Ultra-Containment Wall®
Subgrade Standards

A base shall be prepared on the bottom and slopes of the area to be lined. This base shall be free of all sharp objects, roots, grass and vegetation. Rocks or stones greater than 1/2" should be removed. Unsuitable material found during the pre-installation inspection by the installer shall be removed prior to the installation of the liner.

The base (subgrade) material shall be native materials or materials obtained from a borrow source compacted to a minimum 95% compaction or an approved construction fabric of at least 100 mils thickness, weighing 8 oz. per square yard with a grab tensile strength of at least 275 lbs. per square inch and a Mullen burst strength of at least 450 pounds per square inch, which will provide a finished sub grade suitable for the flexible membrane lining.

Foreign materials, vegetation, protrusions, voids, cracks and other penetrating or raised sources shall be removed from the sloping areas as well as the base. Loose rocks, rubble and other foreign matter shall be collected and deposited in the appropriate site out of the area to be lined. The excavated and filled areas shall be trimmed to elevations and contours shown on the drawings and shall be smooth, uniform and free of all foreign matter, vegetation and sudden changes in grade.

A pre-installation inspection shall be called for and ALL interested parties, including governmental agencies, shall be present for this inspection. Any parties not participating in this inspection shall be construed as accepting the site preparation and will acknowledge this defacto acceptance in writing at the appropriate time.

FINAL SUBGRADE PREPARATION:

The subgrade shall be prepared immediately prior to the placing of the liner. The surface on which the liner is to be placed is to be **firm, clean, dry and smooth**. Anchor trench excavation and any structure seal preparation should be completed before the lining installation begins.

Minimum NRCS Pond Sealing standard subgrade requirement per 521.

A cushion layer shall be placed beneath the liner if the subgrade particles contain sharp angular stones that could damage the liner or particles greater than 3/8-inch for geo-membrane liners and ½-inch for GCL's. The cushion may be a 10-oz/sq yd or heavier non-woven geotextile or a layer at least 6 inches thick of soil meeting the particle size and shape requirements of the subgrade. Geotextile cushion material shall meet the requirements of GRI Test Method GT12(a). Follow the manufacturer's recommendations for any additional protective measures.