	<u>BMP TOTAL</u>	<u>% REMOVED</u>
<u>ZN</u>	<u>(g)</u>	<u>Loads (g)</u>	<u>DISCHARGE</u>	<u>FROM POST</u>
1S	7	40.3	5.21	87
2S	32.3	10.5	1.04	90
3S	6	26.1	3.56	86
TOTAL	45	76.9	9.81	

78

TSS TOTAL SUSPENDED SOLIDS
PP PARTICULATE PHOSPHORUS
SP SOLUBLE PHOSPHORUS
ON ORGANIC NITROGEN
NH3 AMMONIA NITROGEN
NO3 NITRATE NITROGEN
CU COPPER
ZN ZINC

DURMM

The overall area of proposed pavement has been divided into 3 Subareas and analyzed using DURMM spreadsheets to evaluate the removal of various pollutants by using specific Green Technologies. An additional drainage reference map has been provided displaying these areas. Subarea 1 includes the western portion of the site, which is directed towards the proposed pond. The buffer surrounding the pond will act as a filter strip for treatment and sediment/pollutant removal prior to the pond. Subarea 3 includes the Grass Educational Area and surrounding pavement area. The Educational Area will act as a filter strip for the directed flow through this area before being collected into a piping system and discharged into the Pond. Subarea 2 is a thin area along the eastern portion of the site adjacent to the existing ditches. This area will continue to drain into the ditches, but a small strip of grass running parallel with the ditch will act as a filter strip for pre-treatment.

These Subareas do not correlate with the HydroCAD model and the area breakdown will not match. The emphasis of DURMM is to specifically treat the runoff from impervious areas which will be treated by the BMPs.

As agreed upon with Jim Elliot at Sussex Conservation District, a substitute CN value for a portion of the impervious areas has been modeled with DURMM. (This adjusted CN value has been used for a special condition in DURMM only and not HydroCAD). All gravel driveways through the composting area has been removed from this breakdown and has a CN value of 98. The remaining impervious area which will be used for composting practices has 60 percent being modeled with a pervious layer on top of the concrete. By using the SCS equation for the potential maximum retention of this layer, a layer of 24 inches of pervious material has been determined for this calculation. $CN = 1000/S + 10$, Layer = 24 inches with 30% voids, so $S = 7.2$. This percentage has been modeled with a CN value of 58. It has been entered into the Post-DURMM Spreadsheets under Meadows in Natural Pervious Areas with Soil Type B for only to

have a CN value of 58. The remaining 40 percent portion has continued to be modeled with a CN value of 98.

DURMM ANALYSIS

PRE-DEVELOPMENT SUBAREA

PROJECT:	Millville Organic Center			PREPARED BY					
MUNICIPALITY:		COUNTY:	Sussex		Pennoni Associates Inc.				
SUBAREA:	1S (POND)	HYDROGRAPH	DMV		DATE:				
BMP:	Filter Strip			4/1/2012 REV. 5/29/12					

DURMM INPUT DATA :

GRADED PERVIOUS	CODE	HSG	AREA	AREA(ac)	IMPERVIOUS	CODE	LENGTH/AR.	WIDTH/ NO.	AREA(ac)
CROPS-MT	7	A	55,579	1.28					
CROPS-MT	7	B	31,362	0.72					
CN & ACRES OF GRADED PERVIOUS			68.0	2.00					

NATURAL PERVIOUS	CODE	HSG	AREA	AREA(ac)	CN & ACRES OF IMPERVIOUS				
MEADOW	3	A	46,836	1.08	TOTAL ACREAGE		3.56	% IMPERV.	
MEADOW	3	B	21,133	0.49					

DISCONNECTION ADJUSTMENTS					WETTED AREAS				
PERCENT IMPERVIOUS					OVERLAND				
WETTED LENGTH					FLOW PATH				
WETTED WIDTH					TOTAL				
PERCENT FLOW PATH					%IMPERV.				
PERVIOUS CN					#DIV/0!				

EVENT	PRECIPITATION	NATURAL	GRADED	IMPERV.	ROUTED	REDUCTION	RUNOFF(in.)
QUALITY-2.0"	2.0		2,588		2,588		0.20
BANKFULL- 2 YR.	3.5	57	7,138		7,195		0.56
CONVEYANCE- 10 YR.	5.6	1,813	16,736		18,549		1.44
FLOODING- 100 YR.	7.9	6,174	30,067		36,241		2.81

FLOW PATHS	SHEET FLOW PARAMETERS			SWALE FLOW PARAMETERS					
	LENGTH	SLOPE	Manning's n	SURFACE	FLOW %	LENGTH	SLOPE	SIDES	BOTTOM
UPPER	66	0.0303	0.170	4	90%	80	0.0375	50.0	50.0
LOWER				4	100%	100	0.0375	50.0	50.0
ROUTING RESULTS:		OK	SHEET TIME (hr.)	DEPTH (ft.)	VELOCITY (fps.)	SWALE TIME (hr.)	TOTAL TIME (min.)	PEAK FLOW (cfs)	CURVE NO
QUALITY	STORAGE	4.65	0.14	0.03	0.29	0.08	18.6	0.25	68.3
	la/P	0.46		0.03	0.29	0.09			
BANKFULL	STORAGE	6.49	0.10	0.06	0.31	0.07	15.6	1.07	60.6
	la/P	0.37		0.10	0.33	0.09			
CONVEYANCE	STORAGE	7.55	0.08	0.14	0.34	0.07	13.7	3.76	57.0
	la/P	0.27		0.23	0.35	0.08			
FLOODING	STORAGE	7.90	0.07	0.25	0.35	0.06	10.9	9.18	55.9
	la/P	0.20		0.30	0.56	0.05			

