



Jim

State of North Carolina
Department of Natural Resources and Community Development
Winston-Salem Regional Office



James G. Martin, Governor

William W. Cobey, Jr., Secretary

DIVISION OF LAND RESOURCES

LETTER OF APPROVAL WITH MODIFICATIONS

January 30, 1989

Waste Management of Carolina, Inc.
P.O. Box 338
Duncan, SC

Cameron Johnson
Fac/Perm/Co ID # 34-06
Date 8/8/13
Doc ID#
DIN

Attention: John K. Sitt

Gentlemen:

This office has reviewed the subject sedimentation and erosion control plan. We find the plan to be acceptable and hereby issue this letter of approval with modifications as listed on the enclosed page.

Be advised that Title 15 NCAC 4B.0017(a) requires that a copy of the approved erosion control plan be on file at the job site. Also, you should consider this letter to give the Notice required by GS 113A-61(d) of our right of periodic inspection to insure compliance with the approved plan.

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

Waste Management of Carolina, Inc.

Page 2

January 30, 1989

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

Your cooperation is appreciated and we look forward to working with you on this project.

Sincerely,


G. Douglas Miller, P.E.
Regional Engineer
Land Quality Section

aws

pc: Jim Coffey

PROJECT NAME: Peidmont Sanitary Landfill

LOCATION: SR 2140 - Forsyth County

SUBMITTED BY: Waste Management of Carolinas, Inc.

DATE RECEIVED: January 20, and 24, 1989

MODIFICATIONS REQUIRED FOR APPROVAL

PROJECT NAME: Piedmont Sanitary Landfill

LOCATION: SR 2140 - Forsyth County

SUBMITTED BY: Waste Management of Carolinas, Inc.

DATE RECEIVED: January 20, and 24, 1989

1. Rip rap check dams will be substituted for silt fence northeast of the office, southwest of the maintenance area and west of module 5. The dams 5 will be 4 feet tall and will be constructed per the attached sheets 6.60.2 - 6.60.5.
2. Runoff from proposed maintenance area must exit at grade point and must not be diverted over fill slopes.
3. This plan is approved with performance reservations. Should portions of the plan be found inadequate to meet the requirements of the Sedimentation Pollution Control Act, addition will be required.

NOTE: Be advised that the above "Modifications Required for Approval" are considered to be a part of the approved plan unless an equally effective alternative is submitted to and approved by this agency prior to beginning this land-disturbing activity.

Design Criteria Ensure drainage area for a sedimentation trap does not exceed 5 acres.

Storage capacity—Keep the minimum volume of the sediment trap at 1800 ft³/acre based on disturbed area draining into the basin. Measure volume below the crest elevation of the outlet. The volume of a natural sediment trap may be satisfactorily approximated by the equation:

$$\text{volume (ft}^3\text{)} = 0.4 \times \text{surface area (ft}^2\text{)} \times \text{maximum pool depth (ft)}$$

Trap cleanout—Remove sediment from the trap and restore the capacity to original trap dimensions when sediment has accumulated to one-half the design depth.

Trap efficiency—Keep the surface area at peak flow as large as possible. Research by Barfield and Clar (1985) indicates that use of the following equation will give trap efficiency of 75% for most Coastal Plain and Piedmont soils:

$$\text{surface area at design flow (acres)} = (0.01) \text{ peak inflow rate (cfs)}$$

Embankment—Ensure that embankments for temporary sediment traps do not exceed 5 ft in height measured at the center line from the original ground surface to the top of the embankment. Additional freeboard may be added to the embankment height to allow flow through a designated bypass location. Construct embankments with a minimum top width of 5 ft and side slopes of 2:1 or flatter. Machine compact embankments.

Excavation—Where sediment pools are formed or enlarged by excavation, keep side slopes at 2:1 or flatter for safety.

Outlet section—Construct the sediment trap outlet using a stone section of embankment located at the low point in the basin. The stone section serves two purposes: (1) the top section serves as a nonerosive spillway outlet for flood flows, and (2) the bottom section provides a means of dewatering the basin between runoff events.

Stone size—Construct the outlet using well-graded stones with a d₅₀ size of 9 inches (class B erosion control stone is recommended,) and a maximum stone size of 14 inches. A 1-ft thick layer of 1/2 - 3/4-inch aggregate (N.C. DOT #57 washed stone is recommended) should be placed on the inside face to reduce drainage flow rate.

