## **Stormwater Pollution Prevention Plan:**

955 Main Street Municipal Yard Waste Center

## **Operator(s):**

Wilmington Department of Public Works Highway Division and Water/Sewer Division

## **SWPPP Contact:**

Paul M. Alunni, PE
Town Engineer
121 Glen Road, Room 7
Wilmington, MA
978-658-4499

## **SWPPP Preparation Date:**

April 2020

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#### 1.0 Pollution Prevention Team

#### **Operator:**

Department of Public Works Highway Division

#### **Operations Manager:**

Jamie M. Magaldi, PE 135 Andover Street Wilmington, MA 978-658-8811 Jmagaldi@wilmingtonma.gov

#### **SWPPP Contact:**

Paul M. Alunni, PE Town Engineer 121 Glen Road, Room 7 Wilmington, MA 978-658-4499 palunni@wilmingtonma.gov

### This SWPPP was prepared by:

Paul M. Alunni, PE Town Engineer 121 Glen Road, Room 7 Wilmington, MA 978-658-4499 palunni@wilmingtonma.gov

## 2.0 Description of Facility and Potential Pollution Sources

### 2.1 Description of Facility:

The Wilmington Yard Waste Center is located at 955 Main Street in Wilmington, MA on Assessors Map 12 Parcel 18, which is a 37 acre parcel located in the General Industrial District adjoining the Town/City Line with Woburn.

The current use of this 37 Acre town owned parcel is for collection of the Town's yard waste (excluding lawn clippings), and holding pit for transfer of water treatment plant residuals, and catch basin and street sweeping debris and sediment. These residuals are mixed together in proportions prescribed by a Licensed Site Professional (LSP) and transferred to landfills for use as grading and cover. MassDEP has issued the Town a Beneficial Use Determination for the property, which is located in Appendix D.

The vast majority of the site is undeveloped upland area with extreme changes in grade due to shallow to ledge geology. The site slopes from south to north shedding stormwater in the northerly direction which eventually leads to the Maple Meadow Brook watershed. Approximately 4.5 acres of the 37 acre parcel is being used by the DPW for the aforementioned uses.

The focus of this SWPPP is on the portion of the parcel which consists of the yard waste collection area and the storage of treatment plant residuals and catch basin/street sweeping debris.

Refer to Figure 1 in Appendix A.

#### 2.2 Potential Pollution Sources:

Sources of pollution are those generally associated with transport of sediment and erosion (from yard waste stockpiles, and transfer operations). The treatment plant residuals are located in the southerly most section of the property – which is the highest elevation in the developed area. The area has been graded as a holding pit, so the area is contained and no runoff leaves the immediate area.

<u>Note this facility does not include salt storage</u> – which is stored in an enclosed building adjacent to Wildwood Cemetery.

## 3.0 Identification of Stormwater Controls

#### 3.1 Minimize or Prevent Exposure:

As stated above, the holding pit has been graded to prevent any excess stormwater runoff from discharging to the low lying northerly section of the site. The two operations (residual transfer and yard waste collection) are also separated by an existing man-made swale that would intercept any runoff should the holding pit breach. Refer to Figure 1 in Appendix A.

The northerly section of the property is being used for yard waste collection. Residents drop off brush piles, and the Town's leaf collection program are both processed, separated, and stored in this location. A filter berm is proposed around the down gradient side (northerly) of the leaf compost piles. Secondarily, a sediment basin and swale are proposed should the filter berm on its own prove to be ineffective.

### 3.2 Best Management Practices and Erosion/Sedimentation Control:

Mulch filter berms are proposed to filter runoff prior to discharging excess nutrients from the leaf compost areas. A sediment basin and swale are also proposed along the northerly edge of the storage area which would collect the majority of runoff from this subcatchment.

The sediment basin will be designed using the following equation:

V = 1815A

Where, V = volume of basin in CF
A= drainage area in Acres
1815 = volume (in cubic feet) of 0.5 inches of runoff per acre.

Refer to Figure 1 for potential location of this BMP.