SUBAREA POLLUTANT LOADING

PARAMETER	TSS	PP	SP	ON	NH3	NO3	Cu	Zn
EMCs (mg/l)								
IMPERVIOUS								
GRADED PERVIOUS	3500	1.10	0.30	5.00	1.00	1.75	0.015	0.090
NATURAL PERVIOUS	40	0.50	0.35	1.75	0.40	0.25	0.001	0.005

LOADS (g.)								
IMPERVIOUS								
GRADED PERVIOUS	256,504	80.6	22.0	366.4	73.3	128.3	1.1	6.6
NATURAL PERVIOUS								
TOTAL SUBAREA LOAD	256,504	81	22	366	73	128	1.1	6.6

DURMM ANALYSIS

POST-DEVELOPMENT SUBAREA

PROJECT:	Millville Organic Center			PREPARED BY					
MUNICIPALITY:		COUNTY:	Sussex		Pennoni Associates Inc.				
SUBAREA:	1S (POND)	HYDROGRAPH		DMV	DATE:				
BMP:	Filter Strip			4/1/2012 REV. 5/29/12					

DURMM INPUT DATA :

GRADED PERVIOUS	CODE	HSG	AREA	AREA(ac)	IMPERVIOUS		LENGTH/AR.	WIDTH/ NO.	AREA(ac)
LAWNS-GD	11	A	11,455	0.26	PARKING LOT	21	50,234	1	1.15
LAWNS-GD	11	B	10,536	0.24	RES.DRIVES	25	14,534	1	0.33
CN & ACRES OF GRADED PERVIOUS			49.5	0.50	CN & ACRES OF IMPERVIOUS			98.9	1.49
NATURAL PERVIOUS	CODE	HSG	AREA	AREA(ac)	TOTAL ACREAGE		3.72	% IMPERV	40%
MEADOW	3	B	75,350	1.73	DISCONNECTION ADJUSTMENTS				
					PERCENT IMPERVIOUS			WETTED AREAS	
					WETTED LENGTH			IN SOURCE	
					WETTED WIDTH			IN BMPs 0.40	
					% FLOW PATH			TOTAL 0.40	
CN & ACRES OF NATURAL PERVIOUS			58.0	1.73	PERVIOUS CN			%IMPERV 27%	
EVENT	PRECIP.		NATURAL	GRADED	IMPERV	TO BMPs	FROM BMPs	REDUCTION	RUNOFF(in.)
QUALITY	2.0		251	21	10,131	10,404	1,943	81%	0.13
BANKFULL	3.5		2,826	478	18,227	21,531	9,161	57%	0.61
CONVEYANCE	5.6		9,482	1,686	29,523	40,691	29,240	28%	1.95
FLOODING	7.9		19,089	3,922	41,883	64,894	54,542	16%	3.64
FLOW PATHS	SHEET FLOW PARAMETERS				SWALE FLOW PARAMETERS				
	LENGTH	SLOPE	Manning's n	SURFACE	FLOW %	LENGTH	SLOPE	SIDES	BOTTOM
UPPER	100	0.0050	0.011	1	80%	232	0.0050	50.0	50.0
LOWER				4	100%	1	1.0000	100.0	100.0
% RUNOFF IMPERV.	97%	Tc Path	IMPERV	1			1.0000	1.0	1.0
ROUTING RESULTS:		OK	SHEET TIME (hr.)	DEPTH (ft.)	VELOCITY (fps.)	SWALE TIME (hr.)	TOTAL TIME (min.)	PEAK FLOW (cfs)	CURVE NO.
QUALITY	STORAGE	5.46	0.044	0.02	0.31	0.21	15.3	0.16	64.7
	la/P	0.546		0.01	0.76	0.00			
BIOSWALE RESULTS				0.00	0.16		15.3	0.16	
BANKFULL	STORAGE	6.15	0.034	0.05	0.77	0.08	7.1	2.18	61.9
	la/P	0.351		0.04	0.87	0.00			
BIOSWALE RESULTS				0.00	0.16		7.1	2.18	
CONVEYANCE	STORAGE	5.71	0.027	0.11	1.35	0.05	4.5	10.91	63.6
	la/P	0.204		0.09	1.00	0.00			
BIOSWALE RESULTS				0.00	0.16		4.5	10.91	
FLOODING	STORAGE	5.75	0.022	0.14	1.74	0.04	3.6	22.39	63.5
	la/P	0.146		0.11	1.54	0.00			
BIOSWALE RESULTS				0.00	0.16		3.6	22.39	

