Sharing PRACTICAL Applications

March 8–10, 2020
North Charleston, SC USA
Charleston Area Convention Center
GeosyntheticsConference.com

SHOW GUIDE
PROVEN PERFORMANCE

Raven is a vertically-integrated leader in polymer manufacturing and the production of high-performance geomembranes, providing design-build expertise and certified world-class installation services for the geosynthetics industry. Raven provides a complete selection of advanced multi-layer geomembranes used in containment linings and floating cover systems, along with all the supportive materials and accessories needed for successful installations.

Raven produces engineered scrim-reinforced geomembranes, and advanced gas barriers to effectively contain hazardous liquids, solids, odors, and gases for long-term sustainability. Select Raven products are directly formulated to meet GRI-GM standard specifications, state and federal regulations, and NSF/ANSI certifications. All products are produced under the stringent Raven ISO 9001 certified management system and GAI-LAP accredited test program.

WHY RAVEN

- Full-Service Custom Containment Solutions – Wide Range of Geosynthetics Products
- Seven Facilities for Nationwide Coverage – Customer Service Excellence from Start-to-Finish
- IAGI AIC Certified Contractor/CWT Technicians – World-Class Installation Services
- Modular Constr Solutions Save Time & Money – Eliminates up to 80% of Field Seams

MANUFACTURING

DESIGN/BUILD SERVICES

SPECIALTY FABRICATION

CERTIFIED INSTALLATION

+1 (800) 635-3456
RAVENEFD.COM/GM
Welcome to North Charleston and the Geosynthetics Conference 2020: CASE STUDIES! This conference is the first of its kind, specifically dedicated to providing practical geosynthetics education through case studies. The educational sessions and exhibition have been carefully curated to include a large variety of applications to provide insight and inspiration that can be applied to your own future projects. As an attendee at Geosynthetics 2020, you have access to an impressive array of exhibitors, six special sessions provided by Supporting Organizations, three short courses, and more than fifty geosynthetics case studies to explore.

The conference kicks off on Sunday with three half-day Short Courses and the IGS-NA Workshop: Professional Issues in Geosynthetics Engineering. That night the Welcome Reception is open 5–7 pm, participants will enjoy cocktails and appetizers while exploring the exhibit booths and getting to know each other.

The technical program opens on Monday at 8:30 am with the Welcome Plenary featuring a look at three local projects presented by Sarah Hamrick Gaffney, P.E., SCDOT; Michael S. Ulmer, P.E., S&ME Inc.; and Hanna Gervais, P.E., and Jason Inskeep, EIT, U.S. Army Corps of Engineers. You won’t want to miss it.

While you are here, be sure to take some time to explore the area—Downtown Charleston is rich in history, full of unique restaurants and evening hotspots. The conference hotels provide transportation to the Convention Center and other locations in a three-mile radius, including the visitor center where a bus to downtown Charleston awaits. Thank you for joining us—have a great time!

Again, on behalf of the Organizing Committee, welcome to Geosynthetics Conference 2020: CASE STUDIES!

ABOUT CHARLESTON
Charleston, South Carolina, has been consecutively named the No. 1 City in the United States and Canada by the readers of Travel + Leisure and Condé Nast Traveler, and was the first domestic destination to earn the coveted No. 1 City in the World ranking. The convention center is just a quick bus or cab ride away from downtown Charleston, which you are sure to explore.

Living History Is Everywhere
Picturesque and exquisitely preserved, Charleston is a visual feast of antebellum architecture, cobblestone streets, flickering lanterns and historic landmarks. Ready to explore? Check out these can’t-miss options every history buff needs to visit in the Lowcountry.

- Drayton Hall
- Boone Hall Plantation
- Charles Town Landing
- Fort Moultrie
- The Hunley
- Patriots Point Naval Museum
- Tastemakers Abound

Visit www.charlestoncvb.com for information regarding transportation, dining, nightlife and recreation, as well as local event information.
From a global business leader with a rich history of quality and innovation, RhinoMat Geomembranes are engineered for performance and ease of use in Water Containment and Retention applications. Weld Easier. Install Faster. Contain Better.
The Geosynthetic Materials Association (GMA) provides engineering support, business development opportunities, in-person and online educational programming, government relations expertise, and industry recognitions. GMA influences specifications and lobbies on behalf of member companies. GMA targets key U.S. states to expand the geosynthetics market. GMA provides a network to exchange information, solve common problems and develop mutually beneficial relationships.

GMA is a central resource for information on geosynthetics and provides a forum for consistent and accurate information in order to increase acceptance and promote the correct use of geosynthetics. Since GMA’s inception, geosynthetics use has expanded into nearly all areas of civil, geotechnical, environmental, coastal and hydraulic construction. GMA industry events provide networking opportunities and exposure to the industry for engineers, specifiers, contractors, government agencies and academics.

www.geosynthetics.ifai.com

GEOSYNTHETICS CONFERENCE 2020 ORGANIZING COMMITTEE
COMMITTEE CHAIR
Robert Lozano, The Reinforced Earth Co.
COMMITTEE MEMBERS
Melissa Beaurgard, Ph.D., United States Air Force Academy
Jennifer Nicks, Ph.D., Federal Highway Administration
Michael Simac, P.E., EARTH Improvement Technologies
Todd Berger, Geosynthetics magazine
CONFERENCE ADVISOR, IGS NORTH AMERICA
John Allen, P.E., Owens Corning
TECHNICAL PROGRAM PROJECT MANAGER
Megan Firl, Industrial Fabrics Association International
SECRETARY GENERAL
Barbara Connett, Industrial Fabrics Association International

IGS-NA is the North American Chapter of the International Geosynthetics Society (IGS). IGS-NA has more than 200 individual members from academia, independent testing laboratories, geotechnical consultant firms, federal and state governments agencies, and industry.

The Geosynthetic Materials Association (GMA) provides engineering support, business development opportunities, in-person and online educational programming, government relations expertise, and industry recognitions. GMA influences specifications and lobbies on behalf of member companies. GMA targets key U.S. states to expand the geosynthetics market. GMA provides a network to exchange information, solve common problems and develop mutually beneficial relationships.

Since GMA’s inception, geosynthetics use has expanded into nearly all areas of civil, geotechnical, environmental, coastal and hydraulic construction. GMA industry events provide networking opportunities and exposure to the industry for engineers, specifiers, contractors, government agencies and academics.

www.geosynthetics.ifai.com

Industrial Fabrics Association International

The Industrial Fabrics Association International (IFAI) is a not-for-profit trade association serving 1,550 company members involved in the global specialty fabrics marketplace. IFAI operates 17 product divisions—including GMA—and three country-specific divisions conducting targeted programs and conferences for specialty fabrics products manufacturers. IFAI is headquartered in Roseville, Minn.