Side slopes—Keep the side slopes of the spillway section at 2:1 or flatter. To protect the embankment, keep the sides of the spillway at least 21 inches thick.

Depth—Keep the crest of the spillway outlet a minimum of 1.5 ft below the settled top of the embankment.

Protection from piping—Place filter cloth on the foundation below the riprap to prevent piping. An alternative would be to excavate a keyway trench across the riprap foundation and up the sides to the height of the dam.

Weir length and depth—Keep the spillway weir at least 4 ft long and sized to pass the peak discharge of the 10-yr storm (Figure 6.60a). A maximum flow depth of 1 ft, a minimum freeboard of 0.5 ft, and maximum side slopes of 2:1 are recommended. Weir length may be selected from Table 6.60a shown for most site locations in North Carolina.

Table 6.60a
Design of Spillways

Drainage Area (acres)	Weir Length ¹ (ft)
1	4.0
2	6.0
3	8.0
4	10.0
5	12.0

¹Dimensions shown are minimum

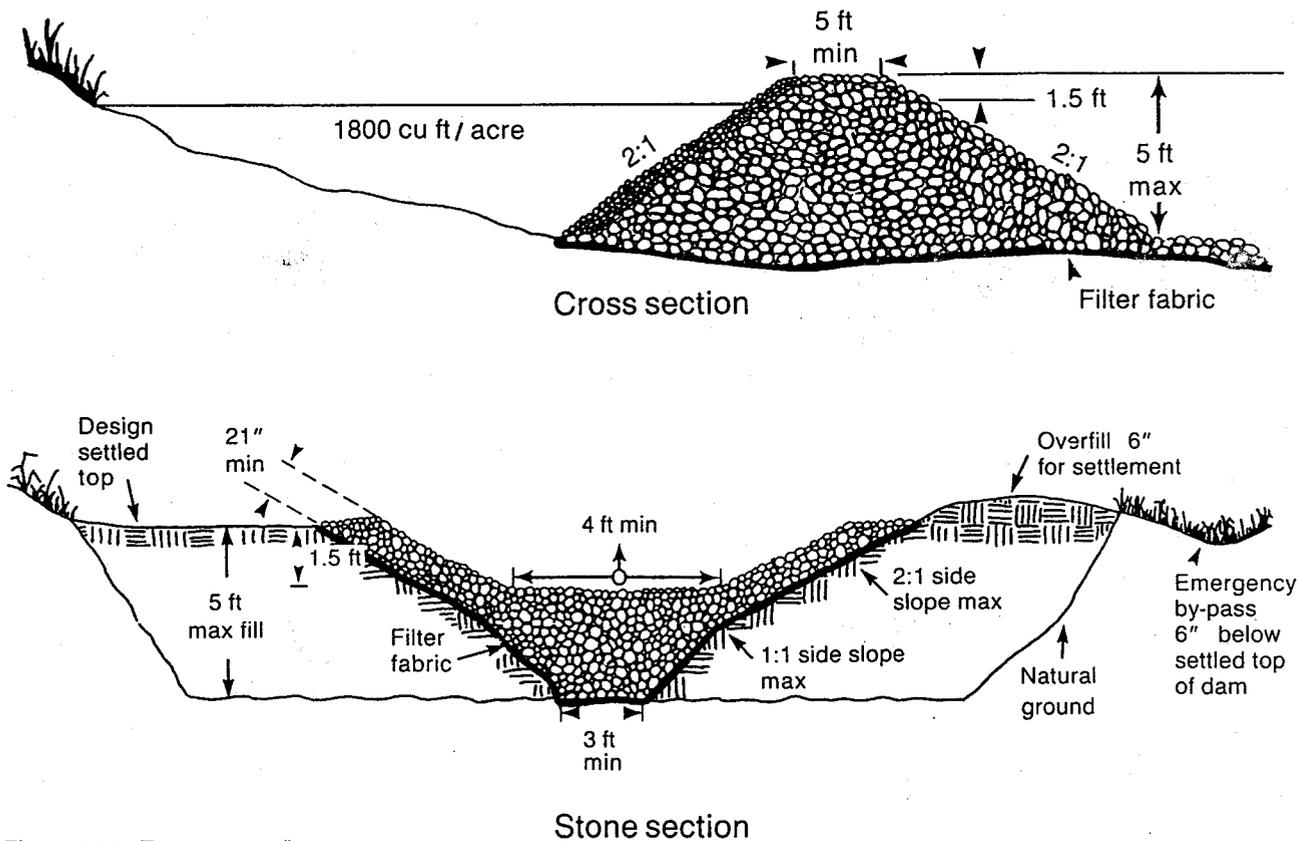


Figure 6.60a Temporary sediment trap.