SUBAREA POLLUTANT LOADING

PARAMETER	TSS	PP	SP	ON	NH3	NO3	Cu	Zn
IMPERVIOUS EMCs (mg/l)	87	0.27	0.07	1.27	0.38	0.30	0.029	0.140
GRADED PERVIOUS EMCs (mg/l)	100	0.65	0.60	1.80	0.50	0.35	0.015	0.090
NATURAL PERVIOUS EMCs (mg/l)	40	0.50	0.35	1.75	0.40	0.25	0.001	0.005
IMPERVIOUS LOADS (g.)	24,942	76.7	20.8	363.6	109.8	86.1	8.3	40.2
GRADED PERVIOUS LOADS (g.)	60	0.4	0.4	1.1	0.3	0.2	0.0	0.1
NATURAL PERVIOUS LOADS (g.)	285	3.6	2.5	12.4	2.8	1.8	0.0	0.0
TOTAL SUBAREA LOAD	25,286	81	24	377	113	88	8.3	40.3

DURMM ANALYSIS

BMP DESIGN DATA & RESULTS

PROJECT:	Milville Organic Center			PREPARED BY					
MUNICIPALITY:		COUNTY:	Sussex	Pennoni Associates Inc.					
SUBAREA:	1S (POND)	HYDROGRAPH	DMV	DATE:					
BMP:	Filter Strip			4/1/2012 REV. 5/29/12					

POSTDEVELOPMENT LOAD DATA

PARAMETER	TSS	PP	SP	ON	NH3	NO3	Cu	Zn
INPUT CONCENTRATION	85.8	0.27	0.08	1.28	0.38	0.30	0.028	0.137
INPUT MASS LOADS (g)	25,286	81	24	377	113	88	8	40
INCREASE IN SUBAREA LOAD	(231,218)	0	2	11	40	(40)	7	34
% PREDEVELOPMENT LOAD	10%	100%	107%	103%	154%	69%	755%	610%

BMP DESIGN AND PERFORMANCE

				BIO. OK?	OK	AREA OK?	OK	LOAD OK?	OK	
FILTER STRIPS	CN	39	LENGTH	350	WIDTH	50	SLOPE	1%	COVER #	1.20
	INPUT LOAD		25,286	80.6	23.6	377.2	112.9	88.1	8.30	40.26
	OUTPUT CONC		59.9	0.24	0.08	1.08	0.33	0.29	0.021	0.095
% FLOW	OUTPUT LOAD		3,297	13.0	4.4	59.2	17.9	16.0	1.15	5.21
100.0%	PERCENT REMOVAL		87%	84%	82%	84%	84%	82%	86%	87%
17500	LINEAR LOAD (cu ft./ft.)		28.95	TO BMP	10404	FROM BMP	1943	RUNOFF REDUCTION		81%

BIO-RETENTION	BUFFER		LENGTH		WIDTH		DEPTH		INF. RATE	
	INPUT LOAD									
	OUTPUT CONC									
% FLOW	OUTPUT LOAD									
	PERCENT REMOVAL									
	HYDRAULIC LOAD (ft.)			TO BMP		FROM BMP		RUNOFF REDUCTION		

BIOSWALE QUALITY DESIGN	CN		LENGTH		SIDES:1	1.0	BOTTOM	1.0	SWALE OK?	OK
	SLOPE	100.0%	COVER	1	PAVEMENT		VELOCITY	0.16	DEPTH	0.00
	INPUT LOAD									
% FLOW	OUTPUT CONC									
	OUTPUT LOAD									
	PERCENT REMOVAL									
	RESIDENCE TIME (min.)			TO BMP		FROM BMP		RUNOFF REDUCTION		

BIOSWALE CAPACITY, STABILITY & VOLUMES	VELOCITY	CHECK DAM DESIGN	POND EL.	AREA	VOLUME	FILTER EL.	OUTFLOW	FACE EL.	OUTFLOW
	0.09	NO. DAMS	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	OK	LENGTH (ft)	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	CAPACITY	WIDTH (ft.)	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	DEPTH	STONE (in.)	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	0.00	HEIGHT	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!

INFILTRATION TRENCH	% SURFACE		LENGTH		WIDTH		DEPTH		INF. RATE	
	INFILTRATED LOAD									
	INFILTRATION TIME		23.8	TO BMP		FROM BMP		RUNOFF REDUCTION		

SUMMARY OF FILTERING BMP PERFORMANCE

PARAMETER	TSS	PP	SP	ON	NH3	NO3	Cu	Zn
STRIP & SWALE OUTPUT LOAD (g)	3,297	13.0	4.4	59.2	17.9	16.0	1.15	5.21
ALL BMPs OUTPUT LOAD (g)	3,297	13.0	4.4	59.2	17.9	16.0	1.15	5.21
PERCENT REMOVAL	87%	84%	82%	84%	84%	82%	86%	87%

SUMMARY OF SURFACE AND INFILTRATION BMP PERFORMANCE

OUTPUT MASS LOAD (g)	3,297	13.0	4.4	59.2	17.9	16.0	1.15	5.21
PERCENT REMOVAL	87%	84%	82%	84%	84%	82%	86%	87%
% PREDEVELOPMENT LOAD	1%	16%	20%	16%	24%	12%	104%	79%

