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Part 360
Solid Waste Management Facility Regulations

Landfill Operator Certification
New York State Association for Solid Waste Management

March 10, 2020

Part 363 Landfills *(Effective 11/4/2017)*

Subpart 363-1 Applicability
Subpart 363-2 Exempt Facilities
Subpart 363-3 Inactive Disposal Facilities
Subpart 363-4 Permit Application Requirements
Subpart 363-5 Siting Requirements
Subpart 363-6 Design, Construction and Certification Requirements
Subpart 363-7 Operating Requirements
Subpart 363-8 Recordkeeping and Reporting
Subpart 363-9 Closure, Post-closure and Custodial Care
Subpart 363-10 Corrective Measures
Subpart 363-11 Landfill Reclamation

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Subpart 363-6 Design, Construction and Certification Requirements

363-6.1 General requirements
363-6.2 Horizontal separation requirements
363-6.3 Groundwater separation
363-6.4 Bedrock separation
363-6.5 Landfill subgrade
363-6.6 Liner and final cover components
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Subpart 363-6 Design, Construction and Certification Requirements

363-6.12 Geosynthetic drainage layer
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363-6.14 Intermediate cover
363-6.15 Gas venting
363-6.16 Final cover – composite barrier layer
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363-6.18 Final cover – topsoil
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363-6.20 Aboveground and on-ground leachate storage tank requirements
363-6.21 Equivalent design standards and use of wastes as construction and operational material
363-6.22 Survey control and location coordinates

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Landfill Liner System

Primary Objective:

- Remain stable during construction & full load conditions
- Properly contain waste and leachate

- Liner Grades: Minimum **2%**, Maximum **33%**

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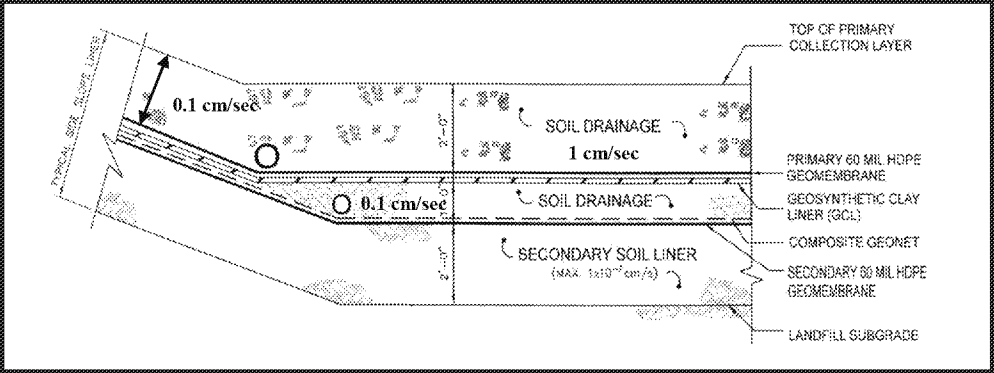
Double Composite Liner System



Composite Liner: Geomembrane + Low Flow Soil Liner

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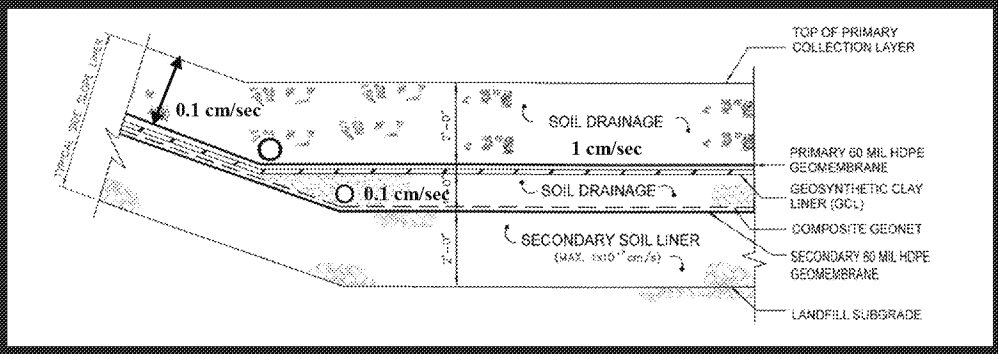
Double Composite Liner System



Secondary soil liner

- Hydraulic conductivity = 1×10^{-7} cm/s or less (~1.2 inches/year)
- Stones less than 1 inch in diameter
- No stones with angular surface