Construction Specifications

1. Clear, grub, and strip the area under the embankment of all vegetation and root mat. Remove all surface soil containing high amounts of organic matter and stockpile or dispose of it properly. Haul all objectionable material to the designated disposal area.

Maintenance Inspect temporary sediment traps after each period of significant rainfall. Remove sediment and restore the trap to its original dimensions when the sediment has accumulated to one-half the design depth of the trap. Place the sediment that is removed in the designated disposal area and replace the contaminated part of the gravel facing.

Check the structure for damage from erosion or piping. Periodically check the depth of the spillway to ensure it is a minimum of 1.5 ft below the low point of the embankment. Immediately fill any settlement of the embankment to slightly above design grade. **Any riprap displaced from the spillway must be replaced immediately.**

After all sediment-producing areas have been permanently stabilized, remove the structure and all unstable sediment. Smooth the area to blend with the adjoining areas and stabilize properly (*References: Surface Stabilization*).

References *Outlet Protection*
6.41, Outlet Stabilization Structure

Surface Stabilization
6.10, Temporary Seeding
6.11, Permanent Seeding
6.15, Riprap

North Carolina Department of Transportation
Standard Specifications for Roads and Structures

Announcing: _____

North Carolina Erosion and Sediment Control Planning and Design Manual

What is the manual: A 572-page desk reference for engineers, surveyors, landscape architects, architects, land developers and other designers

What the manual presents: Detailed guides and illustrations for preparing erosion and sedimentation control plans for compliance with the North Carolina Sedimentation Pollution Control Act and local sedimentation control ordinances

What the manual includes:

- Legal requirements
- Plan checklist and guidelines
- 40 detailed standards, specifications, and drawings
- Sample plan
- Erosion and sediment control plan symbols
- Unusually comprehensive guide tables for establishing vegetation with numerous alternatives
- Computation procedures, tables, and charts for channel, sediment basin, and outlet protection design
- Extensive appendices
- Easy to use format with tabs in a 3" notebook binder for easy additions
- Color photographs

Cost of the manual: \$30.00 including shipping

How to order the manual: Send name, street address (UPS will not deliver to a post office box), and check payable to N.C. Department of Natural Resources and Community Development in care of:

Design Manual
N.C. Division of Land Resources
Land Quality Section
P.O. Box 27687
Raleigh, N.C. 27611-7687

Publication Date: November, 1988



Waste Management of North America, Inc.
Carolinas/Tennessee District
110 Berry Shoals Road • P.O. Box 338
Duncan, South Carolina 29334
803/439-8426

November 4, 1988

Mr. Jim Coffey
Solid Waste Section
North Carolina Dept. of Human Resources
Division of Health Services
PO Box 2091
Raleigh, NC 27602-2091

RE: REVISIONS TO SEDIMENTATION AND EROSION CONTROL PLANS:
PIEDMONT SANITARY LANDFILL; KERNERSVILLE, NC

Dear Jim:

Enclosed please find the above information that was submitted to Mr. Doug Miller, NCDNR re: Sedimentation and Erosion Control Permit. We have submitted one copy of the Revisions to Mr. Miller and three (3) copies to yourself. Please note that the calculations contained in Appendix B of the Design, Construction, and Operating Provisions for Piedmont Sanitary Landfill that were submitted to you earlier were not the latest. Therefore, please destroy them and insert the enclosed calculations.

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

Sincerely,

Edward L. Gibson, P.E.
District Environmental Engineer

/ELG:adb 224

Attachment

cc: Mike Adams



Waste Management of North America, Inc.
Carolinas/Tennessee District
110 Berry Shoals Road • P.O. Box 338
Duncan, South Carolina 29334
803/479-8426

November 4, 1988

Mr. G. Douglas Miller, P.E.
Regional Engineer
Land Quality Section
NC Dept. of Natural Resources
and Community Development
8025 North Point Blvd. Suite 100
Winston-Salem, NC 27106-3295

**RE: SEDIMENT & EROSION CONTROL PLAN FOR THE PROPOSED
PIEDMONT SANITARY LANDFILL**

Dear Doug:

Please consider this letter and attachments as the response to your letter dated September 23, 1988 concerning the deficiencies for the above referenced project. Below is an item by item response to your deficiencies:

First and foremost, the calculations that were submitted to the NCDHR Solid Waste Section for the Solid Waste Permit (Appendix B of the Operating Report) were not the latest figures. Enclosed please find the new revised calculations, and if you would, please destroy the old set.