DURMM ANALYSIS

PRE-DEVELOPMENT SUBAREA

PROJECT: Millville Organic Center	PREPARED BY		
MUNICIPALITY:	COUNTY: Sussex	Pennoni Associates Inc.	
SUBAREA: 2S (EX. DITCH)	HYDROGRAPH	DMV	DATE:
BMP: Filter Strip	4/1/2012 REV. 5/29/12		

DURMM INPUT DATA :

GRADED PERVIOUS	CODE	HSG	AREA	AREA(ac)	IMPERVIOUS	CODE	LENGTH/AR.	WIDTH/ NO.	AREA(ac)
CROPS-MT	7	B	118,677	2.72					
CROPS-MT	7	C	99,013	2.27					
CN & ACRES OF GRADED PERVIOUS			78.2	5.00					

NATURAL PERVIOUS	CODE	HSG	AREA	AREA(ac)	CN & ACRES OF IMPERVIOUS		DISCONNECTION ADJUSTMENTS			
WOODS-GD	1	A	1,797	0.04	TOTAL ACREAGE		7.75	% IMPERV.		
WOODS-GD	1	B	24,725	0.57	PERCENT IMPERVIOUS					
MEADOW	3	A	4,342	0.10	WETTED LENGTH					
MEADOW	3	B	89,208	2.05	WETTED WIDTH					
CN & ACRES OF NATURAL PERVIOUS				56.0	2.76	PERCENT FLOW PATH				
EVENT				PRECIPITATION	NATURAL	GRADED	IMPERV.	ROUTED	REDUCTION	RUNOFF(in.)

QUALITY-2.0"	2.0	200	12,675		12,876		0.46
BANKFULL- 2 YR.	3.5	3,802	29,187		32,989		1.17
CONVEYANCE- 10 YR.	5.6	13,608	58,958		72,566		2.58
FLOODING- 100 YR.	7.9	28,217	96,509		124,726		4.43

FLOW PATHS	SHEET FLOW PARAMETERS			SWALE FLOW PARAMETERS					
	LENGTH	SLOPE	Manning's n	SURFACE	FLOW %	LENGTH	SLOPE	SIDES	BOTTOM
UPPER	100	0.0060	0.170	4	50%	120	0.0200	50.0	50.0
LOWER				4	75%	100	0.0100	100.0	100.0
ROUTING RESULTS:		OK	SHEET TIME (hr.)	DFPTH (ft.)	VELOCITY (fps.)	SWALE TIME (hr.)	TOTAL TIME (min.)	PEAK FLOW (cfs)	CURVE NO
QUALITY	STORAGE	2.94	0.37	0.06	0.25	0.13	38.3	1.29	77.3
	la/P	0.29		0.05	0.20	0.14			
BANKFULL	STORAGE	3.72	0.28	0.12	0.27	0.12	31.7	4.27	72.9
	la/P	0.21		0.16	0.22	0.13			
CONVEYANCE	STORAGE	4.09	0.22	0.22	0.28	0.12	27.5	10.85	71.0
	la/P	0.15		0.29	0.23	0.12			
FLOODING	STORAGE	4.19	0.19	0.31	0.32	0.10	23.2	21.33	70.5
	la/P	0.11		0.40	0.28	0.10			

SUBAREA POLLUTANT LOADING

PARAMETER	TSS	PP	SP	ON	NH3	NO3	Cu	Zn
EMCs (mg/l)								
IMPERVIOUS								
GRADED PERVIOUS	3500	1.10	0.30	5.00	1.00	1.75	0.015	0.090
NATURAL PERVIOUS	34	0.53	0.35	1.75	0.40	0.25	0.001	0.005

LOADS (g.)								
IMPERVIOUS								
GRADED PERVIOUS	1,256,416	394.9	107.7	1,794.9	359.0	628.2	5.4	32.3
NATURAL PERVIOUS	195	3.0	2.0	9.9	2.3	1.4	0.0	0.0
TOTAL SUBAREA LOAD	#####	398	110	1,805	361	630	5.4	32.3

DURMM ANALYSIS

POST-DEVELOPMENT SUBAREA

PROJECT:	Millville Organic Center			PREPARED BY					
MUNICIPALITY:		COUNTY:	Sussex		Pennoni Associates Inc.				
SUBAREA:	2S (EX. DITCH)	HYDROGRAPH	DMV		DATE:				
BMP:	Filter Strip			4/1/2012 REV. 5/29/12					

DURMM INPUT DATA :

GRADED PERVIOUS	CODE	HSG	AREA	AREA(ac)	IMPERVIOUS	LENGTH/AR.	WIDTH/ NO.	AREA(ac)
					PARKING LOT	21	1	0.18
LAWNS-GD	11	A	3,105	0.07	RES.DRIVES	25	1	0.22
LAWNS-GD	11	B	12,131	0.28				

CN & ACRES OF GRADED PERVIOUS			56.5	0.35	CN & ACRES OF IMPERVIOUS		97.7	0.40
NATURAL PERVIOUS			AREA	AREA(ac)	TOTAL ACREAGE		1.17	% IMPERV 34%