IFAI supports and augments the geosynthetics industry with these contributions:
> Promotes GMA, a central resource for the industry and a forum for the development of specifications and standardization
> Publishes industry-leading Geosynthetics magazine and other journals
> Collaborates with the International Geosynthetics Society (IGS), IGS North America and the Geosynthetic Institute

www.ifai.com

2021 Conference Information
Geosynthetics Conference 2021 is a four-day conference full of technical papers, special sessions and a busy show floor. It is also the second time the conference has been co-located with the International Erosion Control Association’s Annual Conference. All attendees will have access to both show floors and education sessions based on registration types. We are anticipating 3,000 participants and 300 exhibitors. Mark your calendars now for this exciting event. Start making your plans now to join us February 21–24, 2021, in Kansas City, Mo. The call for proposals and abstracts is now open.

www.GeosyntheticsConference.com

SAVE the DATE
Geosynthetics Conference
Feb. 21–24, 2021 | Kansas City, MO USA
Kansas City Convention Center

SUPPORTING ORGANIZATIONS
Association for Mechanically Stabilized Earth (AMSE)
ASTM International
Canadian Geotechnical Society (CGS)
Carolinians Chapter of Geo-Institute
China Nonwovens & Industrial Textiles Association (CNITA)
Deep Foundations Institute (DFI)
Erosion Control Technology Council (ECTC)
Fabricated Geomembrane Institute (FGI)
Federal Highway Administration (FHWA)
Geo-Institute (GII)
Geosynthetic Institute (GSI)
International Association of Geosynthetics Installers (IAGI)
International Geosynthetics Society—North America (IGS-NA)
Transportation Research Board (TRB)
United States Universities Council for Geotechnical Education and Research (USUCGER)
University of South Carolina—Dept of Civil and Environmental Engineering (U of SC)

SUPPORTING MEDIA
Geosynthetics magazine
Civil + Structural Engineer magazine
Informed Infrastructure magazine
Geosynthetic News Alerts (GNA)
Supporting Organizations

Association for Mechanically Stabilized Earth (AMSE)
AMSE promotes the use of MSE retaining structures engineered and supplied through a single source of responsibility and constructed in accordance with specifications which ensure value, performance, reliability and long-term safety. AMSE members produce complete MSE wall systems that use steel and, in some situations, geosynthetic soil reinforcements. Booth 508 | www.amsewalls.org

ASTM International
ASTM International Committee D35 on Geosynthetics develops test methods, specifications, guides, practices and terminology dealing with geosynthetics. To join committee D35, contact Katerina Koperna at kkoperna@astm.org. www.astm.org

Canadian Geotechnical Society (CGS)
The Canadian Geotechnical Society (CGS) is the leading organization for geotechnical engineering and related geoscience in Canada. The CGS is dedicated to the advancement of knowledge and the creation of opportunities to exchange information among individuals from academia (both faculty and students), consulting, government, industry, contractors, and various providers of geotechnical related products and services. www.cgs.ca

Carolinias Chapter of Geosynthetics Institute (GI)
www.geoinstitute.org/chapters/carolinias-chapter

China Nonwovens & Industrial Textiles Association (CNITA)
China Nonwovens & Industrial Textiles Association (CNITA) is the only national association related to nonwovens and industrial textiles around China. As a bridge between governments and enterprises, it services the whole industry chain of nonwovens and industrial textiles from raw materials to end-use products. Geosynthetics committee, as one of 10 committees of our association, plays an important role in the current and future development of the geosynthetics industry around China. As the committee member and China NMC of ISO/TC 221(Geosynthetics), and also director of standardization committee of industrial textiles (SAC/TC209/SC7), CNITA devotes itself to the domestic and international standards of geosynthetics.

Deep Foundations Institute (DFI)
DFI is an international association of contractors, engineers, manufacturers, suppliers, academics and owners in the deep foundations industry. Our multidisciplinary membership creates a consensus voice and a common vision for continual improvement in the planning, design and construction of deep foundations and excavations. We bring together membership through networking, education, communication and collaboration. www.dfi.org

Erosion Control Technology Council (ECTC)
www.ectc.org

Fabricated Geomembrane Institute (FGI)
The Fabricated Geomembrane Institute (FGI) is an industry/academic consortium of organizations interested in, and involved with, fabricated geomembranes and geosynthetics. The FGI is located at the University of Illinois at Urbana-Champaign in the Department of Civil and Environmental Engineering. The FGI includes all fabricated geosynthetics, i.e., all geosynthetics that are sealed and folded in a factory, transported to a site and deployed by unfolding the fabricated panel. Booth S10 | www.fabricatedgeomembrane.com

Federal Highway Administration (FHWA)
www.fhwa.dot.gov

Geo-Institute (GI)
The Geo-Institute is a member organization of more than 13,000 individual and corporate geo-professionals who share a mutual interest in protecting the public and improving and sustaining the built environment. We investigate natural and human-made hazards, assess the earth’s soils and rock properties, and construct sound and reliable engineered facilities and structures.

Today’s successful geo-professional possesses the knowledge and expertise needed to resolve or to prevent problems through any number of specific areas including: sustainability; deep foundations; earth retaining structures; earthquake engineering; soil dynamics; embankments, dams, and slopes; engineering geology; geoenvironmental engineering; geosynthetics; soil erosion; grouting; pavements, rock mechanics; and unsaturated soils. www.asce.org/geotechnical-engineering/geoinstitute

Geosynthetic Institute (GSI)
GSI’s mission is to develop and transfer knowledge, assess and critique geosynthetics, and provide services to the member organizations. www.geosynthetic-institute.org

International Association of Geosynthetic Installers (IAGI)
International Association of Geosynthetic Installers (IAGI) is a dynamic association of geosynthetic professionals created by and for installers. IAGI’s mission is to advance installation and construction technologies as well as to provide a central clearinghouse for worldwide industry information. www.iagi.org

International Geosynthetics Society—North America (IGS-NA)
IGS-NA is the North American chapter of the International Geosynthetics Society (IGS). IGS-NA has more than 200 individual members from academia, independent testing laboratories, geotechnical consultant firms, federal and state government agencies, and industry. Booth 809 | www.igs-na.org

Transportation Research Board (TRB)
The Transportation Research Board (TRB) provides innovative, research-based solutions to improve transportation. TRB is a program unit of the National Academy of Sciences, Engineering and Medicine, a nonprofit organization that provides independent, objective, and interdisciplinary solutions. TRB manages transportation research by producing publications and online resources. It convenes experts that help to develop solutions to problems and issues facing transportation professionals. TRB also provides advice through its policy studies that tackle complex and often controversial issues of national significance. www.trb.org

United States Universities Council on Geotechnical Education and Research (USUCGER)
The United States Universities Council on Geotechnical Education and Research (USUCGER) was founded in 1985 to provide advocacy for the continued development and expansion of high-quality geotechnical engineering research and education by U.S. academic institutions. This discipline has evolved to include geotechnical, geomechanical, geoenvironmental, geological, and geophysical engineering.

