

APPENDIX C

Landfill Cover Protocol

APPENDIX C

LANDFILL COVER PROTOCOL

A. INTRODUCTION

This Landfill Cover Protocol (“Cover Protocol”) is attached as Appendix C and incorporated by reference into the settlement agreement between the Commonwealth of Massachusetts and New Ventures Associates, LLC (“New Ventures”) executed on April 30, 2009 (“Settlement Agreement”) and filed in conjunction with the final judgment in *Commonwealth of Massachusetts v. New Ventures Associates, LLC*, Suffolk Superior Court, Civil Action No. 06-0790 C (“Final Judgment”). This Cover Protocol specifies the requirements for the placement of cover at the Landfill for purposes of mitigating, controlling, or limiting:

- The infiltration of precipitation into the Landfill;
- The release of landfill gas and leachate from the Landfill;
- The generation of wind blown litter from the Landfill; and
- The erosion of the shaping and grading material and the cover material.

B. INACTIVE AREA COVER REQUIREMENTS

For the purposes of this Appendix C, “Inactive Areas” shall mean areas of the Landfill that have not undergone any filling, grading, shaping, or excavation activity in the past seventy-two (72) hours.

New Ventures shall at all times completely cover and maintain, using clay-like, low permeability soils with a hydraulic conductivity not greater than 1×10^{-6} placed to a depth of not less than one (1) foot, the area identified as Phase IA on the Landfill Closure Phase Plan, attached to this Appendix C as Exhibit 2, and all other Inactive Areas containing construction and demolition waste fines and residual materials (“C&D Material”), except for areas where a flexible membrane liner (“FML”) has been fully installed and is in place. Other low permeability material may only be used as cover in place of clay-like soils, if approved, in writing with conditions, by MassDEP.

New Ventures shall maintain effective erosion and storm water runoff control by covering the clay-like soils, or other MassDEP approved low permeability material used as cover in accordance with the requirements of this Section B, with Topcoat paper mulch product sprayed-on the landfill surface in accordance with the mixing (one fifty (50) pound bag of Topcoat to seventy (70) gallons of water) and applications processes specified in the Topcoat application specification sheet attached as Exhibit 1 to this Appendix C. Other erosion and storm water controls may be used only if approved, in writing with conditions, by MassDEP.

Appendix C
Landfill Cover Protocol

C. ACTIVE AREA COVER REQUIREMENTS

For the purposes of this Appendix C, "Active Areas" shall mean areas of the Landfill that are in the process of or actively undergoing filling, grading, shaping, or excavation activity.

At the end of each day when any filling, grading, shaping, or excavation activity has taken place at the Landfill (a "Work Day"), New Ventures shall temporarily cover all areas of the Landfill where such activity has occurred during the day (Active Areas) with either tarps, poly sheeting at least 11 millimeters thick ("poly"), or a minimum of six (6) inches of soil. Tarps or poly placed as temporary cover shall remain in place until the start of the next Work Day. Soil placed as temporary cover shall remain in place but may be taken into account to meet the 1:1 mixing requirement during C&D Material placement on the next Work Day, in accordance with the procedures and requirements of the sixth (6th) paragraph, below, of this Section C.

If filling, grading, shaping, or excavation activity has not resumed in an Active Area within seventy-two (72) hours, all tarps, poly, or soil used as temporary cover shall be replaced or covered with impermeable cover in accordance with the cover requirements for Inactive Areas in Section B. Other material may only be used as temporary cover in place of tarps, poly, or soil if approved, in writing with conditions, by MassDEP.

Tarps or poly placed as temporary cover in accordance with the requirements of this Section C shall be securely held in place. Adjacent tarps or poly shall be overlapped not less than two (2) feet. Tarps or poly placed adjacent to FML shall overlap over the FML by not less than two (2) feet. Tarps or poly shall be placed so as to overlap in a shingle pattern on their down slope edges, the edge of the upper over the edge of the lower.

When soil or other material approved by MassDEP is used as Active Area cover in accordance with the requirements of this Section C, it shall be graded to direct storm water off of the Landfill to minimize the potential for precipitation and storm water to collect and pond on or permeate the Landfill surface.

When soil is used as Active Area cover in accordance with this Section C, it shall not be applied as part of the soil required to meet the one-to-one (1:1) soil-to-C&D Material mixing requirement of paragraph 13 of the Settlement Agreement for the C&D Material placed on that date. However, with adequate mixing, it may be taken into account for the purpose of meeting the 1:1 mixing requirement for C&D Material placed in the same area on the next Work Day. Anytime soil used as Active Area cover is applied to meet the 1:1 mixing requirement during C&D Material placement on the following Work Day, New Ventures shall record in the Daily Log required by Appendix I the areas and amounts of soil cover placed as Active Area cover and the C&D Material placed in the same area the following Work Day to meet the 1:1 mixing requirement.