NATURAL PERVIOUS	CODE	HSG	AREA	AREA(ac)	DISCONNECTION ADJUSTMENTS			
WOODS-GD	1	A	1,797	0.04	PERCENT IMPERVIOUS		WETTED AREAS	
WOODS-GD	1	B	4,556	0.10	WETTED LENGTH		IN SOURCE	
MEADOW	3	B	11,830	0.27	WETTED WIDTH		IN BMPs 0.07	
					% FLOW PATH		TOTAL 0.07	
					PERVIOUS CN		%IMPERV 17%	

EVENT		PRECIP.	NATURAL	GRADED	IMPERV.	TO BMPs	FROM BMPs	REDUCTION	RUNOFF(in.)
QUALITY		2.0	15	148	2,549	2,712	1,737	36%	0.39
BANKFULL		3.5	500	624	4,740	5,864	5,049	14%	1.12
CONVEYANCE		5.6	1,909	1,778	7,776	11,463	11,125	3%	2.47
FLOODING		7.9	4,031	3,657	11,138	18,825	18,998	-1%	4.22

FLOW PATHS	SHEET FLOW PARAMETERS			SWALE FLOW PARAMETERS					
	LENGTH	SLOPE	Manning's n	SURFACE	FLOW %	LENGTH	SLOPE	SIDES	BOTTOM
UPPER	75	0.0050	0.011	4	100%	1	1.0000	50.0	50.0
LOWER				4	100%	1	1.0000	50.0	50.0
% RUNOFF IMPERV.	94%	Tc Path	IMPERV	1			1.0000	1.0	1.0

ROUTING RESULTS:		OK	SHEET TIME (hr.)	DEPTH (ft.)	VELOCITY (fps.)	SWALE TIME (hr.)	TOTAL TIME (min.)	PEAK FLOW (cfs)	CURVE NO
QUALITY	STORAGE	3.30	0.035	0.03	0.86	0.00	2.2	0.96	75.2
	Ia/P	0.330		0.03	0.86	0.00			
BIOSWALE RESULTS				0.00	0.16		2.2	0.96	

BANKFULL	STORAGE	3.88	0.027	0.07	0.92	0.00	1.6	3.23	72.0
	Ia/P	0.222		0.07	0.92	0.00			
BIOSWALE RESULTS				0.00	0.16		1.6	3.23	

CONVEYANCE	STORAGE	4.33	0.021	0.10	1.19	0.00	1.3	7.33	69.8
	Ia/P	0.155		0.10	1.19	0.00			
BIOSWALE RESULTS				0.00	0.16		1.3	7.33	

FLOODING	STORAGE	4.57	0.018	0.12	1.67	0.00	1.1	12.76	68.6
	Ia/P	0.116		0.12	1.67	0.00			
BIOSWALE RESULTS				0.00	0.16		1.1	12.76	

SUBAREA POLLUTANT LOADING

PARAMETER	TSS	PP	SP	ON	NH3	NO3	Cu	Zn
IMPERVIOUS EMCs (mg/l)	126	0.37	0.11	1.37	0.28	0.30	0.027	0.140
GRADED PERVIOUS EMCs (mg/l)	100	0.65	0.60	1.80	0.50	0.35	0.015	0.090
NATURAL PERVIOUS EMCs (mg/l)	31	0.55	0.35	1.75	0.40	0.25	0.001	0.005
IMPERVIOUS LOADS (g.)	9,098	26.4	7.6	98.5	20.6	21.7	2.0	10.1
GRADED PERVIOUS LOADS (g.)	420	2.7	2.5	7.6	2.1	1.5	0.1	0.4
NATURAL PERVIOUS LOADS (g.)	13	0.2	0.2	0.8	0.2	0.1	0.0	0.0
TOTAL SUBAREA LOAD	9,531	29	10	107	23	23	2.0	10.5

DURMM ANALYSIS

BMP DESIGN DATA & RESULTS

PROJECT:	Millville Organic Center			PREPARED BY		
MUNICIPALITY:		COUNTY:	Sussex	Pennoni Associates Inc.		
SUBAREA:	2S (EX. DITCH)	HYDROGRAPH	DMV	DATE:		
BMP:	Filter Strip				4/1/2012 REV. 5/29/12	

POSTDEVELOPMENT LOAD DATA

PARAMETER	TSS	PP	SP	ON	NH3	NO3	Cu	Zn
INPUT CONCENTRATION	124.1	0.38	0.13	1.39	0.30	0.30	0.026	0.137
INPUT MASS LOADS (g)	9,531	29	10	107	23	23	2	10
INCREASE IN SUBAREA LOAD	(1,247,080)	(369)	(99)	(1,698)	(338)	(606)	(3)	(22)
% PREDEVELOPMENT LOAD	1%	7%	9%	6%	6%	4%	38%	32%

BMP DESIGN AND PERFORMANCE				BIO. OK?	OK	AREA OK?	OK	LOAD OK?	OK	
FILTER STRIPS	CN	61	LENGTH	200	WIDTH	15	SLOPE	1%	COVER #	1.20
	INPUT LOAD		9,531	29.3	10.3	106.9	22.8	23.2	2.03	10.49
	OUTPUT CONC		19.4	0.21	0.13	0.74	0.20	0.28	0.008	0.021
% FLOW	OUTPUT LOAD		955	10.2	6.2	36.4	9.7	13.7	0.38	1.04
100.0%	PERCENT REMOVAL		90%	65%	40%	66%	58%	41%	81%	90%
3000	LINEAR LOAD (cu.ft./ft.)		12.74	TO BMP	2712	FROM BMP	1737	RUNOFF REDUCTION		36%

