

## SUMMIT GEOENGINEERING SERVICES

### Retaining Wall Design Experience

SGS has performed designs and prepared construction drawings for over 1.5 million square feet of temporary and permanent retaining walls. Having engineers with both geotechnical and structural backgrounds allows SGS to effectively evaluate and design gravity and geogrid reinforced walls using various combinations of reinforcing and facing materials. Geotechnical expertise is critical for assessing subsurface conditions (i.e. foundation soil properties, groundwater effects, etc.) and performing global stability analyses in soft soil conditions. Structural expertise is utilized for evaluating the soil-structure interaction and for designing structural components of unique walls. SGS's retaining wall services include:

- Preliminary Quantity Estimates
- Full Contractor Drawing Submittals
- Global Stability Analysis
- Engineering Review
- Construction Inspections
- Wall Failure Investigations

SGS has worked with many different retaining wall vendors, including the following:

#### Small Block Products

- Keystone
- Anchor
- Versa-Lok
- Rockwood
- Allan Block

#### Large Precast Block Products

- CastleWall MSE
- CastleWall Gravity
- Redi-Rock
- Stone Strong
- London Boulder
- VertiBlock
- U-Wall
- S-Wall
- ReCon

#### Geogrid Products

- Tensar
- Miragrid
- Synteen
- Stratagrid
- Huesker Fortrac
- Carthage Mills Raugrid
- Maccaferri

#### Temporary Walls

- Tensar SierraScape
- Soldier pile and lagging
- Steel sheet piles

#### Other

- Rockery Walls
- Cast-in-place Concrete

SGS can also provide clients with educated suggestions on wall types, site grading alterations/improvements, and the need for further explorations to collect additional geotechnical data for the wall design of global slope stability. SGS's design computations include NCMA and AASHTO LRFD methodologies. In addition, SGS has developed product specific design programs using Mathcad and Excel spreadsheets