USUCGER’s overarching objective is to enhance both the community and the economy, and, through that, the quality of life, by the development and effective implementation of geotechnical infrastructure design techniques that ensure safety, health, security, and support the integrity of the environment, both in the United States and abroad. USUCGER strives to achieve this through interaction with regulatory and funding agencies, and by promoting cooperation and discussion among geotechnical engineering faculty affiliated with U.S. member institutions. www.usucger.org

University of South Carolina—Dept of Civil and Environmental Engineering
The department of Civil and Environmental Engineering at UofSC is at the forefront of research and education on intelligent and sustainable infrastructure. Our cutting-edge research aims at discovering knowledge and providing practical solutions to societal challenges. Our educational programs aim at training the engineer of the future. This is an engineer capable of designing innovative solutions with far-reaching societal impact. Booth 807 | www.cec.sc.edu
Geosynthetics Conference 2020: CASE STUDIES is a special edition of the Geosynthetics Conference. This offering features in-depth case studies highlighting practical applications from across the geotechnical industry. Here you will connect with industry professionals on the show floor and through short courses, plenary sessions, case study presentations and panel discussions presented by industry experts. Walk the show floor to see the latest developments in geotechnical products and services offered by the industry’s top companies and organizations. Plan for plenty of opportunities to network and socialize.

Important Announcements

- Registration badges and tickets are required for all conference events.
- All sessions and speakers are subject to change.
- Please be considerate of others and turn off noisemaking electronic devices during all sessions.
- Smoking is not permitted inside the Charleston Area Convention Center.
- Paging of attendees is not possible.
- Cameras and video recording are not permitted at any event or in the exhibit hall.
- See registration staff if you require special accommodations.

Show Floor Reception

Explore the exhibit show floor, visit with product and service vendors, and network with industry professionals while enjoying a beverage and hors d’oeuvres.

Special Sessions

Geosynthetics Conference 2020 features six special sessions, each organized by one of the conference supporting organizations.

<table>
<thead>
<tr>
<th>MONDAY, MARCH 9</th>
<th>TUESDAY, MARCH 10</th>
</tr>
</thead>
<tbody>
<tr>
<td>10:15–11:30 am</td>
<td>Room 12</td>
</tr>
<tr>
<td>Organized by the Geosynthetic Institute (GSI)</td>
<td></td>
</tr>
<tr>
<td><strong>Three Case Histories Illustrating How Geosynthetics Were Used Effectively for Soft Soil Stabilization Project Near Pigeon Point, Delaware</strong></td>
<td></td>
</tr>
<tr>
<td>1:30–2:45 pm</td>
<td>Room 12</td>
</tr>
<tr>
<td>Organized by ASTM</td>
<td></td>
</tr>
<tr>
<td><strong>How ASTM Standards Are Impacted by Case Histories</strong></td>
<td></td>
</tr>
<tr>
<td>3:15–4:30 pm</td>
<td>Room 12</td>
</tr>
<tr>
<td>Organized by the Fabricated Geomembrane Institute (FGI)</td>
<td></td>
</tr>
<tr>
<td><strong>Panel Discussion: Construction with Fabricated Geosynthetics</strong></td>
<td></td>
</tr>
</tbody>
</table>

9–10:15 am | Room 12
Organized by the Geosynthetic Materials Association (GMA)
**Growing the Geosynthetic Marketplace: GMA’s Mission**

10:30–11:45 pm | Room 12
Organized by the Fabricated Geomembrane Institute (FGI)
**Roundtable Discussion—Women in Geosynthetics**

1:30–4:15 pm | Room 12
Organized by the Association for Mechanically Stabilized Earth (AMSE)
**Vertical and Near-Vertical Geosynthetic-Reinforced MSE Structures—Case Studies on the Influence of Backfill on Alignment of Concrete and Wire Facings**
Your Circle of Trust
from beginning to end

Needs
Challenges
Difficulties
Opportunities

Adaptability
Innovation
Best Practice
Partnerships

Safe Containment
Waste  Water  Mining
Proud to be | www.atarfil.com

Visit us at Geosynthetics Conference 2020 - Booth 718
# Daily Schedule

## SUNDAY | MARCH 8

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>7 am–5 pm</td>
<td>Registration Open</td>
</tr>
<tr>
<td>1–5 pm</td>
<td>2nd Floor Meeting Rooms 6–12</td>
</tr>
</tbody>
</table>

**IGS-NA WORKSHOP**

Professional Issues in Geosynthetics Engineering

**SHORT COURSES**

<table>
<thead>
<tr>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Geosynthetic Barriers in Relevant Applications</td>
</tr>
<tr>
<td>Geosynthetics in Erosion and Sediment Control</td>
</tr>
<tr>
<td>Improving Roadway Performance with Geosynthetics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>5–7 pm</td>
<td>Exhibit Hall B</td>
</tr>
<tr>
<td></td>
<td>Welcome Reception</td>
</tr>
</tbody>
</table>

## MONDAY | MARCH 9

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>7 am–5 pm</td>
<td>Registration Open</td>
</tr>
<tr>
<td>7:30–8:30 am</td>
<td>Foyer Ballroom C</td>
</tr>
<tr>
<td></td>
<td>Coffee Break</td>
</tr>
<tr>
<td>8:30–10 am</td>
<td>Ballroom C</td>
</tr>
</tbody>
</table>

**WELCOME PLENARY**

I-26 Volvo Interchange – Design Build Project

Using Geosynthetics to Help Solve Geotechnical Challenges in the High-Seismic, Soft-Ground Environment of the Port Access Road Design-Build Project

Clouter Creek Placement Area—Before and After Geotextiles

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>9 am–5 pm</td>
<td>Exhibit Hall B</td>
</tr>
<tr>
<td></td>
<td>Exhibits Open</td>
</tr>
<tr>
<td></td>
<td>Learning Zone sessions</td>
</tr>
<tr>
<td></td>
<td>Environmental Applications (11:30 am)</td>
</tr>
<tr>
<td></td>
<td>Material Properties/QA/Testing (12:15 pm)</td>
</tr>
<tr>
<td></td>
<td>Pavement/Transportation Applications (1 pm)</td>
</tr>
<tr>
<td>10:15–11:30 am</td>
<td>2nd Floor Meeting Rooms 6–12</td>
</tr>
</tbody>
</table>

**CASE STUDY SESSIONS**

<table>
<thead>
<tr>
<th>Topic</th>
<th>Subtitle</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barriers 1</td>
<td></td>
</tr>
<tr>
<td>Drainage</td>
<td></td>
</tr>
</tbody>
</table>

**SPECIAL SESSION**

Three Case Histories Illustrating How Geosynthetics Were Used Effectively for Soft Soil Stabilization Project Near Pigeon Point, Delaware

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>11:30 am–1:30 pm</td>
<td>Exhibit Hall B</td>
</tr>
<tr>
<td></td>
<td>Lunch in Exhibit Hall</td>
</tr>
<tr>
<td>1:30–2:45 pm</td>
<td>2nd Floor Meeting Rooms 6–12</td>
</tr>
</tbody>
</table>