BIO-RETENTION	BUFFER	LENGTH	WIDTH	DEPTH	INF. RATE
%	INPUT LOAD				
	OUTPUT CONC				
%	OUTPUT LOAD				
	PERCENT REMOVAL				
	HYDRAULIC LOAD (ft.)		TO BMP	FROM BMP	RUNOFF REDUCTION

BIOSWALE QUALITY DESIGN	CN	LENGTH	SIDES:1	1.0	BOTTOM	1.0	SWALE OK?	OK	
%	SLOPE	100.0%	COVER	1	PAVEMENT	VELOCITY	0.16	DEPTH	0.00
	INPUT LOAD								
OUTPUT CONC									
%	OUTPUT LOAD								
	PERCENT REMOVAL								
	RESIDENCE TIME (min.)		TO BMP	FROM BMP	RUNOFF REDUCTION				

BIOSWALE CAPACITY, STABILITY & VOLUMES	VELOCITY	CHECK DAM DESIGN	POND EL.	AREA	VOLUME	FILTER EL.	OUTFLOW	FACE EL.	OUTFLOW
%	0.09	NO. DAMS	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	OK	LENGTH (ft)	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	CAPACITY	WIDTH (ft.)	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	DEPTH	STONE (in.)	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	0.00	HEIGHT	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!

INFILTRATION TRENCH	% SURFACE	LENGTH:	WIDTH:	DEPTH:	INF. RATE
%	INFILTRATED LOAD				
	INFILTRATION TIME		23.6	TO BMP	FROM BMP

SUMMARY OF FILTERING BMP PERFORMANCE

PARAMETER	TSS	PP	SP	ON	NH3	NO3	Cu	Zn
STRIP & SWALE OUTPUT LOAD (g)	955	10.2	6.2	36.4	9.7	13.7	0.38	1.04
ALL BMPs OUTPUT LOAD (g)	955	10.2	6.2	36.4	9.7	13.7	0.38	1.04
PERCENT REMOVAL	90%	65%	40%	66%	58%	41%	81%	90%

SUMMARY OF SURFACE AND INFILTRATION BMP PERFORMANCE

OUTPUT MASS LOAD (g)	955	10.2	6.2	36.4	9.7	13.7	0.38	1.04
PERCENT REMOVAL	90%	65%	40%	66%	58%	41%	81%	90%
% PREDEVELOPMENT LOAD	0%	3%	6%	2%	3%	2%	7%	3%

DURMM ANALYSIS

PRE-DEVELOPMENT SUBAREA

PROJECT: Millville Organic Center				PREPARED BY			
MUNICIPALITY:		COUNTY: Sussex		Pennoni Associates Inc.			
SUBAREA: 3S		HYDROGRAPH DMV		DATE: 5/29/12			
BMP: Filter Strip - GRASS EDUCATIONAL AREA							

DURMM INPUT DATA :

GRADED PERVIOUS	CODE	HSG	AREA	AREA(ac)	IMPERVIOUS	CODE	LENGTH/AR.	WIDTH/ NO.	AREA(ac)
CROPS-MT	7	B	34,403	0.79					
CROPS-MT	7	C	11,002	0.25					
CN & ACRES OF GRADED PERVIOUS			76.7	1.04					

NATURAL PERVIOUS	CODE	HSG	AREA	AREA(ac)	CN & ACRES OF IMPERVIOUS					
MEADOW	3	B	43,075	0.99	TOTAL ACREAGE	2.27	% IMPERV.			
WOODS-GD	1	B	10,602	0.24	DISCONNECTION ADJUSTMENTS					
CN & ACRES OF NATURAL PERVIOUS				57.4	1.23	PERCENT IMPERVIOUS	WETTED AREAS			

EVENT	PRECIPITATION	NATURAL	GRADED	IMPERV.	ROUTED	REDUCTION	RUNOFF(in.)
QUALITY-2.0"	2.0	134	2,420		2,554		0.31
BANKFULL- 2 YR.	3.5	1,923	5,699		7,622		0.92
CONVEYANCE- 10 YR.	5.6	6,575	11,730		18,305	0%	2.22
FLOODING- 100 YR.	7.9	13,330	19,486		32,816		3.97

FLOW PATHS	SHEET FLOW PARAMETERS			SWALE FLOW PARAMETERS					
	LENGTH	SLOPE	Manning's n	SURFACE	FLOW %	LENGTH	SLOPE	SIDES	BOTTOM
UPPER	50	0.0037	0.170	4	80%	100	1.0000	10.0	10.0
LOWER				4	100%	100	1.0000	50.0	50.0
ROUTING RESULTS:	OK	SHEET TIME (hr.)	DEPTH (ft.)	VELOCITY (fps.)	SWALE TIME (hr.)	TOTAL TIME (min.)	PEAK FLOW (cfs)	CURVE N	
QUALITY	STORAGE	3.77	0.26	0.04	0.88	0.03	19.4	0.32	72.6
	la/P	0.38		0.02	0.81	0.03			
BANKFULL	STORAGE	4.62	0.19	0.10	1.05	0.03	15.1	1.48	68.4
	la/P	0.26		0.06	0.91	0.03			
CONVEYANCE	STORAGE	4.97	0.15	0.13	2.07	0.01	11.3	4.57	66.8
	la/P	0.18		0.11	1.28	0.02			
FLOODING	STORAGE	5.05	0.13	0.16	3.20	0.01	9.1	9.39	66.4
	la/P	0.13		0.13	1.97	0.01			