## 4.0 Inspections

The inspection shall include but not be limited to the following areas:

Disturbed areas and areas used for storage of materials that are exposed to precipitation shall be inspected for evidence of, or the potential for, pollutants discharging northerly offsite. The holding pit shall be observed to ensure it is operating correctly. Areas immediately down gradient of the mulch berm will be investigated for traces of sediment transport and accumulation. Should the inspection reveal same, the inspector will report directly to the Town Engineer to evaluate additional erosion/sedimentation controls and any necessary action items.

Based on the results of the inspection, the potential sources and pollution prevention measures identified in the Plan shall be revised as appropriate and as soon as practicable after such inspection.

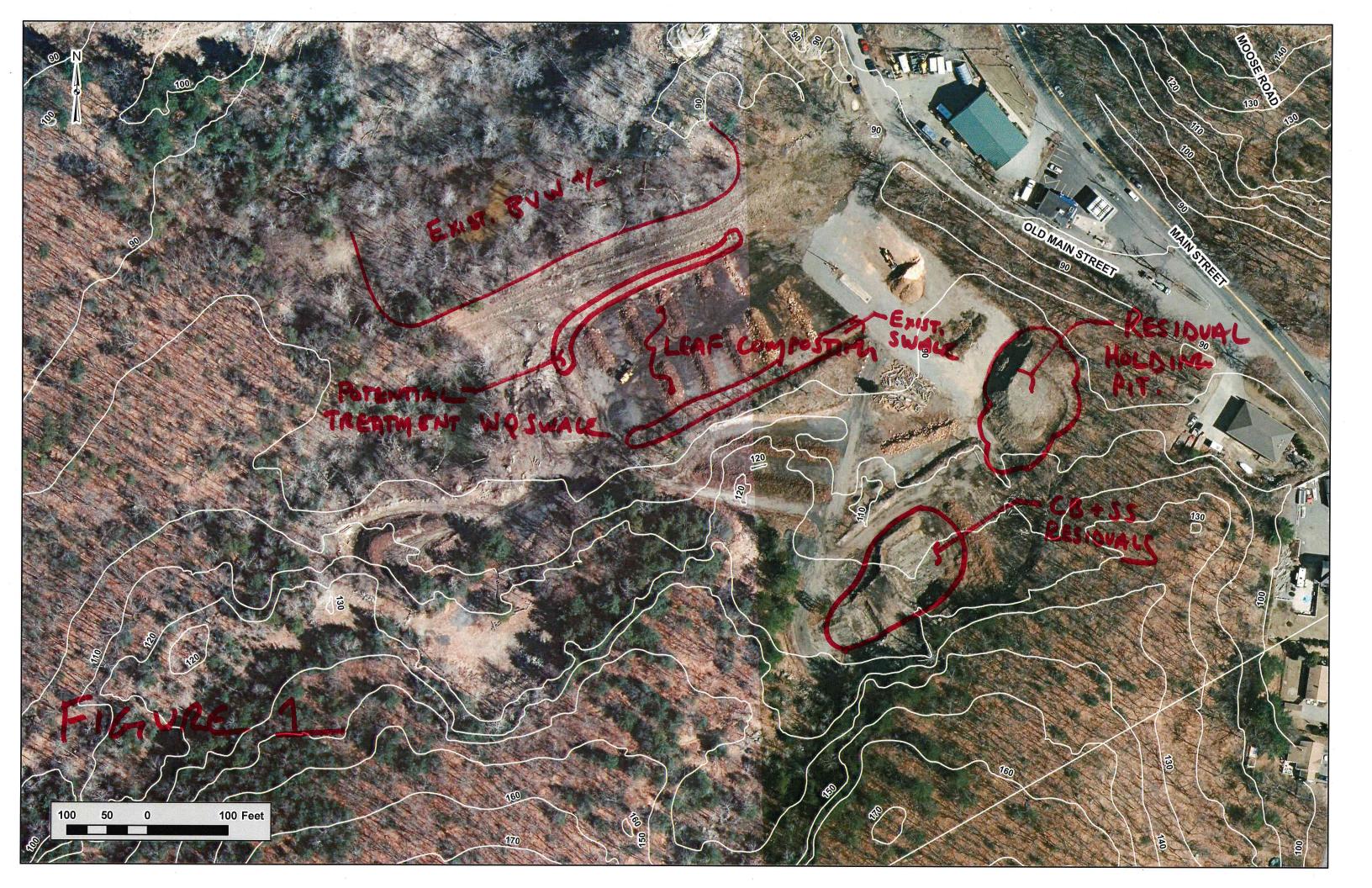
A report summarizing the scope of the inspection, name(s) and qualifications of personnel making the inspection, the date(s) of the inspection, major observations relating to the implementation of the Stormwater Pollution Control Plan, and actions taken shall be made and retained as part of the Plan.