**CASE STUDY SESSIONS**

<table>
<thead>
<tr>
<th>Topic</th>
<th>Subtitle</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barriers 2</td>
<td></td>
</tr>
<tr>
<td>Reinforced Walls</td>
<td></td>
</tr>
<tr>
<td>Protection 1</td>
<td></td>
</tr>
</tbody>
</table>

**SPECIAL SESSION**

How ASTM Standards are Impacted by Case Histories

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>2:30–3:30 pm</td>
<td>Exhibit Hall B</td>
</tr>
<tr>
<td></td>
<td>Afternoon break on the show floor</td>
</tr>
<tr>
<td>3:15–4:30 pm</td>
<td>2nd Floor Meeting Rooms 6–12</td>
</tr>
</tbody>
</table>

**CASE STUDY SESSIONS**

<table>
<thead>
<tr>
<th>Topic</th>
<th>Subtitle</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vegetation</td>
<td></td>
</tr>
<tr>
<td>Reinforced Slopes</td>
<td></td>
</tr>
<tr>
<td>Transportation</td>
<td></td>
</tr>
</tbody>
</table>

**SPECIAL SESSION**

Panel Discussion: Construction with Fabricated Geosynthetics

## TUESDAY | MARCH 10

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>7 am–5 pm</td>
<td>Registration Open</td>
</tr>
<tr>
<td></td>
<td>Coffee Break</td>
</tr>
<tr>
<td>8–9 am</td>
<td>2nd Floor Foyer</td>
</tr>
</tbody>
</table>

**CASE STUDY SESSIONS**

<table>
<thead>
<tr>
<th>Topic</th>
<th>Subtitle</th>
</tr>
</thead>
<tbody>
<tr>
<td>Column Supported Embankments</td>
<td></td>
</tr>
<tr>
<td>Reinforced Foundations 1</td>
<td></td>
</tr>
<tr>
<td>Landfill Covers</td>
<td></td>
</tr>
</tbody>
</table>

**SPECIAL SESSION**

Growing the Geosynthetics Marketplace: GMA’s Mission

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>9 am–5 pm</td>
<td>Exhibit Hall B</td>
</tr>
<tr>
<td></td>
<td>Exhibits Open</td>
</tr>
<tr>
<td></td>
<td>Learning Zone sessions</td>
</tr>
<tr>
<td></td>
<td>Pavement/Transportation Applications (11:45 am)</td>
</tr>
<tr>
<td></td>
<td>Environmental Applications (12:30 pm)</td>
</tr>
<tr>
<td></td>
<td>Material Properties/QA/Testing (1:15 pm)</td>
</tr>
<tr>
<td>10:30–11:45 am</td>
<td>2nd Floor Meeting Rooms 6–12</td>
</tr>
</tbody>
</table>

**CASE STUDY SESSIONS**

<table>
<thead>
<tr>
<th>Topic</th>
<th>Subtitle</th>
</tr>
</thead>
<tbody>
<tr>
<td>Airfield Pavements</td>
<td></td>
</tr>
<tr>
<td>Reinforced Foundations 2</td>
<td></td>
</tr>
<tr>
<td>Protection 2</td>
<td></td>
</tr>
</tbody>
</table>

**SPECIAL SESSION**

Women in Geosynthetics Roundtable Discussion

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>11:45 am–1:30 pm</td>
<td>Exhibit Hall B</td>
</tr>
<tr>
<td></td>
<td>Lunch in Exhibit Hall</td>
</tr>
<tr>
<td>1:30–2:45 pm</td>
<td>2nd Floor Meeting Rooms 6–12</td>
</tr>
</tbody>
</table>

**CASE STUDY SESSIONS**

<table>
<thead>
<tr>
<th>Topic</th>
<th>Subtitle</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barriers 3</td>
<td></td>
</tr>
<tr>
<td>Environmental Innovative Backfill</td>
<td></td>
</tr>
</tbody>
</table>

**SPECIAL SESSION**

Vertical and Near-Vertical Geosynthetic-Reinforced MSE Structures—Case Studies on the Influence of Backfill on Alignment of Concrete and Wire Facings

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1:30–4:15 pm</td>
<td>2nd Floor Meeting Rooms 6–12</td>
</tr>
<tr>
<td></td>
<td>Special Session</td>
</tr>
<tr>
<td></td>
<td>Vertical and Near-Vertical Geosynthetic-</td>
</tr>
<tr>
<td></td>
<td>Reinforced MSE Structures—Case Studies on</td>
</tr>
<tr>
<td></td>
<td>the Influence of Backfill on Alignment of</td>
</tr>
<tr>
<td></td>
<td>Concrete and Wire Facings</td>
</tr>
<tr>
<td></td>
<td>Part 1: Welded Wire- and Gabion-Faced MSE</td>
</tr>
<tr>
<td></td>
<td>Structures (1:30 pm)</td>
</tr>
<tr>
<td></td>
<td>Part 2: Precast Concrete Panel-Faced MSE</td>
</tr>
<tr>
<td></td>
<td>Structures (3 pm)</td>
</tr>
<tr>
<td>2:30–3:30 pm</td>
<td>Exhibit Hall B</td>
</tr>
<tr>
<td></td>
<td>Afternoon break on the show floor</td>
</tr>
</tbody>
</table>
Join us on the show floor to explore the basics of geosynthetics. Everyone is invited regardless of registration type. The Learning Zone is an area of the show floor with material samples and educational boards. It is also home to the Introduction Series.

**Introduction Series**

Designed for new users, this series of short, targeted presentations is delivered by some of the best-known speakers in the industry. They will teach you what geosynthetics are and how they fit into various projects.

---

### MONDAY, MARCH 9

#### Geosynthetics Learning Zone | Show Floor (Hall B)

11:30 am–Noon

**Environmental Applications**

Kuo Tian, Assistant Professor, George Mason University

12:15–12:45 pm

**Material Properties/QA/Testing**

Robert Mackey, P.E., S2Li

1–1:30 pm

**Pavement/Transportation Applications**

Jie Han, Ph.D., P.E., F.ASCE, University of Kansas

---

### TUESDAY, MARCH 10

#### Geosynthetics Learning Zone | Show Floor (Hall B)

11:45 am–12:15 pm

**Pavement/Transportation Applications**

Jie Han, Ph.D., P.E., F.ASCE, University of Kansas

12:30–1 pm

**Environmental Applications**

Kuo Tian, Assistant Professor, George Mason University

1:15–1:45 pm

**Material Properties/QA/Testing**

Robert Mackey, P.E., S2Li

---
Welcome Plenary

MONDAY, MARCH 9

8:30–10 am – Ballroom C

The Welcome Plenary features three local case studies, each detailing a project in Charleston, SC. Speakers represent the South Carolina Department of Transportation (SCDOT), S&ME Inc. and the U.S. Army Corps of Engineers. Attendees will learn how the unique challenges of design and installation in Charleston’s wetlands and soft soil conditions were overcome across three distinct projects.