SUBAREA POLLUTANT LOADING

PARAMETER	TSS	PP	SP	ON	NH3	NO3	Cu	Zn
EMCs (mg/l)								
IMPERVIOUS								
GRADED PERVIOUS	3500	1.10	0.30	5.00	1.00	1.75	0.015	0.090
NATURAL PERVIOUS	35	0.53	0.35	1.75	0.40	0.25	0.001	0.005

LOADS (g.)								
IMPERVIOUS								
GRADED PERVIOUS	239,885	75.4	20.6	342.7	68.5	119.9	1.0	6.2
NATURAL PERVIOUS	133	2.0	1.3	6.7	1.5	1.0	0.0	0.0
TOTAL SUBAREA LOAD	240,018	77	22	349	70	121	1.0	6.2

DURMM ANALYSIS

POST-DEVELOPMENT SUBAREA

PROJECT:	Millville Organic Center			PREPARED BY		
MUNICIPALITY:		COUNTY:	Sussex	Pennoni Associates Inc.		
SUBAREA:	3S	HYDROGRAPH	DMV	DATE:		
BMP:	Filter Strip - GRASS EDUCATIONAL AREA			5/29/12		

DURMM INPUT DATA :

GRADED PERVIOUS	CODE	HSG	AREA	AREA(ac)	IMPERVIOUS	LENGTH/AR.	WIDTH/ NO.	AREA(ac)
LAWNS-GD	11	B	20,504	0.47	PARKING LOT	21	23,760	0.55
					RES.DRIVES	25	18,870	0.43

CN & ACRES OF GRADED PERVIOUS			61.0	0.47	CN & ACRES OF IMPERVIOUS			98.1	0.98
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NATURAL PERVIOUS	CODE	HSG	AREA	AREA(ac)	TOTAL ACREAGE	2.27	% IMPERV.	43%
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MEADOW	3	B	35,642	0.82	DISCONNECTION ADJUSTMENTS				
					PERCENT IMPERVIOUS		WETTED AREAS		
					WETTED LENGTH		IN SOURCE		
					WETTED WIDTH		IN BMPs		
					% FLOW PATH		TOTAL		
					PERVIOUS CN		%IMPERV		

CN & ACRES OF NATURAL PERVIOUS			58.0	0.82	PERVIOUS CN		%IMPERV		
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EVENT	PRECIP.	NATURAL	GRADED	IMPERV	TO BMPs	FROM BMPs	REDUCTION	RUNOFF(in.)
QUALITY	2.0	119	338	6,351	6,808	4,367	36%	0.49
BANKFULL	3.5	1,337	1,134	11,679	14,149	12,122	14%	1.37
CONVEYANCE	5.6	4,485	2,973	19,077	26,535	25,719	3%	2.90
FLOODING	7.9	9,029	5,758	27,248	42,035	42,494	-1%	4.80

FLO PATHS	SHEET FLOW PARAMETERS			SWALE FLOW PARAMETERS					
	LENGTH	SLOPE	Manning's n	SURFACE	FLOW %	LENGTH	SLOPE	SIDES	BOTTOM
UPPER	100	0.0050	0.011	1	80%	80	0.0050	50.0	50.0
LOWER				4	100%	1	1.0000	100.0	100.0
% RUN OFF IMPERV.	93%	Tc Path	IMPERV	1			1.0000	1.0	1.0

ROUTING RESULTS:	OK	SHEET TIME (hr.)	DEPTH (ft.)	VELOCITY (fps.)	SWALE TIME (hr.)	TOTAL TIME (min.)	PEAK FLOW (cfs)	CURVE NO
QUALITY	STORAGE	2.78	0.044	0.05	0.68	0.03	4.6	1.57
	la/P	0.278		0.03	0.85	0.00		
BIOSWALE RESULTS				0.00	0.16		4.6	1.57
BANKFULL	STORAGE	3.15	0.034	0.08	1.05	0.02	3.3	5.39
	la/P	0.180		0.06	0.91	0.00		
BIOSWALE RESULTS				0.00	0.16		3.3	5.39
CONVEYANCE	STORAGE	3.41	0.027	0.11	1.41	0.02	2.6	12.40
	la/P	0.122		0.10	1.08	0.00		
BIOSWALE RESULTS				0.00	0.16		2.6	12.40
FLOODING	STORAGE	3.57	0.022	0.14	1.72	0.01	2.1	21.67
	la/P	0.090		0.11	1.51	0.00		
BIOSWALE RESULTS				0.00	0.16		2.1	21.67