## 5.0 Recordkeeping

Records will be kept on-site and will be available for inspection upon request. Records will include but are not limited to:

- Inspection reports
- Corrective Action reports
- SWPPP modifications and revisions

# Appendix A – Figures



## Appendix B - Inspection and Maintenance Report Form

	Facility Address: 955 Main Street			
Inspector:			<del></del>	
		: Amount of last rain		
Current Site	e Status:			
Site Area		Current Activities	Current Condition	
Control Measures:		(If you answer no to any of the following question	ions, corrective actions may be	
□Yes □No	$\Box$ NA	Siltation barriers in good condition?		
∃Yes □No	$\square NA$	Drainage diverted away from disturbed an	reas?	
∃Yes □No	$\square NA$	Temporary stabilization in place where appropriate/required?		
∃Yes □No	$\square NA$	No reportable quantity releases (spills) since last inspection?		
∃Yes □No	$\square NA$	Catch basins/detention facilities without excess accumulated solids?		
∃Yes □No	$\square NA$	Infiltration facilities functioning properly?		
∃Yes □No	$\square NA$	Velocity/erosion control measures at outfalls operating properly?		
	$\Box$ NA	Minimal sediment tracked onto road?		
□Yes □No				

## Appendix C – Spill Prevention and Control Plan

### SPILL PREVENTION AND CONTROL PLAN

The SWPPP Operator will instruct all personnel in the proper handling and cleanup of spilled hazardous substances or oil. No spilled hazardous substances or oil will be allowed to come in contact with storm water discharges. If such contact occurs, the storm water discharge will be contained on site until appropriate measures in compliance with state and federal regulations are taken to dispose of such contaminated storm water. It shall be the responsibility of the SWPPP Operator to be properly trained, and to train all personnel in spill prevention and clean up procedures.

In the event of a spill of hazardous substances or oil, the following procedures must be followed:

- a) All measures must be taken to contain and abate the spill and to prevent the discharge of the hazardous substance or oil to storm water or off-site. (The spill area must be kept well ventilated and personnel must wear appropriate protective clothing to prevent injury from contact with the hazardous substances.)
- b) For spills of less than five (5) gallons of material, proceed with source control and containment, clean-up with absorbent materials or other applicable means unless an imminent hazard or other circumstances dictate that the spill should be treated by a professional emergency response contractor.
- c) For spills greater than five (5) gallons of material immediately contact the MA DEP Hazardous Waste Incident Response Group at (617) 792-7653.
- d) If there is a Reportable Quantity (RQ) release, then the National Response Center must be notified immediately at (800) 424-8802; within 14 days a report must be submitted to the EPA regional office describing the release, the date and circumstances of the release and the steps taken to prevent another release. This Pollution Prevention Plan must be updated to reflect any such steps or actions taken and measures to prevent the same from reoccurring.

The SWPPP Operator will be the spill prevention and response coordinator. He/she will designate the individuals who will receive spill prevention and response training. These individuals will each become responsible for a particular phase of prevention and response. The names of these personnel will be posted in the material storage area and in the site office.



MITT ROMNEY Governor

KERRY HEALEY
Lieutenant Governor

## COMMONWEALTH OF MASSACHUSETTS

**EXECUTIVE OFFICE OF ENVIRONMENTAL AFFAIRS** 

DEPARTMENT OF ENVIRONMENTAL PROTECTION

ONE WINTER STREET, BOSTON, MA 02108 617-292-5500

ELLEN ROY HERZFELDER

Secretary

ROBERT W. GOLLEDGE, Jr. Commissioner

## BENEFICIAL USE DETERMINATION (BWP SW 13)

North Coastal Environmental Inc.
Reuse of Water Treatment Residuals
Generated at Town of Wilmington, Massachusetts
Statewide Beneficial Use Determination – BWP SW 13
Transmittal Number: W059104

Applicant Name:

North Coastal Environmental Inc.