ITEM 1: The responsibility of the relocation of Freeman Road will be Waste Management of Carolinas, Inc. (WMCI). We have submitted the design plans to NCDOT for their approval and will prepare a separate Sediment and Erosion Control Plan for this roadway relocation.

ITEM 2: See enclosed Design Calculations, Section 8.

ITEM 3: See enclosed Design Calculations, Section 6.

ITEM 4: As you can see from Sheet #9 on the Design Plans, the landfill will be constructed in phases. These Phases will be constructed in a similar fashion -- temporary interior perimeter berms and drainage diversion ditches. For a more detailed plan see Design, Construction, and Operating Provisions for Piedmont Sanitary Landfill, given to you on October 26, 1988.

Mr. G. Douglas Miller, P.E.
Control Plan for Proposed Piedmont LF
Page 2
November 4, 1988

As you can see from these plans, there is not a detailed preparation plan for areas outside of Phase I (see Sheet #9). Each phase will be constructed in a similar fashion - internal diversion berms and ditches to prevent run-on and run-off. These berms and ditches will be inside the landfill and will be temporary in nature.

ITEM 5: See Appendix C of the report mentioned in Item 4 above.

ITEM 6: The purpose of this road will be to provide access to the rear side of the landfill once access has been blocked by landfill progression. In other words, we do not expect this road to be constructed until Phase II has been completed. This road will be constructed as much as possible on the existing grades with only minor cutting and filling and consequently minor land disturbance. Gravel will be placed on this road to stabilize the road bed, and any other disturbed areas will be re-seeded. During construction, silt fences will be constructed as necessary to effectively control erosion until any disturbed areas are stabilized.

ITEM 7: Based on our experience the design shown will result in effective erosion control. It should be noted that the final grades shown will be constructed over a period of many years and that final grades will be developed and stabilized in relatively small sections at a time. Therefore, most of the 4H to 1V slopes shown will be stabilized prior to constructing the uppermost portion of the landfill. Once these slopes are stabilized, erosion and sediment control can be effectively handled by the terrace drainage ditches provided in the design. Temporary erosion controls such as silt fences will be used as necessary during final cover construction.

ITEM 8: Please see Sheets #5 and #11, Revision 1, showing Rip-Rap along the access road.

ITEM 9: Please see Sheet #9, Revision 1, showing that we will provide temporary sediment controls until areas disturbed by construction have been stabilized.

ITEM 10: See attached.

If you need further information, please feel free to call.

Sincerely,



Edward L. Gibson, P.E.
District Environmental Engineer

/ELG:adb 221
Attachment

cc: Jim Coffey (w/attachments)
Mike Adams (w/o attachments)
Hank Ludwig (w/o attachments)

EXHIBIT A

PIEDMONT SANITARY LANDFILL

LANDOWNERS OF RECORD AS OF NOVEMBER 1, 1988:

- (1.) ALDEAN HARDY AND WIFE SHIRLEY P. HARDY -- DB 1509 PAGE 739
9763 FREEMAN ROAD
KERNERSVILLE, NC 27284
- (2.) JULIAN C. STEPHENSON AND WIFE REBECCA H. STEPHENSON -- DB 1525 PAGE 657
9754 FREEMAN ROAD
KERNERSVILLE, NC 27284
- (3.) RICKY WAYNE BALLARD -- DB 1567 PAGE 805
9030 GORTMAN DR.
KERNERSVILLE, NC 27284
- (4.) BEULAH C. BARROW, GIDEON H. BARROW, JOANNE BARROW -- DB 384 PAGE 110
9898 FREEMAN ROAD
KERNERSVILLE, NC 27284

ALL OF THE ABOVE PROPERTIES ARE UNDER PURCHASE OPTION AGREEMENT:

OPTIONEE: WASTE MANAGEMENT OF CAROLINAS, INC.
2600 DELK ROAD
MARIETTA, GA 30067

THE EXECUTION OF THIS OPTION WILL BE CONTIGENT UPON ALL PERMITS RELATED TO THE SANITARY LANDFILL. AT THE PRESENT TIME IT IS THE INTENTION OF WMCI NOT TO PERFORM ANY LAND DISTURBING ACTIVITY UNTIL WMCI BECOMES THE OWNER OF THE ABOVE PROPERTIES.