D. TRUCK TURN-AROUND AREA

Because use of clay-like soil would adversely affect truck movement, New Ventures may use asphalt grindings as cover instead of the clay-like, low permeability soil required by Section B of this Appendix C on the haul road and as necessary for use as a truck turn-around area in portions of the areas identified in Exhibit 2 as Phase IA and Phase II, provided that:

Appendix C
Landfill Cover Protocol

1. The truck turn-around area is limited to the minimum area necessary for that activity;
2. The asphalt grindings on the haul road and truck turn-around area are not less than one (1) foot in thickness after placement;
3. The asphalt grindings on the haul road and truck turn-around area are graded, compacted, and rolled (using a roll compactor) to direct storm water off of the Landfill, including, to the extent practicable, directing the storm water down the haul road and into storm water basin 1, or other temporary storm water collection controls; and
4. The asphalt grindings on the haul road and truck turn-around area are maintained to meet the performance standard of this Section D.1-4, inclusive, including without limitation, the placement, as necessary, of additional asphalt grindings, along with re-grading, compaction, and rolling (using a roll compactor).

E. LEACHATE SEEPS AND LANDFILL GAS BREAKOUTS

New Ventures shall mitigate all occurrences of leachate seeps or landfill gas breakouts from the surface of the Landfill and perimeter berm without undue delay and in no case later than twenty-four (24) hours after discovery by New Ventures or receipt of written notice from MassDEP. All occurrences of leachate seeps or landfill gas breakouts from the surface of the Landfill and perimeter berm shall be mitigated by placing clay-like, low permeability soils with a hydraulic conductivity not greater than 1×10^{-6} over the area of the leachate seep or gas breakout. New Ventures may use other cover material to mitigate leachate seeps and Landfill gas breakouts only upon approval, in writing and with conditions, by MassDEP.

F. COVER STOCKPILES

New Ventures shall at all times maintain at the Site not less than one thousand five hundred (1500) cubic yards of clay-like, low permeability soils with a hydraulic conductivity not greater than 1×10^{-6} , or other low permeability material approved by MassDEP for use as temporary cover for Inactive Areas in accordance with Section C, and for mitigation of leachate seeps or landfill gas breakouts in accordance with Section E. The clay-like soil stockpiling requirement of this Section F are required in addition to the three thousand (3000) cubic yard soil stockpile required by paragraph 13 of the Settlement Agreement for use to meet the 1:1 mixing requirement during C&D Material placement.

EXHIBIT 1

Topcoat Application Specification Sheet

TOPCOAT®

DAILY LANDFILL COVER

Material Characteristics

Consistency: Slurry
Color: Brown

Mix Ratio & Coverage Data

Mix ratio: 1 bag to
70 gallons water
Coverage (1 bag): 450 sq. ft. per bag

Physical Properties

Recycled paper content (minimum): 65%
Moisture content: 10 -13%
Organic material (minimum): 60%
Inorganic material (maximum): 40%
pH @ 25C (10g/200ml): 8.6 ± 0.4
Toxicity: Non-toxic

Packaging and Shipping Data

Bag Size: 17"x 9"x 26"
Bag Wt.: 50 lbs.
Pallet: 40 bags
Ht. 75", Width 44", Depth 53"
Full Truck: 22 pallets, 880 bags
Half Truck: 11 pallets, 440 bags

Mixing Procedure

1. Fill machine with water
(see coverage data below).
2. Add one 50 lb. bag of Topcoat to each
70 gallons of water.
This ratio is important for proper
performance. A diluted mix will not provide
acceptable performance. Material should
have a thick, buttery, oatmeal-like appearance.
3. When applying, spray Topcoat up in the air
and allow it to "rain" on the working face.
4. Rinsing the pump with clean water is
recommended after each day's use.
Refer to machinery manufacturer's
instructions for further information.

Application and Coverage Data

Tank	Amount of Water	Pounds of Topcoat	Number of Bags	Coverage Sq. Ft.
500 gal.	420 gal.	300 lbs.	6	2700 sq. ft.
700 gal.	560 gal.	400 lbs.	8	3600 sq. ft.
900 gal.	770 gal.	550 lbs.	11	4950 sq. ft.
1100 gal.	910 gal.	650 lbs.	13	5850 sq. ft.
1300 gal.	1120 gal.	800 lbs.	16	7200 sq. ft.
1500 gal.	1260 gal.	900 lbs.	18	8100 sq. ft.