Mailing Address:

14 Seagull Street

Rockport, MA 01966

Name of Facility:

**Butters Row Water Treatment Plant** 

Facility Address:

54 Butters Row

Wilmington, MA

E.H. Sargent Water Treatment Plant

1000 Sewell Road Wilmington, MA

Department of Public Works
Town Recycling Center

Wilmington, MA

Operator:

Town of Wilmington Water and Sewer Department

Wilmington, MA 01877

DEP Region:

Department of Environmental Protection

(the "Department" or "DEP")
Business Compliance Division

1 Winter Street Boston, MA 02108

## I. APPLICATION INFORMATION

A. Application Information for Beneficial Use Determination -- BWP SW 13

Applicant Name:

North Coastal Environmental, Inc

Transmittal No.:

W059104

Application Prepared By:

Michael Rostkowski

Vice President

North Coastal Environmental, Inc.

B. Title of Submittal: BWP SW 13 -- Beneficial Use Determination -- Major "Reuse of Drinking Water Residuals Generated at Town of

Wilmington, Massachusetts Water Treatment Facilities"

## II. BENEFICIAL USE PROPOSAL

North Coastal Environmental, Inc. (the "Applicant"), proposes to mix drinking water treatment plant residuals ("Residuals") generated by the Town of Wilmington Water and Sewer Department (the "Water and Sewer Department) at the Butters Row and E. H. Sargent facilities with street sweeping material, for bulking purposes, and use the bulked Residuals as an alternative daily cover (ADCM) and grading and shaping material at Massachusetts landfills.

The water treatment plant operations at both treatment facilities are the same with regard to the mechanical and manual process controls and with regard to process additives that are meant to improve the overall water quality. Residuals are produced during the flocculation and settling stages and accumulate in settling tanks and in mechanical filters. Several chemicals are used to aid in the treatment process including alum, lime, potassium permanganate, polymers and chlorine. Precipitate resulting from the water treatment is collected during the sedimentation and filtration process. The treatment systems are backwashed at least every other day to remove the accumulated Residuals from the settling basins and filters, which eventually flow by gravity to settling lagoons via underground piping. The combined volume of Residuals produced at both facilities is approximately 1,000-1,400 cubic yards per year. Assuming one lagoon at each facility is receiving Residuals, the calculated storage capacity is 4,700 cubic yards.

As presented in the BUD application, the Residuals were analyzed for Total Metals (Method 3050B/6000/7000), Volatile Organic Compounds (VOCs)(Method 5035/8260B), Semi-Volatile Organic Compounds (SVOCs)(Method 8270C), Total Petroleum Hydrocarbons (TPH)(Method 8100M), Polychlorinated Biphenyls (Method 8082), TCLP Metals (Method 1311/6000/7000) and Organochlorine Pesticides (Method 8081A). Comparison of the data offered in the application with the criteria listed in Table 1 of the Department's policy #COMM-97-001, Reuse and Disposal of Contaminated Soil at Massachusetts Landfills, August 15, 1997, demonstrates that the Residuals material is below the maximum contamination levels allowed for use of contaminated soils as daily cover material for all constituents except arsenic. The two most recent samples, which were analyzed in August of 2004, indicated arsenic concentrations of 126

and 118 ppm. Comm-97-001 stipulates a maximum arsenic limit of 40 ppm. While the policy applies only to contaminated soils, the Department may utilize the criteria established in the policy to evaluate materials that are considered to be physically and chemically similar in nature to soil (i.e., water treatment residuals).