I-26 Volvo Interchange—Design Build Project
Sarah Hamrick Gaffney, P.E., District Construction Engineer, SCDOT, District 6

The I-26 Volvo Interchange is a fully directional interchange in Berkeley County that will provide access from I-26 to Volvo Car Drive. The interchange is located at mile marker 189, which is approximately two miles east of SC 27/Ridgeville Road (Exit 187) and approximately five miles west of Jedburg Road (Exit 194). The interchange includes both at-grade and flyover ramps, four ramps and three bridges.

This project was designed to provide direct access to the SC Volvo Manufacturing Facility and Camp Hall Commerce Park and to alleviate traffic congestion at Exit 187 and Exit 194 of I-26 East and West.

Environmental Concerns and Wetland Impacts
The Soter Mitigation and FONSI Determination of Camp Hall Site
Geotechnical Design
Construction Considerations
Ground Improvements
Muck Excavation
Cement Soil Stabilization
Sand Blankets
Wick Drain Installation
Geogrid Placement
Settlement Monitoring
Slope Construction

Using Geosynthetics to Help Solve Geotechnical Challenges in the High-Seismic, Soft-Ground Environment of the Port Access Road Design-Build Project
Michael S. Ulmer, P.E., Principal Engineer/VP, S&ME Inc.

The Port Access Road provides a direct connection from I-26 to the Hugh Leatherman Container Terminal through the former Charleston Navy Complex. The project is in a high seismic hazard area and includes eight miles of bridge structures and embankments through highly variable subsurface conditions that include uncontrolled fill, liquefying sand and highly compressible clay. The team performed significant geotechnical explorations to fully characterize the alignment. Designers collaborated to develop cost-effective foundations to meet stringent SCDOT requirements in adverse soil conditions. Geosynthetics were used to help stabilize soft subgrade and to reinforce embankments, and in the design of reinforced soil slopes. This presentation presents the site conditions and geotechnical challenges, and how geosynthetics were used to meet these challenges.

Clouter Creek Placement Area—Before and After Geotextiles
Hanna Gervais, P.E., and Jason Inskeep, E.I.T., U.S. Army Corps of Engineers

Clouter Creek Placement Area is an integral asset in the management of dredged materials from the Charleston Harbor Navigation Project supporting the South Carolina State Ports Authority’s Port of Charleston. The facility is located on approximately 1,400 acres in Charleston Harbor and was built in the 1940s and 1950s by pumping dredged material into the marshes. Over time, the entire area was diked and the former marsh and creeks were reclaimed for upland placement of dredged material. Over the past decade, one particular location has seen multiple failures every time the top elevation of the dikes would reach 20 to 22 feet. After doing subsurface investigations and slope stability modeling, we designed a project that required partial excavation of the existing dike and two layers of high-strength geotextile fabric to reach the design elevation of 20 feet. Construction was completed in the fall of 2018, and the site will receive maintenance and harbor deepening dredged material in the coming years.
Geosynthetics Conference 2020 features three half-day short courses on Sunday, March 8, 1–5 pm. Each short course offers participants four professional development hours (PDH). Short courses are included with all full registrations.

1–5 pm > Room 6

**Geosynthetic Barriers in Relevant Applications**  
Instructors: Kent Von Maubeuge, NAUE GmbH & Co. KG; George Koerner, Ph.D., Geosynthetic Institute

Most regulations describe barrier material properties in detail or refer to existing specifications. However, some regulations show a shortage of other relevant design parameters, such as design issues, external effects, durability issues, installation considerations and quality control/assurance.

Over the past 40 years, the advantages in utilizing geosynthetic barriers versus traditional barrier materials have been well documented: e.g., greater project economy, extended service lives, enhanced environmental protection and greater site safety. Achievements such as conserving water resources and enabling beneficial site reuse have given geosynthetic engineering a level of social importance. This is especially true in modern waste management cell design, a barrier application that has been so successful that it has influenced the design and specification of geosynthetics into mining, water and wastewater, and industrial applications. The principles and practices of design using geosynthetic barriers take into account a number of different parameters considered by professionals engaged in the process.

This course on geosynthetic barriers aims to assist the process by identifying the various characteristics of barrier types and comparing them with the requirements of a variety of different applications. It also offers design advice to professionals involved in the design of civil engineering and construction solutions using geosynthetic materials. Overall, the intent is to encourage the appropriate selection of materials and design methods to suit particular applications, rather than to redesign projects to suit predetermined materials. Many aspects of the design process have been considered as well as the parameters of various sites and applications.

Therefore, good design needs to consider the cost-effectiveness of any solution but must first qualify and meet all technical and service expectations of the stakeholders in the end-use. All engineers must have current working knowledge of the sort of costs incurred by their designs, but the view was taken that to try and incorporate such parameters into the standards would be virtually impossible and almost certainly inaccurate.

This course will cover these aspects and give a guide for various applications and talk about possible future topics, such as sustainability and life-cycle analysis.

1–5 pm > Room 8

**Geosynthetics in Erosion and Sediment Control**  
Instructor: C. Joel Sprague, P.E., TRI/Environmental Inc.  
Guest Instructor: Markus Wilke, Business Development Manager—Hydraulics & Dewatering, HUESKER Synthetic GmbH

Erosion and sediment control systems have been developed to help satisfy regulations designed to prevent sediments from reaching surface waters. Geosynthetic “enhanced” erosion and sediment control systems perform unique and quantifiable functions while simultaneously introducing ever greater versatility and cost-effectiveness. Geosynthetics are now commonly used along with temporary, degradable materials for the enhancement of vegetative establishment; as long-term, nondegradable materials to extend the erosion control limits of vegetation or soil; as primary slope or channel linings; and as components in silt fences and turbidity curtains and an ever-growing array of sediment retention devices. This ever-expanding use has led to industry-wide initiatives to promote the correct specification and use of geosynthetics in erosion and sediment control, along with efforts to facilitate more comprehensive quality systems in manufacturing and better measurements of performance via new and better test methods.

1–5 pm > Room 10

**Improving Roadway Performance with Geosynthetics**  
Instructor: Jie Han, Ph.D., The University of Kansas

This course addresses unpaved roads (e.g., haul roads, gravel roads and railroads) and paved roads [asphalt and concrete pavements] stabilized with geosynthetics such as geotextiles, geogrids and geocells. The course examines the mechanisms associated with the use of geosynthetics to stabilize a road section, provides design guidelines to quantify the benefits of geosynthetics for different roadway applications, and presents case histories to demonstrate the successful use of geosynthetics to solve common and challenging roadway problems and improve their performance.
IGS-NA Workshop

SUNDAY, MARCH 8

Professional Issues in Geosynthetics Engineering

This four-hour workshop is organized by the North American Chapter of the International Geosynthetics Society. It includes a happy hour reception and is open to all conference attendees. Additional fee applies.