SUBAREA POLLUTANT LOADING

PARAMETER	TSS	PP	SP	ON	NH3	NO3	Cu	Zn
IMPERVIOUS EMCs (mg/l)	113	0.33	0.09	1.33	0.32	0.30	0.028	0.140
GRADED PERVIOUS EMCs (mg/l)	100	0.65	0.60	1.80	0.50	0.35	0.015	0.090
NATURAL PERVIOUS EMCs (mg/l)	40	0.50	0.35	1.75	0.40	0.25	0.001	0.005
IMPERVIOUS LOADS (g.)	20,347	59.9	17.0	239.7	57.1	54.0	5.0	25.2
GRADED PERVIOUS LOADS (g.)	956	6.2	5.7	17.2	4.8	3.3	0.1	0.9
NATURAL PERVIOUS LOADS (g.)	135	1.7	1.2	5.9	1.3	0.8	0.0	0.0
TOTAL SUBAREA LOAD	21,437	68	24	263	63	58	5.1	26.1

DURMM ANALYSIS

BMP DESIGN DATA & RESULTS

PROJECT:	Millville Organic Center			PREPARED BY			
MUNICIPALITY:		COUNTY:	Sussex	Pennoni Associates Inc.			
SUBAREA:	3S	HYDROGRAPH	DMV	DATE:			
BMP:	Filter Strip - GRASS EDUCATIONAL AREA			5/29/12			

POSTDEVELOPMENT LOAD DATA

PARAMETER	TSS	PP	SP	ON	NH3	NO3	Cu	Zn
INPUT CONCENTRATION	111.2	0.35	0.12	1.36	0.33	0.30	0.027	0.135
INPUT MASS LOADS (g)	21,437	68	24	263	63	58	5	26
INCREASE IN SUBAREA LOAD	(218,581)	(10)	2	(87)	(7)	(63)	4	20
% PREDEVELOPMENT LOAD	9%	88%	109%	75%	90%	48%	499%	421%

BMP DESIGN AND PERFORMANCE

BMP DESIGN AND PERFORMANCE				BIO. OK?	OK	AREA OK?	OK	LOAD OK?	OK	
FILTER STRIPS	CN	61	LENGTH	300	WIDTH	25	SLOPE	1%	COVER #	1.20
	INPUT LOAD		21,437	67.8	23.9	262.8	63.2	58.1	5.14	26.06
	OUTPUT CONC		24.1	0.21	0.12	0.78	0.22	0.28	0.009	0.029
% FLOW	OUTPUT LOAD		2,985	25.6	14.6	96.3	26.7	34.6	1.13	3.56
100.0%	PERCENT REMOVAL		86%	62%	39%	63%	58%	41%	78%	86%
7500	LINEAR LOAD (cu.ft./ft.)		21.17	TO BMP	6808	FROM BMP	4367	RUNOFF REDUCTION		36%

BIO-RETENTION	BUFFER	LENGTH	WIDTH	DEPTH	INF. RATE
	INPUT LOAD				
	OUTPUT CONC				
% FLOW	OUTPUT LOAD				
	PERCENT REMOVAL				
	HYDRAULIC LOAD (ft.)		TO BMP	FROM BMP	RUNOFF REDUCTION

BIOSWALE QUALITY DESIGN	CN	LENGTH	SIDES:1	1.0	BOTTOM	1.0	SWALE OK?	OK	
	SLOPE	100.0%	COVER	1	PAVEMENT	VELOCITY	0.16	DEPTH	0.00
	INPUT LOAD								
% FLOW	OUTPUT CONC								
	OUTPUT LOAD								
	PERCENT REMOVAL								
	RESIDENCE TIME (min.)		TO BMP	FROM BMP	RUNOFF REDUCTION				

BIOSWALE CAPACITY, STABILITY & VOLUMES	VELOCITY	CHECK DAM DESIGN	POND EL.	AREA	VOLUME	FILTER EL.	OUTFLOW	FACE EL.	OUTFLOW
	0.09	NO. DAMS	1				#DIV/0!		
	OK	LENGTH (ft.)					#DIV/0!		
	CAPACITY	WIDTH (ft.)					#DIV/0!		
	DEPTH	STONE (in.)					#DIV/0!		
	0.00	HEIGHT					#DIV/0!		

INFILTRATION TRENCH	% SURFACE	LENGTH:	WIDTH:	DEPTH:	INF. RATE
	INFILTRATED LOAD				
	INFILTRATION TIME		23.6	TO BMP	FROM BMP

SUMMARY OF FILTERING BMP PERFORMANCE

PARAMETER	TSS	PP	SP	ON	NH3	NO3	Cu	Zn
STRIP & SWALE OUTPUT LOAD (g)	2,985	25.6	14.6	96.3	26.7	34.6	1.13	3.56
ALL BMPs OUTPUT LOAD (g)	2,985	25.6	14.6	96.3	26.7	34.6	1.13	3.56
PERCENT REMOVAL	86%	62%	39%	63%	58%	41%	78%	86%

SUMMARY OF SURFACE AND INFILTRATION BMP PERFORMANCE

OUTPUT MASS LOAD (g)	2,985	25.6	14.6	96.3	26.7	34.6	1.13	3.56
PERCENT REMOVAL	86%	62%	39%	63%	58%	41%	78%	86%
% PREDEVELOPMENT LOAD	1%	33%	66%	28%	38%	29%	109%	58%