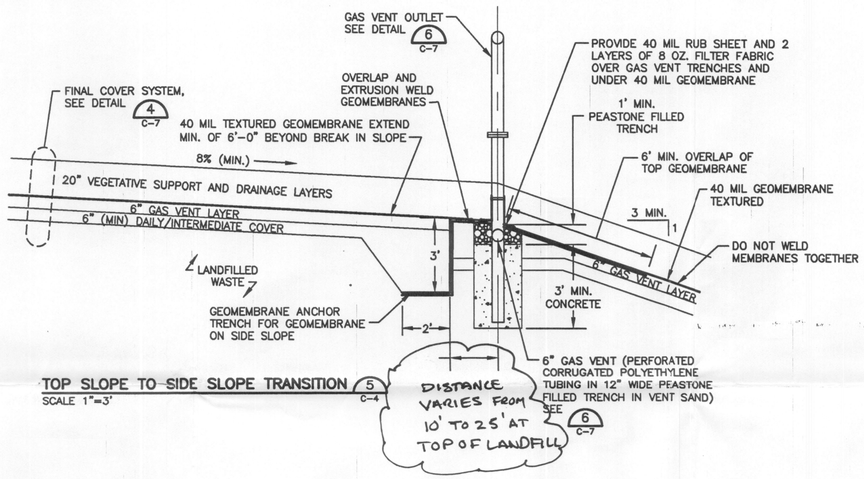
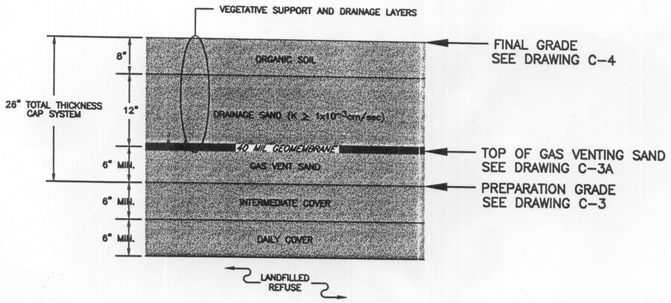


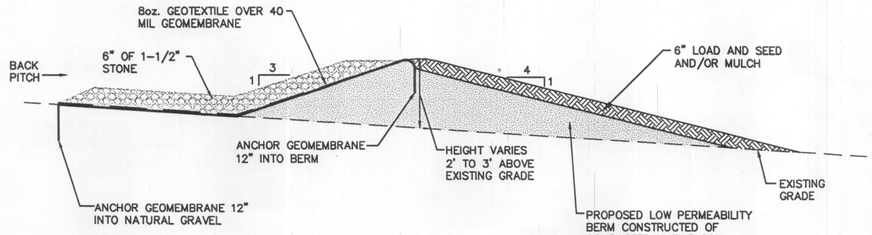
TOP SLOPE TO SIDE SLOPE TRANSITION 5 C-4

SCALE 1"=3'



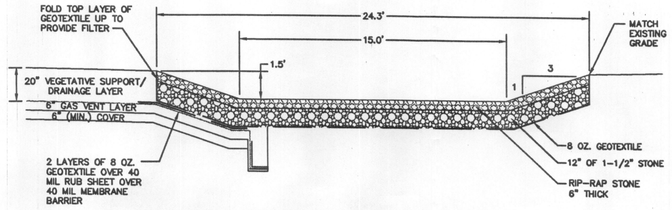
FINAL COVER SYSTEM SECTION (TYPICAL) 4 C-7

SCALE 1"=1'



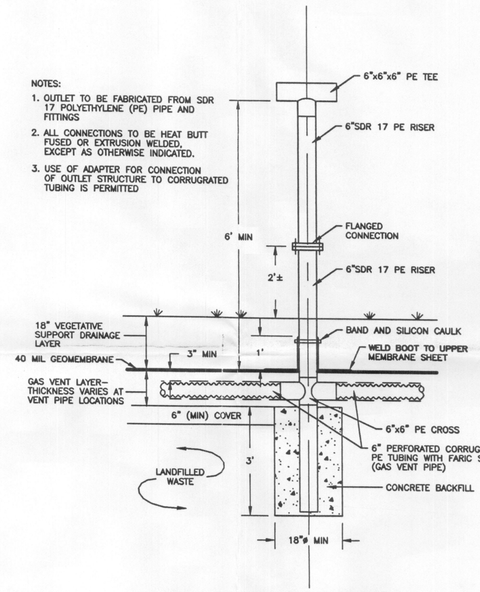
DIVERSION BERM DETAIL "D"

NOT TO SCALE



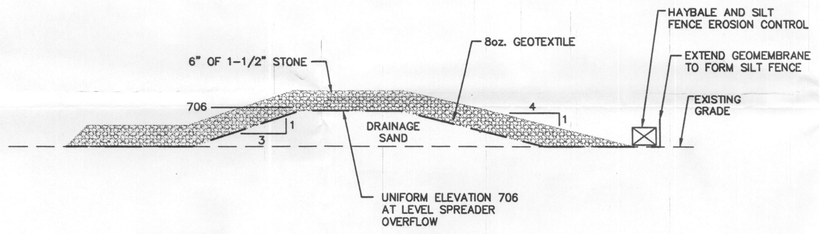
RIP-RAPPED DRAINAGE SWALE 7 C-4

SCALE 1"=4'