Arsenic is a naturally occurring element that is relatively common and persistent in the environment. The source of the arsenic in the Residuals is the ground water treated at both facilities. To evaluate the potential for the arsenic detected in the Residuals to mobilize and leach into the environment, additional TCLP testing was conducted. The TCLP test is designed to replicate the leachate conditions in a solid waste landfill and therefore is considered appropriate for evaluating the mobility of constituents in material proposed for placement within a solid waste landfill. The TCLP extract concentrations were below the method detection limit of 0.05 mg/l. Therefore, the Department concurs with the Applicant's conclusion that the arsenic will not likely be mobilized if the Residuals are used as daily cover in a landfill.

The Residuals have a wet paste-like consistency, are cohesive, have low strength characteristics, and have a high moisture holding capacity. Physical testing conducted by the Applicant indicate that the use of street sweeping material as a bulking agent on a 2:1 ratio of Residuals to street sweeping materials will produce a final product that is an effective ADCM or grading and shaping material.

Currently, the town has stockpiled approximately 3,000 cubic yards of street sweeping material, which is suitable for use at landfills pursuant to BWP 94-092 - Reuse and Disposal of Street Sweepings. The total annual amount of bulked Residuals available for use as ADCM or grading and shaping material is approximately 2,250 cubic yards. This is based upon the annual amount of Residuals accumulated each year and assumes the Town generates sufficient amounts of street sweeping material for mixing. Currently there are sufficient stockpiles of Residuals and street sweeping material to manufacture approximately 8,000 cubic yards of bulked Residuals.

### III. BENEFICIAL USE DETERMINATION

This application complies with the requirements of 310 CMR 19.000, "Solid Waste Management Facility Regulations," and was reviewed in accordance with section 19.060, Beneficial Use of Solid Wastes. The Department determines that Residuals generated by the Water and Sewer Department may be beneficially used for daily cover and/or grading and shaping material when they are mixed with street sweeping material as a bulking agent.

### IV. GENERAL PERMIT CONDITIONS

- A. This determination of beneficial use means that the material (Residuals) is NOT classified as a solid waste ONLY when it is used in accordance with the requirements set forth in this determination. The material shall not be handled or utilized in a manner that will result in the material becoming a solid waste.
- B. The beneficial use of this material shall be in compliance with other applicable state and federal laws and regulations.

- C. The Department reserves the right to rescind, suspend or modify this permit by the imposition of additional conditions based upon a determination of actual, or the threat of, adverse impacts from the beneficial use of this material.
- D. The Water and Sewer Department shall provide the Department, within seven (7) days or an alternative period prescribed by the Department, any information which the Department may request and which is deemed by the Department to be relevant in determining whether a cause exists to modify, revoke, or suspend a permit, or to determine whether the Water and Sewer Department is complying with the terms and conditions of the permit.
- E. Personnel Training. The Water and Sewer Department shall instruct or give on-the-job training to all personnel involved in any activity authorized by the permit. Such instruction or on-the-job training shall teach personnel how to comply with the conditions of the permit and to carry out the authorized activity in a manner that is not hazardous to public health, safety, welfare, or the environment.
- F. Failure to comply with this determination shall be grounds for enforcement action including without limitation, permit suspension and revocation.
- G. The Water and Sewer Department must notify the Department in writing of any changes in its process that may modify the physical or chemical nature of the Residuals. A change in processing or use of the material other than specified in the beneficial use determination application will require additional review and approval.
- H. A copy of this permit shall be supplied to any Massachusetts landfill intending to use this material as ADCM.
- 1. Transfer of Permits. Pursuant to 310 CMR 19.044, for a transferred permit to remain effective, written proof that the transfer has been completed must be provided to the Department within 30 days of the effective date of the transfer.

