



## Structural Engineering

GMU is a multi-disciplined engineering firm with over 50 years of experience.

### Structural Engineering Advantage

- Combined Structural Engineering and Geotechnical Engineering enables GMU to:
  - Develop more efficient designs
  - Eliminate communication errors between SE's and GE's
  - Provide value engineering on the fly
  - Deliver the most cost-efficient design
- Numerical Modeling (FLAC, PYWall, LPILE) for complicated or deflection sensitive structures
- GMU Field Inspection Staff – Combined Registered Special Inspectors and Soils Technicians enables GMU to inspect all aspects of wall structures

### Structural Services

GMU has provided the following services:

#### Master Planned Communities

- Retaining Walls (All Types: Masonry & Concrete, MSE Walls, Permanent Shoring, Tie-Backs, Soil Nail, Gravity Block)
- Screen Walls, Monument Walls, Pilasters
- Landscape Structures (All Types: Shade Structures, Light Poles, Gates, Decks)
- Floating Master Retaining Wall Plans

#### Retail Centers

- Retaining Walls (All Types)
- Screen Walls, Monument Walls, Pilasters
- Landscape Structures (All Types)
- Trellises, Light Poles
- Shoring

#### Sports and Community Parks

- Retaining Walls (All Types)
- Screen Walls, Monument Walls, Pilasters
- Landscape Structures (All Types)

#### Water Districts

- Retaining Walls (All Types)
- Shoring
- Slope Stabilization

#### Private Residences

- Retaining Walls (All Types)
- Screen Walls, Monument Walls, Pilasters
- Landscape Structures (All Types)
- Shoring
- Slope Stabilization

#### Schools

- Retaining Walls (All Types)
- Screen Walls, Monument Walls, Pilasters
- Landscape Structures (All Types)

#### Home-Owner Associations

- Existing Screen and Retaining Wall Repair
- Underpinning
- Landscape Structure Upgrades
- Slope Stabilization

#### Slope Stabilization

- Solider Piles/Caissons
- Tie-Backs
- Soil Nails

#### Shoring

- Cantilever
- Braced
- Tie-Backs

#### CORE SERVICES

- Geotechnical Engineering and Engineering Geology
- Pavement Engineering
- Structural Engineering
- Civil Engineering
- Forensic Engineering/Expert Witness
- Construction Management/Monitoring
- Soils Materials Testing

#### SPECIALTY SERVICES

- Comprehensive Field Inspection Services – Soils and Registered Special Inspection
- Stormwater QSP
- Geotechnical Instrumentation
- Geotechnical and Seismic Numerical Modeling
- Construction Vibration/Blast Consulting

#### STRUCTURAL ENGINEERING SERVICES

- Calculations
- Design Plans and Specifications
- Bid Packages and Evaluation
- Engineers Estimates
- Construction Structural Observations and Special Inspection