1–5 pm > Room 12

Ethics in Geosynthetics and Civil Engineering
Boyd Ramsey, Boyd Ramsey Consulting LLC

Ethics are a part of our everyday lives. We make decisions daily on a broad range of ethical topics, what is “right” and “wrong,” what is fair, what needs to be disclosed and what can be held private. This 60-minute workshop explores the varieties of ethical and unethical behaviors, points out examples of companies and organizations within our industry that publish ethical standards and codes of conduct, and give some peer-to-peer feedback on common situations and gray areas and how to manage these.

Geopipes
Michael Pluimer, Ph.D., University of Minnesota Duluth

In 2018 the American Association of State Highway and Transportation Officials (AASHTO) updated their M 294 standard specification for corrugated polyethylene pipes to allow the incorporation of postconsumer and postindustrial recycled materials into these products. The updates were based on the research and conclusions from two National Cooperative Highway Research Program (NCHRP) projects and a Ph.D. dissertation: NCHRP Project 4-32, Performance of Corrugated Pipe Manufactured with Recycled Polyethylene Content, published as NCHRP Report 696; NCHRP Project 4-39, Field Performance of Corrugated HDPE Pipes Manufactured with Recycled Materials, published as NCHRP Report 870; and An Evaluation of Corrugated HDPE Pipes Manufactured with Recycled Materials for Commuter Railroad Applications, Ph.D. dissertation by Michael Pluimer. The author’s service-life prediction model developed in his Ph.D. dissertation was published as AASHTO R 93 and used to establish minimum criteria for the stress crack resistance properties of pipes manufactured with recycled materials. The changes to AASHTO M 294 resulted in the incorporation of more sustainable materials into our drainage infrastructure and will have a lasting positive impact on our society.

This presentation provides a summary of the changes to AASHTO M 294 to incorporate the use of recycled materials into the specification, along with the basis for the revisions.

It also details the new test specifications and requirements that resulted from the research and outlines the service-life prediction and verification methodology that was developed. The research projects that provided the basis for these changes spanned 11 years and were budgeted for $950,000, making this the most robust body of research on recycled materials for pipe applications published to date. More than 1,000 different tests were conducted on 28 different recycled materials and 75 different blends of virgin and recycled materials, including service-life validation testing on 24 full-scale pipes manufactured with various blends of recycled materials.

Geosynthetic Installation Issues for Designers
Chris Eichelberger, AGRU America Inc.

“How did this happen?”—A discussion regarding examples of successful and “less than” successful geosynthetic applications/projects throughout the project delivery life cycle.

The geosynthetics industry benefits from prescribed regulations from the Environmental Protection Agency and state agencies in the required containment and closure rules for wastes such as municipal solid waste, construction and demolition debris, industrial, hazardous and coal combustion residuals. Geosynthetic materials are also used to protect and store liquids ranging from drinking water to mineral rich solutions from the mining industry. Beyond the rules, the industry further benefits from sample specifications, best practice guidelines, case histories, and the wealth of knowledge and experience from tenured professionals utilizing the materials on a daily basis. This discussion will look at the required steps of a geosynthetic project and review recent applications from within the industry.
# Education Schedule

Short Courses, IGS-NA Workshop, Case Study Sessions and Special Sessions

## Sunday, March 8

<table>
<thead>
<tr>
<th>Time</th>
<th>Room 6</th>
<th>Room 8</th>
<th>Room 10</th>
<th>Room 12</th>
<th>Ballroom C</th>
</tr>
</thead>
<tbody>
<tr>
<td>1–5 pm</td>
<td><strong>SHORT COURSE</strong> Geosynthetic Barriers in Relevant Applications</td>
<td><strong>SHORT COURSE</strong> Geosynthetics in Erosion and Sediment Control</td>
<td><strong>SHORT COURSE</strong> Improving Roadway Performance with Geosynthetics</td>
<td>IGS-NA WORKSHOP Professional Issues in Geosynthetic Engineering</td>
<td></td>
</tr>
</tbody>
</table>

## Monday, March 9

<table>
<thead>
<tr>
<th>Time</th>
<th>Room 6</th>
<th>Room 8</th>
<th>Room 10</th>
<th>Room 12</th>
<th>Ballroom C</th>
</tr>
</thead>
<tbody>
<tr>
<td>9–10 am</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>WELCOME PLENARY</td>
</tr>
<tr>
<td>10:15–11:30 am</td>
<td><strong>CASE STUDY SESSION</strong> Barriers 1</td>
<td><strong>CASE STUDY SESSION</strong> Drainage</td>
<td></td>
<td><strong>SPECIAL SESSION</strong> Three Case Histories Illustrating How Geosynthetics Were Used Effectively for Soft Soil Stabilization Project near Pigeon Point, Delaware</td>
<td></td>
</tr>
<tr>
<td>1:30–2:45 pm</td>
<td><strong>CASE STUDY SESSION</strong> Barriers 2</td>
<td><strong>CASE STUDY SESSION</strong> Reinforced Walls</td>
<td><strong>CASE STUDY SESSION</strong> Protection 1</td>
<td><strong>SPECIAL SESSION</strong> How ASTM Standards Are Impacted by Case Histories</td>
<td></td>
</tr>
<tr>
<td>3:15–4:30 pm</td>
<td><strong>CASE STUDY SESSION</strong> Vegetation</td>
<td><strong>CASE STUDY SESSION</strong> Reinforced Slopes</td>
<td><strong>CASE STUDY SESSION</strong> Transportation</td>
<td><strong>SPECIAL SESSION</strong> Panel Discussion: Construction with Fabricated Geosynthetics</td>
<td></td>
</tr>
</tbody>
</table>

## Tuesday, March 10

<table>
<thead>
<tr>
<th>Time</th>
<th>Room 6</th>
<th>Room 8</th>
<th>Room 10</th>
<th>Room 12</th>
<th>Ballroom C</th>
</tr>
</thead>
<tbody>
<tr>
<td>9–10:15 am</td>
<td><strong>CASE STUDY SESSION</strong> Column Supported Embankments</td>
<td><strong>CASE STUDY SESSION</strong> Reinforced Foundations 1</td>
<td><strong>CASE STUDY SESSION</strong> Landfill Covers</td>
<td><strong>SPECIAL SESSION</strong> Growing the Geosynthetic Marketplace: GMA’s Mission</td>
<td></td>
</tr>
<tr>
<td>10:30–11:45 am</td>
<td><strong>CASE STUDY SESSION</strong> Airfield Pavements</td>
<td><strong>CASE STUDY SESSION</strong> Reinforced Foundations 2</td>
<td><strong>CASE STUDY SESSION</strong> Protection 2</td>
<td><strong>SPECIAL SESSION</strong> Women in Geosynthetics Roundtable Discussion</td>
<td></td>
</tr>
<tr>
<td>1:30–2:45 pm</td>
<td><strong>CASE STUDY SESSION</strong> Barriers 3</td>
<td><strong>CASE STUDY SESSION</strong> Environmental</td>
<td><strong>CASE STUDY SESSION</strong> Innovative Backfill</td>
<td><strong>SPECIAL SESSION</strong> Vertical and Near-Vertical Geosynthetic-Reinforced MSE Structures—Case Studies on the Influence of Backfill on Alignment of Concrete and Wire Facings Part 1: Welded Wire- and Gabion-Faced MSE Structures</td>
<td></td>
</tr>
<tr>
<td>3–4:15 pm</td>
<td></td>
<td></td>
<td></td>
<td><strong>SPECIAL SESSION</strong> Vertical and Near-Vertical Geosynthetic-Reinforced MSE Structures—Case Studies on the Influence of Backfill on Alignment of Concrete and Wire Facings Part 2: Precast Concrete Panel-Faced MSE Structures</td>
<td></td>
</tr>
</tbody>
</table>
Case Study Sessions