SEP 23 1988

State of North Carolina
Department of Natural Resources and Community Development
Winston-Salem Regional Office

James G. Martin, Governor

DIVISION OF LAND RESOURCES

S. Thomas Rhodes, Secretary

LETTER OF DISAPPROVAL

September 23, 1988

Waste Management of Carolinas, Inc.
110 Berry Shoals Road
Duncan, SC 29334

Gentlemen:

The soil erosion and sedimentation control plan submitted for Piedmont Sanitary Landfill received on September 1, 1988, has been reviewed by this office. Based upon a thorough review of the submitted plans and supporting materials, we find the soil erosion and sedimentation control plan as submitted to be unacceptable and said plan is hereby disapproved by authority granted to this office by G.S. 113A-54(d) and NCAC Title 15 4A.0004(a)(1) and (2). The reasons for disapproval of the submitted plan are listed and explained on the enclosed page which is incorporated as a part of this letter of disapproval.

There are two options which are available to you as a result of this disapproval. You may submit a revised soil erosion and sedimentation control plan for approval covering those items as outlined on the enclosed list. Under authority of G.S. 113A-54(d)4, this office has 15 days from the date of receipt to approve or disapprove your revised plan. The second option is to petition for a hearing before the Office of Administrative Hearings. The Petition must conform to the requirement of North Carolina General Statutes, Chapter 150B and be filed with the Office of Administrative Hearings, Post Office Drawer 11666, Raleigh, North Carolina 27604. A copy of the petition should be filed with the Office of Legal Affairs of this Department addressed to Post Office Box 27687, Raleigh, NC 27611-7687.

Waste Management of Carolinas, Inc.

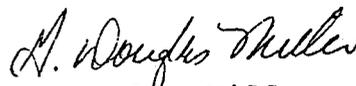
Page 2

September 23, 1988

Pending approval of a revised plan or a decision on an appeal of this disapproval, commencement of any land-disturbing activity associated with this project shall constitute a violation of the North Carolina Sedimentation Pollution Control Act (G.S. 113A-51 through 66).

Please feel free to contact this office at your convenience if you have questions or if we can provide information assisting you with this matter.

Sincerely,



G. Douglas Miller, P.E.
Regional Engineer
Land Quality Section

adw

Enclosure

pc: James Coffey ✓

CERTIFIED MAIL NO.: P 402 279 717
RETURN RECEIPT REQUESTED

REASONS FOR DISAPPROVAL

PROJECT NAME: Piedmont Sanitary Landfill

PROJECT LOCATION: SR 2140 Forsyth County

SUBMITTED BY: Waste Management of Carolinas, Inc.

DATE RECEIVED: September 1, 1988

PERSON FINANCIALLY RESPONSIBLE FOR PROJECT: ?

1. Who is responsible for relocation of Freeman Road? Erosion control plans must be submitted to and approved by this office for this construction.
2. Provide anticipated flow rates for each channel section. When grass is to be established what liners if any will be used to hold soil and seed in place until vegetation can become established.
3. Provide design calculations for each sediment basin.
4. Outline what land disturbing activity will be conducted with each phase of construction. This should also include construction of perimeter dike, perimeter ditchlines and stabilization of those ditchlines. Provide operational plan which outline proposed schedule of operation.
5. Provide seeding schedules including types and rates of seed fertilizer and mulch for each season of the year.
6. Specify erosion and sediment control measures for northern perimeter access road.
7. Provide some means for carrying water from elevation 850 and higher over fill slopes in a stable manner without causing erosion. Sheet flow will not exist and long term stabilization will be very difficult without some means being provided to pipe water from top of the land fill and down to a stable grade.
8. Provide calculations for stabilization of ditch on access road to top layer of landfill shown on sheet four. With grades shown, establishment of a grass cover within the ditchline will not occur.
9. Sediment controls will be needed below culvert under access road west of maintenance area if any culverts are provided under Freeman Road relocation.

