

### **3. LINER AND LEACHATE COLLECTION SYSTEM**

#### **3.1 Liner System**

The proposed liner system design for Phase 5 and Phase 6 is identical to that of existing Phases 3 and 4, and includes the following components, listed in order from bottom to top:

- A prepared subgrade consisting of native soil and rock, covered with a leveling layer of compacted soil as needed to provide a firm and smooth subgrade;
- A minimum 12-inch thick layer of compacted low-permeability soil with a maximum hydraulic conductivity of  $1.0 \times 10^{-6}$  cm/sec; and
- A geomembrane liner of 80 mil high density polyethylene (HDPE).

The liner perimeter landfill slopes will be inclined at maximum grade of 2:1 (horizontal:vertical). The floor liner grades are sloped at a minimum grade of 2% towards the centrally located leachate collection and removal system (LCRS) trench.

The Phase 5 and Phase 6 liner will tie into the adjacent Phase 1 and Phase 2 liner/base grades.

Figures 9 and 10, Appendix A illustrate the liner details described above.

#### **3.2 Leachate Collection and Removal System**

The leachate collection and removal system (LCRS) for the floor areas of Phase 5 and Phase 6 consists of the following components:

- A layer of 16-ounce per square yard non-woven geotextile placed above the HDPE geomembrane liner;
- A 12-inch thick layer of gravel drainage rock placed above the geotextile on the floor;
- A layer of 16-ounce per square yard non-woven geotextile placed above the LCRS gravel; and
- A centrally located LCRS trench, constructed with an 8-inch diameter perforated HDPE pipe and the trench filled with gravel, that is graded at a slope greater than 2% to drain to the Phase 5 LCRS sump.

The Phase 5 LCRS sump will be graded to a depth of 4 feet below the adjacent cell floor and be constructed with the following components (from top to bottom):

- A layer of 16-ounce per square yard non-woven geotextile placed above the LCRS drainage rock;
- 4 feet thick layer of LCRS drainage rock placed above the geotextile on the floor;
- A layer of 16-ounce per square yard non-woven geotextile placed above the HDPE geomembrane;
- Double layer of 80 mil HDPE geomembrane liner; and