#### V. DRINKING WATER TREATMENT PLANT RESIDUALS CONDITIONS

- A. Bulked Residuals delivered to landfills shall be mixed on a 2:1 ratio with street sweeping material prior to use at landfills.
- B. The Water and Sewer Department shall use only street sweeping material that is generated in the Town of Wilmington as a bulking material under this permit.
- The bulked Residuals shall conform to the standards established in 310 CMR
   19.130(15)(a) and (b), and all applicable federal, state, and local laws and regulations.
- D. Stockpiled Residuals or bulked Residuals shall not cause nuisance conditions, including but not limited to odor or dust.
- E. The street sweeping material must be equivalent to material approved for use at landfills pursuant to the Department's street sweeping policy, <u>BWP 94-092 Reuse and Disposal of Street Sweepings.</u>
- F. A qualified environmental professional who shall ensure mixing is performed at specified ratios using appropriate test methods shall monitor mixing of Residuals and street sweeping material.
- G. Prior to mixing of Residuals with street sweepings, one Residuals sample from each water treatment plant shall be taken and analyzed for total arsenic concentrations. The

residuals shall not be used as ADCM nor grading and shaping material if the analysis indicates arsenic concentrations are greater than 400 ppm.

### VI. USE AS ALTERNATIVE DAILY COVER

- A. Residuals shall conform to conditions outlined in Section V., Drinking Water Treatment Plant Residuals Conditions.
- B. The Applicant shall notify the appropriate Regional Office of the Department at least two (2) weeks before bulked Residuals are used as daily cover.
- C. The daily quantity of bulked Residuals that may be used at a landfill for daily cover shall not exceed the quantity necessary to meet the performance standards for daily cover specified at 310 CMR 19.130(15). Any quantity of bulked Residuals used above this percentage is considered disposal.
- D. Use of the bulked Residuals shall be limited to the active area of the landfill only.
- E. The landfill operator shall immediately take appropriate steps to abate any nuisance condition(s) including, but not limited to, noise, dust and odor resulting from activities associated with the use of bulked Residuals as ADCM.
- F. Landfills using bulked Residuals as daily cover material shall report the amount of bulked Residuals utilized in inspection reports submitted to the Department as well as in the annual report required as part of the operating permit.
- G. Landfills using bulked Residuals generated by the Water and Sewer Department shall not stockpile more bulked Residuals than can reasonably be used as ADCM in a fourteen (14) day period. Erosion control (i.e., hay bales and silt fencing) shall be installed around all material stockpiled on site. Following placement, all material shall be graded to minimize erosion. Inspection of erosion control measures shall be performed on a regular basis and maintenance performed on an as needed basis.
- H. Minimum quantities of daily cover material, other than bulked Residuals, sufficient for seven (7) working days of operation shall be stockpiled at the landfill or shall be readily available.

#### VII. LANDFILL CONDITIONS - GRADING AND SHAPING

- A. Residuals shall conform to conditions outlined in Section V., Drinking Water Treatment Plant Residuals Conditions.
- B. Residuals shall be used as grading and shaping material only if the appropriate Regional Office of the Department issues written authorization for its use as part of an approved closure plan for that facility.
- C. A copy of this permit and the application for modification of the closure plan as required in VII.B. above shall be supplied to the Board of Health in the city or town where the landfill closure is taking place.
- D. The Regional office of the Department may address site specific issues including, but not limited to, storage requirements (amounts and locations), quantity of material to be used, spreading and compacting requirements, length of time before exposed material is covered by other materials, amount of area that will have exposed Residuals, erosion and storm water controls and dust and other nuisance control methods.

- E. Residuals used as grading and shaping material shall be used in accordance with the standard operating procedures addressing record keeping, landfill operation practices and erosion control as stated below, or as those requirements may be modified by the regional approval required by VII.B. above.
- F. Landfill Operating Practices. All Residuals shall be stockpiled within the landfill footprint. The landfill shall not stockpile more material than can be spread in a five (5) day period. Stockpiled Residuals shall be properly controlled to prevent rumoff and nuisance conditions. Residuals shall be covered with soil or other approved materials within seven (7) days unless another lift of Residuals is placed within that time period. A minimum three (3) day stockpile of daily cover material, other than Residuals, shall be maintained on site or be readily available should site conditions warrant its application.
- G. Erosion Control. Erosion controls, consisting of hay bales and silt fencing, shall be installed around areas receiving Residuals for grading and shaping to prevent runoff of the material. In addition, hay bales and silt fencing shall be installed around all material stockpiles on site. Following placement, all material shall be graded to minimize erosion. Inspection of erosion control measures shall be performed on a regular basis and maintenance performed on an as-needed basis. In the event of nuisance dust generation from areas of the site receiving Residuals a six (6) inch layer of approved daily cover material shall be placed over the areas to minimize the generation of dust.
- H. The allowable amount of Residuals to be used as grading and shaping material at a landfill shall be limited to that quantity necessary for grading and shaping to achieve pre-capping contours as specified in the facility's approved final closure plan. Placement of Residuals in excess of what is needed to meet closure requirements shall be considered disposal and does not constitute beneficial use. The Department may initiate enforcement actions, including notices of noncompliance, orders and penalties, and require removal of Residuals material that is placed in violation of a valid approval.