10. A financial responsibility form must be submitted. A copy is attached.



State of North Carolina
Department of Natural Resources and Community Development
Winston-Salem Regional Office

James G. Martin, Governor

DIVISION OF LAND RESOURCES

S. Thomas Rhodes, Secretary

LETTER OF DISAPPROVAL

November 21, 1988

Waste Management of Carolinas, Inc.
P.O. Box 338
Duncan, SC 29334

Attention: John K. Sitt

Gentlemen:

The soil erosion and sedimentation control plan submitted for Piedmont Sanitary Landfill received on November 7, 1988, has been reviewed by this office. Based upon a thorough review of the submitted plans and supporting materials, we find the soil erosion and sedimentation control plan as submitted to be unacceptable and said plan is hereby disapproved by authority granted to this office by G.S. 113A-54(d) and NCAC Title 15 4A.0004(a)(1) and (2). The reasons for disapproval of the submitted plan are listed and explained on the enclosed page which is incorporated as a part of this letter of disapproval.

There are two options which are available to you as a result of this disapproval. You may submit a revised soil erosion and sedimentation control plan for approval covering those items as outlined on the enclosed list. Under authority of G.S. 113A-54(d)4, this office has 15 days from the date of receipt to approve or disapprove your revised plan. The second option is to petition for a hearing before the Office of Administrative Hearings. The Petition must conform to the requirement of North Carolina General Statutes, Chapter 150B and be filed with the Office of Administrative Hearings, Post Office Drawer 11666, Raleigh, North Carolina 27604. A copy of the petition should be filed with the Office of Legal Affairs of this Department addressed to Post Office Box 27687, Raleigh, NC 27611-7687.

Waste Management of Carolinas, Inc.

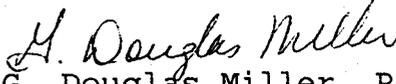
Page 2

November 21, 1988

Pending approval of a revised plan or a decision on an appeal of this disapproval, commencement of any land-disturbing activity associated with this project shall constitute a violation of the North Carolina Sedimentation Pollution Control Act (G.S. 113A-51 through 66).

Please feel free to contact this office at your convenience if you have questions or if we can provide information assisting you with this matter.

Sincerely,


G. Douglas Miller, P.E.
Regional Engineer
Land Quality Section

adw

Enclosure

pc: James Coffey

CERTIFIED MAIL NO.: P 402 279 762
RETURN RECEIPT REQUESTED

REASONS FOR DISAPPROVAL

PROJECT NAME: Piedmont Sanitary Landfill

PROJECT LOCATION: SR 2140, Forsyth County

SUBMITTED BY: Waste Management of Carolinas, Inc.

DATE RECEIVED: November 7, 1988

PERSON FINANCIALLY RESPONSIBLE FOR PROJECT: Waste Management of Carolinas, Inc.

1. A sediment control device is needed during the initial grading west of module 5 just below LCR-24 where drainage goes offsite. This will be needed until the diversion is completed and outer limits are stabilized.
2. The types of sedimentation control devices must be specified with appropriate details for the construction of each being provided below the access road on the east end of the site.
3. Specific grading plans including new contours, direction of runoff drainage, etc. must be provided for the scale house and maintenance areas.
4. Proposed landfill vegetation specifications are not acceptable. Rye grass is not to be used in a mixture proposed for permanent grass. It is acceptable only for use as a temporary cover. Multiseasonal revegetation efforts are expected. The Sedimentation Control Act requires ground cover sufficient to restrain erosion to be established within 30 working days but no longer than 120 calendar days after completion of any phase of grading. Provide criteria for seed bed preparation and rates of application and types of lime, fertilizer and mulch. The seeding mixture proposed requires maintenance to be established and maintained. What maintenance fertilizer is to be used?
5. How much clearing is to be performed for security fence installation?
6. Silt fence or other sedimentation controls will be necessary for silt pond construction area until ground cover on embankment is established.
7. Rip rap in sedimentation pond spillway and on the downstream slope must have geotextile filter cloth specified for a filter. Thickness and size of rip rap must be specified.

8. A rip rap apron will be needed at the outlet of the energy dissipator specified for the sediment basins to achieve a non-erosive outlet velocity. All other new culverts will also require a non erosive discharge velocity.
9. The corrugated metal pipe in the sediment basins must have watertight connections at pipe joints. Corrugated bands with neoprene gaskets must be used.
10. A temporary liner will be necessary to hold soil and seed in place to establish grass in all ditchlines to be grassed. These liners must be designed for flows expected and soil types. The type of liner with appropriate installation details must be specified for each section of ditch.
11. Though drainage ditch 6C may have an average gradient of 4%, portions are steeper, therefore raising concerns over your ability to successfully establish and maintain grass in that ditch section.
12. As sediment will continually feed through the ditchlines until the landfill is complete what is the stabilization schedule of the ditchlines as compared to the landfill itself.