

## **Reinforced slopes with a geosynthetic wrap face**

Reinforced slopes that are 1(H): 1(V) and steeper generally require facing support during construction (FHWA, 2009b).

A geosynthetic face wrap and/or a hard armor facing support system is commonly used for this application.

In wrapping the face of a slope, removable facing supports (e.g., wooden forms) or left-in-place welded wire mesh (WWM) forms are typically utilized. FHWA recommends that the vertical reinforcement spacing for walls and slopes should not exceed 32 inches (FHWA, 2009a). The vertical spacing of the primary reinforcement depends on project conditions, facing type and construction methods. For example, a vertical spacing of 18 inches (450 mm) is used where WWM forms are employed. In practice, 18 inch (450 mm) vertical spacing is most common.

Geosynthetic face wraps for permanent structures should be UV stable for long-term use. If vegetation is sparse, UV stable facing helps protect the structure. Solmax MIRAGRID® Miramesh® GR, which supports soil while allowing light for vegetation is a great solution for the facing element. This material has a 75-year design life and blends aesthetically with vegetation.

Another alternative for wrapped face vegetated structures is the PROPEX Pyrawall® system. This solution comprises a HPTRM geosynthetic wrap face made of PROPEX Pyramat 75, integrated with two internal fiber-composite braces during manufacturing. These internal braces serve as vertical and horizontal supports when connected using a third fiber-composite bracing strut.

The system is resistant to corrosion, owing to the absence of metal components, and is UV stable with an expected design life of up to 75 years.