MONDAY, MARCH 9

10:15–11:30 am  | Room 6

**Barriers 1**
Moderator: Tim Stark, University of Illinois at Urbana-Champaign
Use of Geosynthetic Clay Liners (GCLs) as Groundwater Protection in Infrastructure Constructions
Kent Von Maubeuge, NAUE GmbH & Co. KG
Eagle Gold Mine Emergency Spillway Lining Using Geosynthetic Cementitious Composite Mats (GCCM)
Ron Drewry, Titan Environmental; Phill Greer, Concrete Canvas Ltd.; Will Crawford, Concrete Canvas Ltd.
Environmental Containment Using Reinforced Composite Geomembranes: Qualitative and Quantitative Efficiencies in Installation and Performance
Richelle Delia, Owens Corning Geosynthetics

10:15–11:30 am  | Room 8

**Drainage**
Moderator: Piergiorgio Recalcati, TENAX SpA
One of the Largest Prefabricated Vertical Drain Installations in U.S. Accelerates Port of Charleston Expansion
Aaron Goldberg, Soil & Material Engineers (S&ME); Martin Taube, Menard USA; Richard Goodrum, Clock Spring/NRI—Geotree Concrete Solutions; Ian Brake, Menard/US Wick Drain
Use of Wicking Geotextile to Dehydrate Road Embankment under Unsaturated Conditions
Xiong Zhang, Missouri University of Science and Technology
Behavior of a Drainage Geosynthetic and Reinforced Geomat for the Remediation of a Dismissed Industrial Site in Milan City Area
Piergiorgio Recalcati, TENAX SpA; A. Crippa, TENAX Corp.; D. Cazzuffi, CESI SpA

1:30–2:45 pm  | Room 6

**Barriers 2**
Moderator: Robert Wallace, AECOM
Almost Three Decades of Leak Location Data Compiled
Matthew Kemnitz, Leak Location Services Inc.
Sanitary Sewer Overflow Management Using Geomembranes—One City’s Successes and Challenges
Felon Wilson, Seaman Corp.
Construction of Columbus Water Reservoir Geosynthetic Liner System
Timothy O. Stark, University of Illinois at Urbana-Champaign; Daniel S. Rohe, Environmental Protection Inc.

1:30–2:45 pm  | Room 10

**Protection 1**
Moderator: Daniele Cazzuffi, CESI SpA
Conductive Multi-Linear Drainage Geocomposites for Improved QA/QC of Leachate Double-Lined Ponds
Stephan Fourmont, AFITEX-Texel Geosynthetics Inc.; Andrew Jung, Western GeoSystems
Soil Bioengineering Design for Highly Steepened Waterway Banks
Robbin Sotir, Robbin B. Sotir & Associates Inc.
Geosynthetic Cementitious Composite Mat (GCCM) Installed as a Shroud over Wire
Baskets for Protection and Containment
Richard Goodrum, Clock Spring/NRI—Geotree Concrete Solutions

1:30–2:45 pm  | Room 8

**Reinforced Walls**
Moderator: Milad Saghebfar, MC2 Engineers
GRS-IBS—Cost Analysis and Comparison
Daniel Alzamora, Federal Highway Administration; Jennifer Nicks, Federal Highway Administration; Mike Adams, Federal Highway Administration
Investigation and Rehabilitation of Bridge Abutment MSE Wall Instability
Marshall Addison, Consulting Geotechnical Engineer

3:15–4:30 pm  | Room 8

**Reinforced Slopes**
Realignment of County Highway with One of the Largest Geogrid-Reinforced Slope Projects Constructed in the State of Minnesota
Stephan Gale, Gale-Tec Engineering Inc.; Nathan Lichty, Gale-Tec Engineering Inc.
A 60-Meter High Geogrid Reinforced Steep Slope for the Stabilization of a Landslide in Northern Italy
Daniele Cazzuffi, CESI SpA; Piergiorgio Recalcati, TENAX SpA
Performance of High-Strength Geogrid in Reinforced Soil Slope and the Yeager Airport
Robert Bachus, Geosyntec Consultants; John Lostumbo, TenCate Geosynthetics Americas

3:15–4:30 pm  | Room 10

**Transportation**
Moderator: Murad Abu-Farsakh, Louisiana Transportation Research Center Sponsored by Tensar International Corp.
Field-Verified Benefits of Geogrids to Reduce Risk and Improve Performance of Flexible Pavements
Garrett Fountain, Tensar International Corp.; Mark Wayne, Tensar International Corp.; Bryan Gee, Tensar International Corp.
Recyclable Paving Fabric Protects Indiana Interstate
David Andrews, Propex; Mark Marienfeld, TreadMark
Bituminous Geomembranes (BGM), over 20 Years of Presence in the USA in Transport Applications
Natalie Daly, Axter Coletanche Inc.; Ted Aguirre, Axter Coletanche Inc.; Bertrand Breul, Axter Coletanche Inc.

3:15–4:30 pm  | Room 6

**Vegetation**
Moderator: Stephan Fourmont, AFITEX-Texel Geosynthetics Inc. Sponsored by Tensar International Corp.
The Skeleton Keys of Turf Reinforcement
Lisa Simms, East Coast Erosion Control
Norton Branch Vegetated Reinforced Soil Slope Revisited after 25 Years
Robbin Sotir, Robbin B. Sotir & Associates Inc.; Mark Wayne, Tensar International Corp.
Maurice River and Johnson Creek Soil Bioengineering Stabilization and Restoration
Robbin Sotir, Robbin B. Sotir & Associates Inc.
Case Study Sessions

TUESDAY, MARCH 10

9–10:15 am  >  Room 6

**Column Supported Embankments**
Moderator: Stephan Gale, Gale-Tec Engineering Inc.

- **Load Transfer Platform with PVA**
  - Uniaxial Geogrids—Costa Verde Project
    - Wilfredo Rodriguez, Freyssinet Tierra Armada; Renzo Sardon, Freyssinet Tierra Armada; Jorge Herrera, Freyssinet Tierra Armada; Nelson Berrospid, Freyssinet Tierra Armada

- **Expedited Repair of Railroad Track Subgrade Failure Using a Column-Supported Geosynthetic Reinforced Load Transfer Platform**
  - Scott Mackiewicz, Braun Intertec; Morgan Race, Braun Intertec; David A. Johnson, BNSF Railway