## VIII. RECORD KEEPING AND REPORTING

- A. The appropriate regional office of the Department shall be notified as soon as possible, but in no case later than twenty-four (24) hours, should there be a complaint regarding nuisance conditions occurring (i.e., dust, odor, etc.) at the landfill as a result of beneficial use activities.
- B. The Water and Sewer Department shall retain at its business office or the drinking water treatment plant all records and copies of applications, reports, and other documents required by this determination, which shall be readily available for inspection by the Department, for a period of three (3) years beyond the final distribution of bulked Residuals as ADCM.
- C. All bulked Residuals shipped as ADCM shall be transported with a material shipping record that includes, at a minimum, the tonnage shipped, truck identification, the generating facility, the receiving facility, date of shipment, date of receipt and tonnage

received. The shipping and receiving facilities shall each maintain copies of the shipping record.

- Records retained shall include, but are not limited to, the following: D.
  - Training, and
  - Daily records, including: 2.
    - Tons of bulked Residuals produced through mixing of Residuals and street sweeping material;
    - Tons of bulked Residuals shipped to landfills for use as daily cover; Ъ.
    - Tons of bulked Residuals disposed of, if any; C.
    - Bulked Residuals product recipients, including date of deliveries.
- Summary Reporting. The Applicant shall provide an annual summary, in tabular form, of locations, amounts and use (daily cover and/or disposal) of all bulked Residuals E. shipped to solid waste facilities in Massachusetts. The summary shall be submitted to the Department's Boston Office, Business Compliance Division, Waste Branch Chief by February 15 of each calendar year.

#### RIGHT OF APPEAL IX.

Right to Appeal. Any person aggrieved by the issuance or denial of this permit decision except as provided for under 310 CMR 19.037 (4)(b), may file an appeal for judicial review of said decision in accordance with the provisions of Massachusetts General Law (M.G.L.), Chapter 111, Section 150A not later than 30 days following the receipt of the final permit. The standing of a person to file an appeal and the procedures for filing such appeal shall be governed by the provisions of M.G.L. c. 30A. Unless the person requesting an appeal requests and is granted a stay of the terms and conditions of the permit by a court of competent jurisdiction, the permit decision shall remain effective or become effective at the conclusion of the 30 day period.

Notice of Appeal. Any aggrieved person intending to appeal a grant or denial of a permit to the Superior Court shall first provide notice of intention to commence such action. Said notice of intention shall include the Department file number and shall identify with particularity the issues and reason why it is believed the permit decision was not proper. Such notice shall be provided to the Office of General Counsel of the Department and the Deputy Division Director for Regulatory Standards of the Business Compliance Division at least five days before the filing of an appeal.

- a) Office of General Counsel Department of Environmental Protection One Winter Street - Third Floor **Boston**, MA 02108
- b) Deputy Division Director, Regulatory Standards Department of Environmental Protection **Business Compliance Division** One Winter Street - Ninth Floor Boston, MA 02108

No allegation shall be made in any judicial appeal of a permit decision unless the matter complained of was raised at the appropriate point in the administrative review procedures established in these regulations, provided that a matter may be raised upon a showing that it is material and that it was not reasonably possible with due diligence to have been raised during such procedures or that matter sought to be raised is of critical importance to the environmental impact of the permitted activity.

If you have any questions regarding this matter, please contact Sean Griffin of the Business Compliance Division at (617) 292-5967.

Date: 3/16/05

Sincerely,

Steven A. DeGabriele

Director

Business Compliance Division Bureau of Waste Prevention

CC: Solid Waste Section Chiefs,