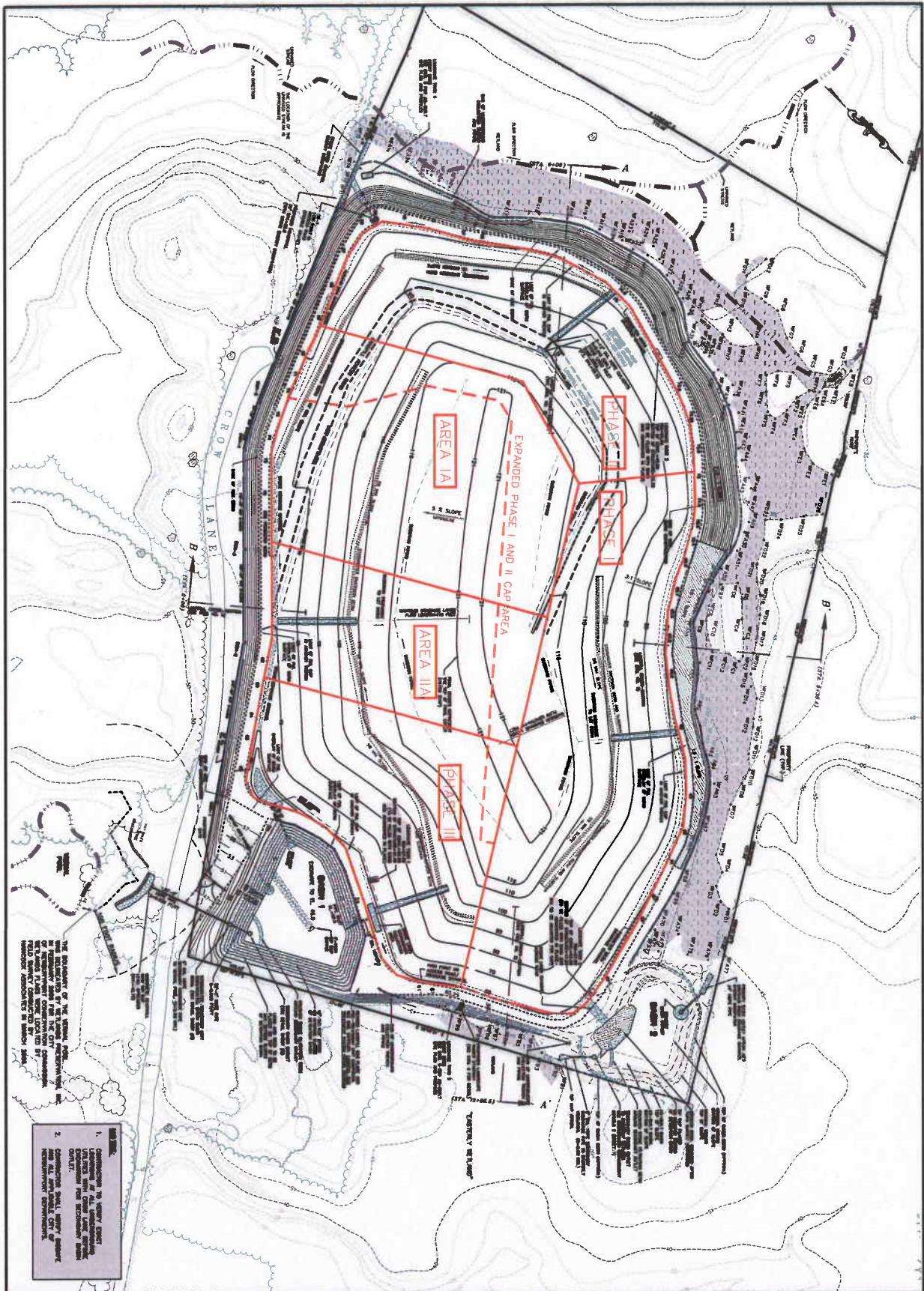
Central Fiber Corporation 1-800-654-6117

4814 Fiber Lane Road • Wellsville, KS 66092 • Phone: (785) 883-4600 • Fax: (785) 883-4429
1525 Waynesburg Drive SE • Canton, OH 44707 • Phone: (330) 452-2630 • Fax: (330) 452-2644
www.centrafiber.com

EXHIBIT 2

Landfill Closure Phase Plan

EXHIBIT 2 TO APPENDIX C



THE BOUNDARY OF THE GENERAL PUBLIC...
 IN RESERVATION FROM THE CITY OF NEWBURYPORT...
 BEING THE LANDS PLANNED AND LOCATED BY...
 FIELD SERVICE CONTRACTOR IN NEWBURYPORT, MASSACHUSETTS.

1. CONSTRUCTION TO VERIFY EXISTING...
 2. CONSTRUCTION SHALL BEYOND...
 NEWBURYPORT, MASSACHUSETTS.

SITEC ENVIRONMENTAL 780 Plain Street, Unit C Newburyport, MA 02260 PHONE: (978) 234-0100 FAX: (978) 234-0702	PROJECT: CORRECTIVE ACTION DESIGN CROW LANE LANDFILL NEWBURYPORT, MASSACHUSETTS	SCALE: 1"=50' DATE: 4/23/08 DRAWN: JAC CHECKED: MO APPROVED: ARQ	SHEET NO.: DATE: REVISION DESCRIPTION: DESIGNED BY: CHECKED BY: APPROVED BY:	TITLE: CONSTRUCTION SEQUENCE PLAN SHEET NO.: CS-1
	CLIENT: NEW VENTURES ASSOCIATES, L.L.C.	PROJECT NO.:	SHEET NO.:	DATE: