

306 GEOGRID BASE REINFORCEMENT

Geogrids have become an alternative to subgrade stabilization via lime or cement. The geogrid material can improve the ability of the subgrade to carry traffic loads and reduce rutting of pavement failure over weak soils. ADOT's Pavement Design Section has incorporated in their Design Manual that geogrid only be used when soils have an R-value between 10 and 19 and an increase of 10 to the Mean R-value, which is used for accepting subgrade soils. Also, to improve the separation between the base and subgrade materials and avoid loss of fine material into the base, a Separation Geotextile Fabric may be used (refer to Section 1014-4 of the Standard Specifications). However, the benefits of geogrid performance depend upon correct installation as well as proper design.

306-3 Construction Requirements

306-3.04 Geogrid Placement

The Standard Specifications give detailed installation instructions. Additional instructions should be available from the manufacturer or local supplier. The Resident Engineer should obtain this information and review it before construction begins.

Adequate anchoring is required to prevent haul trucks from pushing or shifting the geogrid out of position.

Always back-dump fill onto the geogrid and spread the material over the geogrid. Dump subsequent loads on top of the leveled fill material and advance by spreading.

Longitudinal joints should be located the same as pavement joints. See Standard Specification Subsection 406-6 for longitudinal joint requirements.

Should the geogrid be damaged in any way during or after installation, it can be repaired by patching. The recommended repair procedures are to place a piece of geogrid over the damaged area and extend the geogrid 3 feet beyond, in all directions.

Since geogrids are made of polymers (plastics) they will break down or become brittle under exposure to sunlight as a result of the ultraviolet (UV) radiation. Therefore, it is crucial to avoid unprotected storing of these types of materials or rolling them out on the grade until the contractor is ready to cover them with the base materials.