SWANA supports the appropriate use of field proven alternative daily cover materials (ADCs) for sanitary landfills. Such usage should be based on site-specific characteristics of each disposal site and applicable provincial, state or local government rules and regulations. The use of ADCs, as a substitute for compacted soil, should be based upon economic analysis, performance of the ADC material to provide protection of human health and environmental quality under specific site conditions and other complementary management practices which achieve comparable results similar to that of soil.

II. DISCUSSION

A. The Value of Daily Cover

In sanitary landfill design and operation, daily cover of six (6) inches [15 centimeters]* of compacted soil has been the standard of practice for well over 30 years. Soil cover continues to be used extensively today. The use of 6” of compacted soil as daily cover was adopted based on the understanding that six (6) inches of compacted soil cover represents the practical minimum depth that can be placed over solid waste to prevent the emergence of adult flies from the landfilled solid waste mass. When implemented properly, this practice achieves a basic objective of protection of human health. Albeit, six (6) inches of compacted soil daily cover also provides several other beneficial functions as follows:

1. Additional vector control - six (6) inches of compacted soil reduces available breeding sites for mosquitoes and discourages solid waste from serving as an attractant to domestic/feral and wild animals.

2. Fire control - six (6) inches of compacted soil reduces the potential for, and movement of, fires within a landfill.

3. Litter control - six (6) inches of compacted soil helps to control blowing litter.

4. Odor control - six (6) inches of compacted soil serves as an odor barrier/or filter for odors emanating from solid waste.

5. Aesthetics - six (6) inches of compacted soil covering at the end of each working day, or more frequently, improves the aesthetics for site users and neighbors. Further, daily cover reinforces the perception of a sanitary landfill as opposed to open dumps.
6. **Run-on/Run-off** - six (6) inches of compacted soils serves to reduce the infiltration of storm water run-on into the filled mass of solid waste and helps to increase run-off of precipitation.

* Hereafter in the text, the use of the term 6 inches is also meant to represent 15 centimeters.

**B. Further Considerations**

Advancements in the field of solid waste management has led to the emergence of daily cover materials other than six (6) inches of compacted soil. These materials include composted green wastes, foam, tarps, shredded tires, shredded C&D wastes, and certain industrial materials to mention a few. The end result is that a wide range of products, materials and operational practices have been introduced as alternate daily cover (ADCs).

Locally available materials, local climatic conditions and site specific characteristics will guide what ADCs will and will not work at a particular site. It will take a significant amount of experience on the part of a landfill manager to determine whether a particular ADC will work at their specific site. Landfill managers should collect data, meet with regulators, talk with their peers, and pilot test the use of ADCs before deciding on its use in lieu of traditional compacted soil cover. SWANA will continue its efforts to provide to its Membership information and research results on suitable ADCs to landfill managers and others to make this decision process easier.

Other issues specific to ADCs include:

1. **Six inches of compacted soil uses up valuable space in a landfill:** Landfills are in the business of utilizing space. Efforts to maximize the use of space should be explored. Arguments are presented that the use of six (6) inches of compacted soil as daily cover consumes up to 20-25 percent of the space in a landfill. Whether this is the case or not is a site specific circumstance. Some suggest that six inches of compacted soil daily cover merely fills the voids in the solid waste mass, and when buried with sufficient amounts of solid waste does not significantly reduce the volume available for solid waste. However, solid waste that is adequately compacted to densities in excess of 1400 pounds per cubic yard [830 kilograms per cubic meter] may not have a significant volume of voids. SWANA believes further study may be worthwhile to determine the actual impact the use of six inches of compacted soil daily cover on landfill capacity.

2. **Soil can be very expensive:** When landfill owners/operators do not have sufficient soil on-site for daily cover and must purchase and import cover materials, it can represent significant increased operating costs. Hauling cover from off-site also increases traffic, road wear and tear, increased fuel consumption and increased air emissions. Alternate daily cover materials, which may be less expensive than importing soil to a site, could significantly reduce the overall operating costs for landfill operations.
3. **Design considerations:** Today’s sanitary landfills are designed and constructed to allow for the collection and/or control of leachate and landfill gas. Impediments to the movement of landfill gas and leachate may affect the intended design or function of the collection and/or control system. SWANA will promote research into how the traditional “cell” concept of sanitary landfilling (and its associated daily cover) may create barriers to leachate and landfill gas movement.

As part of this policy SWANA will:

- work to collect and analyze data relating to current ADCs, develop performance criteria for ADCs, and disseminate this information to both the Membership and the field;
- monitor information about the emergence of new materials and practices associated with ADCs, and will report findings to the Membership and the field; and
- support R&D regarding the application and utilization of ADCs, including the issue of space consumption of daily cover.

Approved by the Executive Committee on September 20, 1996.

Mark D. Hammond
International Secretary

Dated October 25, 1996