

Focus on: Geotextile

Description

Geotextile is synthetic permeable textile material used in construction projects because of its versatility in many applications. Consider site conditions and intended use before selecting a geotextile. Consult with Ecology to confirm that the choice of material is acceptable.

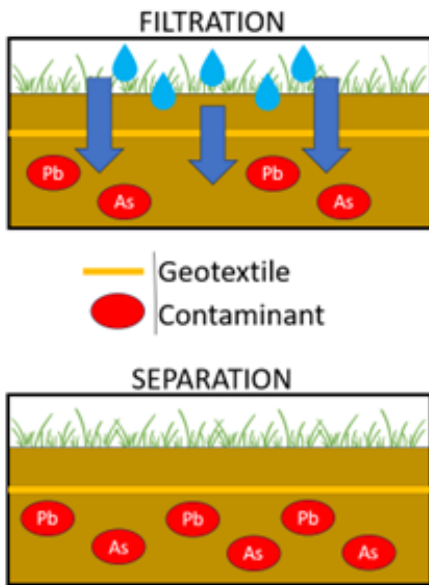


Figure 1 Functions of Geotextiles

Cost Considerations

Geotextile cost can vary depending on the size, quality and quantity of material needed. Prices also vary depending on supplier and location. For example, an orange color non-woven polyester or polypropylene geotextile can vary from \$0.10 to \$0.30 per square foot; not including installation and/or shipping.

Maintenance and Inspection

Geotextiles typically require minimal maintenance. Follow the manufacturer's instructions to ensure that the geotextile remains effective throughout its lifespan. Repair damages immediately to prevent further damage.

Use the guidance below to select an appropriate geotextile for the Capping in Place¹ cleanup option when developing a property on former orchard lands.²

Acceptable Geotextile

- Permeable synthetic material allowing water to pass through while limiting upward movement of contaminants (Figure 1)
- Physical barrier to separate soil layers
- Visual demarcation to signal contaminated soil below (Figure 2).

Acceptable Properties

- Polyester or Polypropylene
- Woven or Non-Woven³
- Orange Color
- Permeable

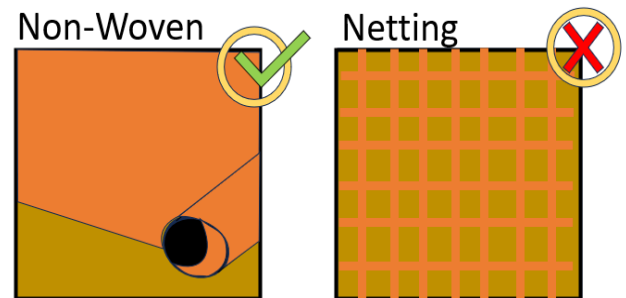


Figure 2 Acceptable geotextile type

Limitations

Geotextiles may degrade rapidly if left exposed to sunlight. Assure proper installation with cover material to prevent damage and exposure to soil contaminants.

¹ <https://apps.ecology.wa.gov/publications/documents/2109006.pdf>

² <https://ecology.wa.gov/Spills-Cleanup/Contamination-cleanup/Cleanup-sites/Former-orchard-lands>

³ <https://www.wsdot.wa.gov/publications/manuals/fulltext/M22-01/630.pdf>

Soft Caps for Capping in Place

Capping in Place⁴ is one of Ecology's pre-approved cleanup options. The Soft Cap cleanup method requires a 6" minimum depth of clean soil under grass or over an acceptable geotextile material (Figure 3, Number 1). This provides an additional layer of protection from direct contact to contaminated soil.

For soft caps, other landscaping materials may be used instead of soil such as rock, gravel, and sand. For gravel, a 4-inch layer is acceptable if it is mechanically compacted (Figure 3, Number 3). Organic material such as bark or mulch must be underlain by a 3-inch layer of compacted soil, gravel, or rock (Figure 3, Number 2). The overall cap thickness including organic material must be a minimum of 6 inches.