Secondary geomembrane = 60 mil HDPE

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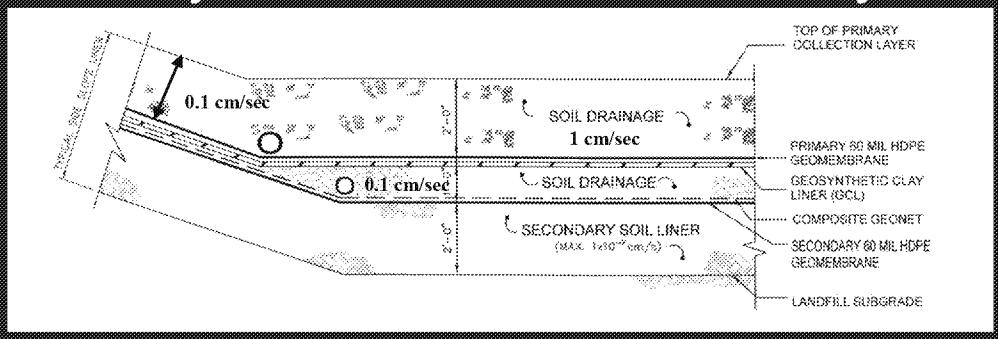
Secondary Leachate Collection & Removal System



- Geosynthetic drainage layer
- 1 ft of drainage media with hydraulic conductivity of 0.1 cm/s
- Secondary Leachate Collection Pipe Diameter = 6 inches
- Design Capacity = **1,000 gal/acre/day**
- Max detection time of 24 hr
  - guarantee that any breach to the primary liner is identified quickly
  - to allow for adequate collection and removal in the event of a catastrophic breach of the primary liner

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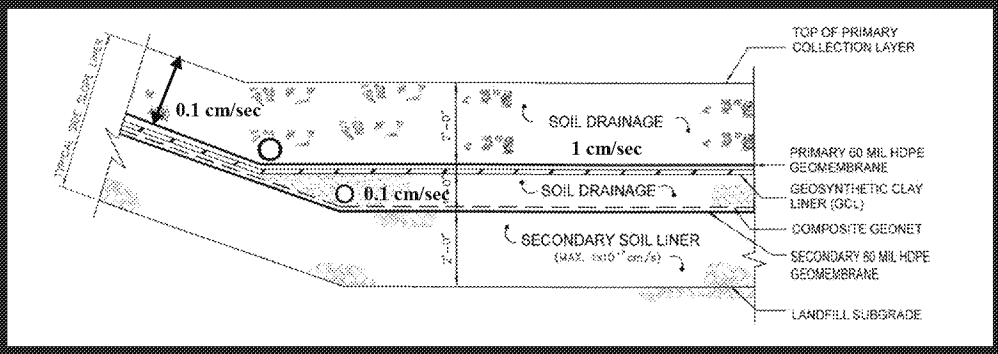
Double Composite Liner System



Primary soil liner

- Geosynthetic Clay Liner (GCL)
- Hydraulic conductivity = 1×10^{-7} cm/s or less (~1.2 inches/year)

Primary geomembrane = 60 mil HDPE

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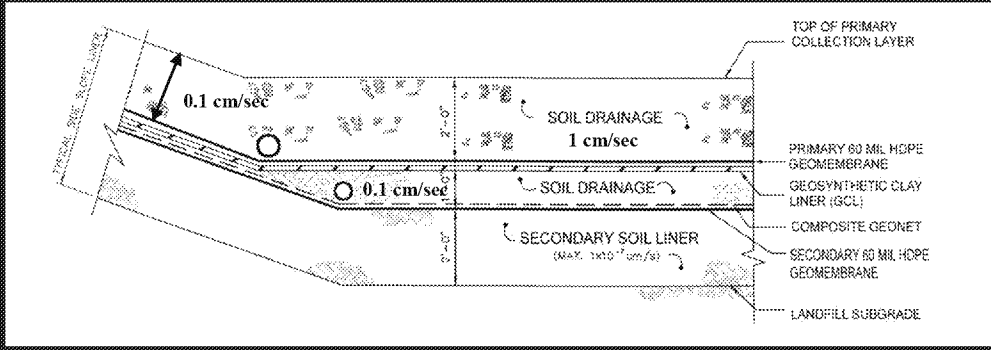
Primary Leachate Collection & Removal System



- Base - 2 ft with hydraulic conductivity of 1 cm/s
- Sideslopes - 2 ft with hydraulic conductivity of 0.1 cm/s
- Primary Leachate Collection Pipe Diameter = 8 inches

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Improved Containment System Performance & Construction Quality

363-6.8(c)(3)(v)

- Require destructive seam testing frequency every 1,000 ft

363-6.8(c)(3)(vii)

- Electrical Resistivity Testing after placement of the soil drainage media on both upper & lower liners
  - slopes ≤ 10%
  - findings included in Construction Certification Report

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Closure Design – Final Cover System

- Prevent infiltration of precipitation
- Enhance gas collection
- Help control odors
- Prevent erosion
- Promote surface drainage

Components:
6" Topsoil
12" Barrier Protection Layer
Drainage Layer (soil or geosynthetic)
Geocushion
40 mil LLDPE geomembrane
GCL (on slopes <25%)

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