



GeoTechTools

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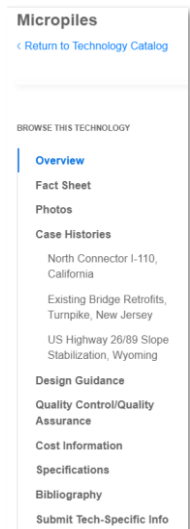
PROPOSED DFI COMMITTEE COLLABORATION WITH G-I GEOTECHTOOLS (GTT)

Background

- www.geotechtools.org
- Description: “GeoTechTools is a toolkit of geotechnical information to address all phases of decision making from planning to design to construction. All infrastructure projects can be designed to be built faster, to be less expensive, and/or to last longer with the use of these tools.”
- Hundreds of graduate students, Principal Investigators, and industry partners developed the system content under the FHWA’s Strategic Highway Research Program-2 (SHRP-2) over 4 years with a budget of more than \$4 million.
- Includes information on almost 50 techniques, originally aimed at highway structure applications constructed in soft ground.

Aggregate Columns	Drilled/Grouted and Hollow Bar Soil Nailing	High-Energy Impact Rollers	Prefabricated Vertical Drains and Fill Preloading
Beneficial Reuse of Waste Materials	Electro-Osmosis	Hydraulic Fill with Geocomposite and Vacuum Consolidation	Rapid Impact Compaction
Bio-Treatment for Subgrade Stabilization	Excavation and Replacement	Injected Lightweight Foam Fill	Reinforced Soil Slopes
Blast Densification	Fiber Reinforcement in Pavement Systems	Intelligent Compaction	Sand Compaction Piles
Bulk-Infill Grouting	Geocell Confinement in Pavement Systems	Jet Grouting	Screw-in Soil Nailing
Chemical Grouting/Injection Systems	Geosynthetic Reinforced Construction Platforms	Lightweight Fill	Shoot-in Soil Nailing
Chemical Stabilization of Subgrades and Bases	Geosynthetic Reinforced Embankments	Mass Mixing Methods	Shored Mechanically Stabilized Earth Wall System
Column-Supported Embankments	Geosynthetic Reinforcement in Pavement Systems	Mechanical Stabilization of Subgrades and Bases	Traditional Compaction
Combined Soil Stabilization with Vertical Columns	Geosynthetic Separation in Pavement Systems	Mechanically Stabilized Earth Wall System	Vacuum Preloading with and without Prefabricated Vertical Drains
Compaction Grouting	Geosynthetic Separation in Pavement Systems	Micropiles	Vibro-Concrete Columns
Continuous Flight Auger Piles	Geosynthetics in Pavement Drainage	Onsite Use of Recycled Pavement Materials	Vibrocompaction
Deep Dynamic Compaction	Geotextile Encased Columns	Partial Encapsulation	

- The system includes a catalog of technical information (topics shown to the right), selection tool driven by project specific information, and criteria for filtering appropriate techniques.
- Iowa State hosted the system from 2012-2018, and then transferred under agreement to ASCE GI in 2018 for hosting, maintenance, and content management.
- GTT Leadership
 - Administrative lead: Jeff Greenwald (Operative Greenwald, Inc.)
 - Technical content manager: Prof. Vern Schaefer, Ph.D. (Iowa State)
 - GI Board of Governors representative: Dr. Jim Collin (The Collin Group)
- Site receives consistently over 1000 views per week.
- GI offers sponsorships to sustain the system including
 - Founding Sponsors (Keller, Tensar, GeoPier, GeoConstructors) \$12,000 in a lump sum (equivalent to \$4,000 per year for 3 years, including \$1,000 discount per year because they paid up front)
 - New sponsors contribute \$5,000 per year.



Invitation to DFI Technical Committees

- GI invites DFI committees to review existing content and add information to improve accuracy, comprehensiveness, and non-commercial state-of-practice information, and to add new foundation techniques not included.
- DFI hosted a call on October 2, 2020 with GTT leaders and DFI technical committee chairs to overview the system and the opportunity to contribute.

Plan for Providing DFI Committee Feedback

- For existing content reviews, supplemental information on proposed changes would be issued through the GeoTech Tools portal feature.
- For new techniques, DFI Committees would prepare a proposal for GI review outlining the new technique content proposed in accordance with GI's one-page proposal format (attached).
- DFI would strive to outline a clear protocol for creating, reviewing content created by DFI and aim to collaborate productively with other associations to promote industry-wide content consistency.
- In the 1-page proposals, DFI would provide a plan for collaboration with other relevant groups.
- All content submitted by a DFI committee would be subject to DFI QA process and be submitted by DFI (not individual members or committees independently).

DFI Benefits to Collaborating with GI on GTT

- Increase awareness of other relevant deep foundation techniques not currently included in the system, e.g., helical piles and tiebacks, driven piles, augered cast-in-place and drilled displacement piles, project information management systems, testing and evaluation techniques.
- Many of these techniques are not specifically covered in G-I committees.
- DFI could work to augment the system content with industry-driven state of practice advancements on techniques, tools, materials, and QC/QA.
- This collaboration furthers the DFI-GI MOU signed >5 years ago.
- This collaboration with other committees will advance consistency, cooperation, and connectedness in the industry and position DFI as a knowledgeable resource and authority for deep foundations information.
- Link from GeoTechTools to DFI website will generate greater exposure for DFI.
- DFI's specifications appearing on this industry-wide platform provides the additional exposure outlined in our strategic planning meeting (WPM, La Jolla, February 2020). The platform already includes reference to DFI-generated specifications, e.g., micropiles.



GTT Special Projects Proposal

Sponsoring Organization		
Technical Committee		
Technical Committee Chair		
Special Project Members (Name and Email)		
Project Title		
Proposed Multi-Year Project?	Yes / No	
Collaboration with GI Committee	Yes / No	GI Committee:
Project Description		
Task 1:		
Task 2:		
Task 3:		
Task 4:		
Output/Deliverable:		
Project Budget and Justification:		