Soft Caps for designated child play areas must have a minimum of 12 inches of clean soil under a geotextile. If a geotextile is not used, 18 inches of clean soil is required for the cap.

Maintenance plans are necessary for inspection and repair.

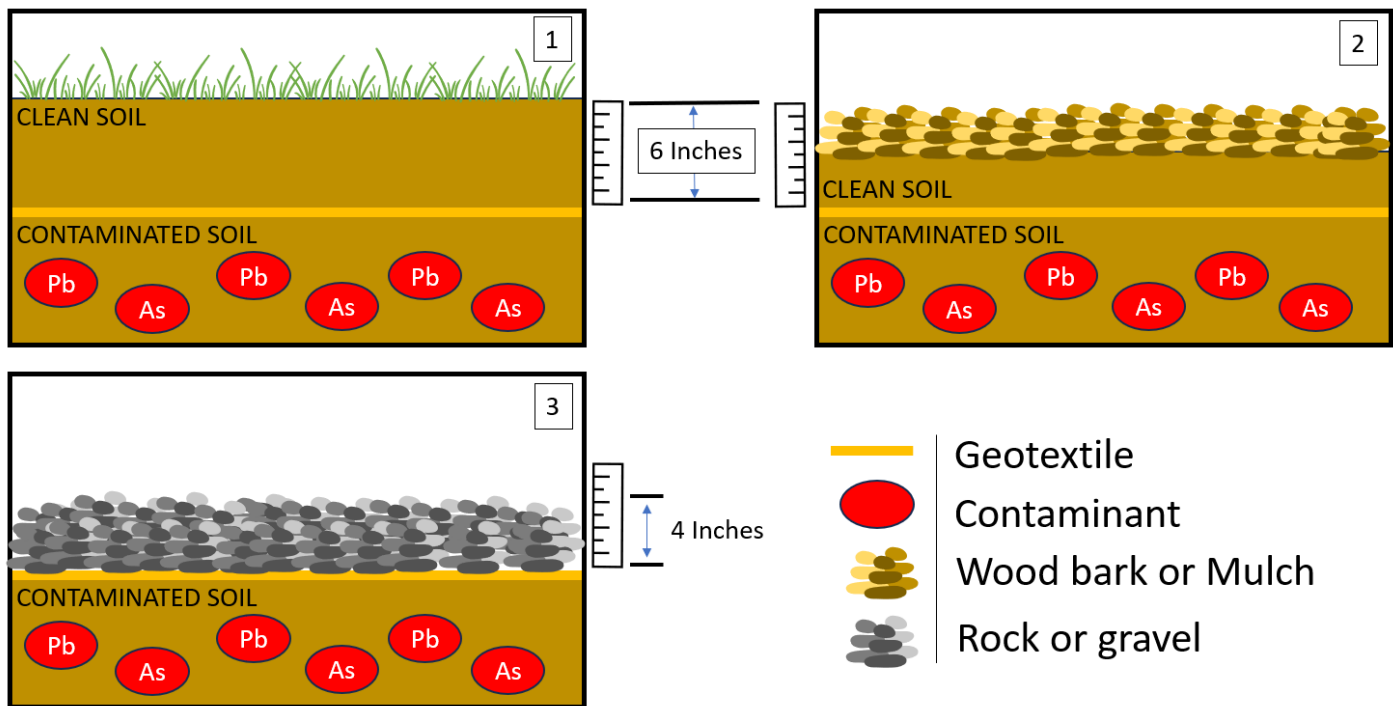


Figure 3 Examples of soft cap options



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To request an ADA accommodation, contact Ecology by phone at 509-406-6931 or email at Rhonda.Luke@ecy.wa.gov, or visit <https://ecology.wa.gov/accessibility>. For Relay Service or TTY call 711 or 877-833-6341.

⁴ <https://apps.ecology.wa.gov/publications/documents/2109006.pdf>