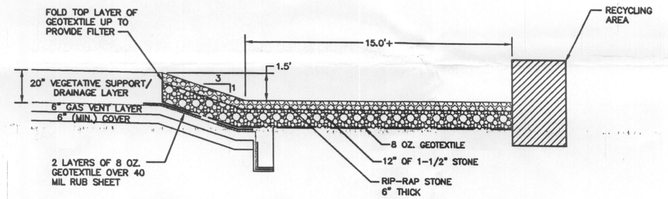
LANDFILL GAS VENT OUTLET 6

SCALE 1"=2'



SPREADER DETAIL "E"

NOT TO SCALE



RIP-RAPPED DRAINAGE SWALE 7A C-4

SCALE 1"=4'

SUMMARY OF MATERIAL SPECIFICATIONS

GENERAL NOTE

Most commonly used material specifications are presented here for convenience of use on the job site. See project manual for full text of technical specifications. In the event of disagreement the technical specifications in the project manual hold precedent over these summary specifications.

PIPING AND TUBINGS

Storm drainage piping and gas vent tubing shall consist of the following products, as indicated on the Drawings:

A. Corrugated Polyethylene Pipe with Smooth Inner Liner and fittings shall meet the requirements of ASTM Standard F 892-90 or F 894-89a.

B. Corrugated Polyethylene Tubing (Pipe) and fittings shall meet the requirements of ASTM Standard F 405 (6" diameter and smaller) or F667 (8" diameter and larger.

C. Pipe, tubing and fittings shall be made of polyethylene compounds which meet or exceed the requirements of Type III, Category 4, Grade P33 or P34, Class C per ASTM D-1248. The pipe, tubing, and fittings shall be free of foreign inclusions, cracks, creases, unpigmented or nonuniformly pigmented areas, or other visible defects. Fittings supplied by manufacturers other than the manufacturer of the pipe or tubing shall not be used.

GEOSYNTHETICS

A. Geotextile Filter Fabric for use in the drainage and gas venting systems shall be a non-woven, polyethylene, polyester, or polypropylene geotextile specifically manufactured for drainage applications. Geotextile filter fabric shall weigh at least 8 oz. per square yard and have a maximum nominal opening size of 70 (U.S. standard sieve).

B. Geomembrane Sheet for use as cap membrane shall be 40 mil high density polyethylene (HDPE). Textured membrane shall be textured both sides.

EARTH MATERIALS

A. Vegetative Support Zone shall consist of a combination of loam and sand layers with interface blended together. Zone shall be capable of supporting healthy vegetative growth.

A.1 Organic topsoil shall consist of a mixture of organic matter and soil capable of providing nutrients and water retention required for vigorous growth of grasses. Topsoil shall have at least 10% organic content. Nutrients shall be added in accordance with specifications.

A.2 Topsoil shall be placed with a crawler dozer to effectively mix the bottom inch of topsoil with the top 2 inches of the drainage layer.

A.3 Grass seed shall be drought resistant species placed with nutrients and mulch by the "Hydroseed" method.

A.4 Erosion control mulch shall be placed over all sideslopes immediately after hydroseed application.

B Sand for Drainage and Gas Venting Layer shall consist of inorganic sand free from ice, snow, roots, sod, rubbish, debris, or other deleterious materials. Sand shall contain no sharp angular stone or other material potentially injurious to the membrane cap.

B.1 The sand for the gas vent layer below the geomembrane shall have a permeability equal to or greater than $1x10^{-3}$cm/sec when compacted to 90% of its maximum dry density as determined by ASTM D-1557.

B.2 The sand for the drainage layer above the membrane shall have a permeability equal to or greater than $1x10^{-2}$cm/sec when compacted to 90% of its maximum dry density as determined by ASTM D-1557.

D. Common Fill for embankment or miscellaneous grading applications shall be a well graded mixture of sand, gravel, and silt free of rubble, debris, rock fragments, cobbles, or boulders over 6 inches in diameter, snow, ice, organic matter, and other deleterious material and shall be free of oil or other pollutants.

E. Sand/Gravel for access road surface shall consist of inorganic soil free from ice, snow, roots, sod, rubbish debris or other deletrious material and shall conform to the following gradation requirements:

Sive Diameter	Pavement Passing
1/2"	50-85
No. 4	40-75
No. 50	8-28
No. 200	0-10

PROCESSED STONE

A. Rip-Rap stone shall be well graded Broken Stone with maximum size of 4", minimum size 2". Rip-Rap stone shall be free of fines and organic materials.

B. Crushed stone for drainage and filter applications shall conform to the nominal sizes and specifications described below, all as specified in the Mass. DPW standard specifications:

B.1 1-1/2" nominal size: Section M2.01.1

B.2 1/2" (peastone) nominal size: Section M2.01.5

"AS-BUILT"

REV#	DESCRIPTION	BY	DATE
1	MODIFICATION TO AS-BUILT DIMENSIONS OF TOP OF LANDFILL GAS VENT SYSTEM	DJS	12/10/99

GZA GeoEnvironmental, Inc.

DESIGNED BY: RAW
CHECKED BY: SJT
REVIEWED BY: SJT
DRAWN BY: RWB
SCALE: AS SHOWN
DATE: JUNE 9, 1999

FINAL CLOSURE PLANS
ASHBY MUNICIPAL LANDFILL
ASHBY, MASSACHUSETTS

DETAILS AND NOTES

PROJECT NO. 15729

FIGURE NO. C-7

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