9–10:15 am  >  Room 10

**Landfill Covers**
Moderator: Abigail Gilson, TRI/Environmental Inc.

- **Case Studies of Extreme Weather Performance of Engineered Turf**
  - Final Cover System
    - Ming Zhu, Watershed Geosynthetics; Brad Cooley, Watershed Geosynthetics; Mike Ayers, Watershed Geosynthetics

- **Guam ORDOT Vegetated Landfill Cap with Geocells**
  - Michael Jotzke, Geo Products LLC

9–10:15 am  >  Room 8

**Reinforced Foundations 1**

- **A Case Study of the Construction of a Roadway Fill over a Large Water Body Utilizing a Geotextile Reinforced Earth Foundation with Challenging Soil and Construction Conditions**
  - Brent Marjerison, WSP Canada Inc.; Brock Nesbit, TenCate Geosynthetics Americas; Adrien Blais, Canada Ministry of Highways

- **Geosynthetics Reinforced Railway Twinning Project—Canadian National Railway—Aurora, ON**
  - René Laprade, TenCate Geosynthetics Americas

10:30–11:45 am  >  Room 6

**Airfield Pavements**
Moderator: L. David Suits, LDS Geosynthetic Consultant Services

- **Use of Geosynthetics in Airport Pavements**
  - Jeffrey Gagnon, Federal Aviation Administration

- **Mechanical Stabilization of Foundation Soils for Airfield Pavements in the Mid-Atlantic Coastal Region**
  - Andrew Isenhour, Tensar International Corp.; Bryan Gee, Tensar International Corp.

10:30–11:45 am  >  Room 10

**Protection 2**
Moderator: Adam Maskal, Solmax

- **Innovative Geosynthetic Saves 100-Year-Old Panama Canal**
  - Tom Stephens, TenCate Geosynthetics Americas

- **Scour and Riverbank Protection in the United Kingdom**
  - Christopher Quirk, NAUE America Inc.

10:30–11:45 am  >  Room 8

**Reinforced Foundations 2**

- **A Case History of Geogrid versus Aggregate Piers for Settlement Mitigation**
  - Djan Chandra, Leighton and Associates Inc.

- **Geogrid-Stabilized Working Platform for Ringer Crane in Southern U.S.**
  - Lois Schwarz, Tensar International Corp.; Mark Wayne, Tensar International Corp.

1:30–2:45 pm  >  Room 6

**Barriers 3**
Moderator: Kent Von Maubeuge, NAUE GmbH & Co. KG

- **Druid Hill Reservoir—Lined Cofferdam**
  - William Shehane, Seaman Corp.; Scott Brinkerhoff, Hallaton Environmental Linings

- **The Capabilities and Limitations of Electrical Leak Location**
  - Abigail Gilson, TRI/Environmental Inc.

1:30–2:45 pm  >  Room 8

**Environmental**
Moderator: Adam Maskal, Solmax

- **Use of Geosynthetics in Remediation of Bauxite Residue Disposal Area**
  - Bill Smith, Tetra Tech Inc.; Ron Morosky, Alcoa Corp.; John Gardner, Smith Gardner Inc.

- **Salt Gradient Solar Pond Containment**
  - Liner Installation for Distilling Large Ponds of Brine Water to Fresh Potable Water
  - Pat Elliott, Raven Engineered Films

- **A Geosynthetics No-Soil Solution for Closure**
  - Robert Wallace, AECOM; Brenda Palermo, AECOM

1:30–2:45 pm  >  Room 10

**Innovative Backfill**
Moderator: Archie Fillshill, AeroAggregates LLC

- **Reconstruction of Failed Roadway Embankments Using Tire-Derived Aggregate Mechanically Stabilized Earth Walls—Ortega Ridge Road Case Study**
  - Christopher Sneddon, Santa Barbara County Public Works; Christian Doolittle, Santa Barbara County Public Works; Joaquin Wright, GHD Inc.; Christopher Trumbull, GHD Inc.

- **Rebuilding Mountains with Expanded Polystyrene**
  - Brendan Stepek, Schnabel Engineering LLC; Gary Brill, Schnabel Engineering LLC
Three Case Histories Illustrating How Geosynthetics Were Used Effectively for Soft Soil Stabilization Projects Near Pigeon Point, Delaware

Moderator: George Koerner, Geosynthetic Institute (GSI)

This presentation will illustrate three different case histories in which geosynthetics were used to stabilize very soft soils near the Delaware River. The sites are as follows:

1. A retaining wall supporting a municipal solid waste disposal facility on Cherry Island in Wilmington, Del., operating since 1985, started reaching its full operational capacity by the early 2000s, causing the Delaware Solid Waste Authority (DSWA) to consider solutions for extending the life of the landfill. Subsurface conditions at the site consisted of medium to dense residual sand, overlain by a 60-to-100-foot thick layer of weak and low-permeability alluvial deposits and dredge materials, with significantly low undrained shear strengths, in the order of 200 pounds per square foot (psf). A vertical expansion of the landfill would, therefore, lead to significant settlements and excess pore pressures. To deal with this challenge, the consulting engineers adopted a composite foundation scheme, consisting of prefabricated vertical drains (PVDs) and a mechanically stabilized earth (MSE) berm using high-strength geotextiles and geogrids. The construction sequence started with the installation of more than 81,000 PVDs, in the foundation area of the berm, measuring more than 6.8 million feet in total length. Two layers of a high-strength reinforcement geotextile with drainage sand were placed on top of the PVDs, providing quality backfill at the base of the berm as well as a drainage reservoir for the water produced during sub-soil consolidation. Additional reinforcement at the mid-height of the berm was guaranteed by two high-strength geotextile layers. Additionally, the berm construction included the use of polyester geogrid with embedment lengths ranging from 20 to 80 feet. The final inclination of the berm was 1H:3V (one horizontal, three vertical), significantly steeper compared to 8H:1V initial inclination estimated without the application of the above composite foundation solution.

2. Geotextile Reinforcement of Soft Landfill Process Sludge to Facilitate Final Closure: An Instrumented Case Study. High-water-content, fine-grained sludges have posed a formidable disposal challenge for engineers throughout history. Usually, the low shear strength combined with the magnitude of the proposed overburden loads requires the sludge to be stabilized before it is covered. Numerous ground-modification techniques are available to aid in this stabilization. However, this project utilizes a high-strength geotextile placed directly on the unstable sludge to stabilize in situ.

3. A 2,500-meter long dredge disposal area containment embankment averaging 4 meters in height was constructed at Wilmington, Del., along the Delaware River. The construction was accomplished using high-strength geotextiles as reinforcement over a foundation consisting of soft, weak silts and clays. PVDs were also used to speed consolidation of the first stage of the embankment to allow for the second stage of embankment construction 3 meters above sea level. The project was groundbreaking back in 1988 and was the keynote address for the Geosynthetic Institute first of 25 specialty conferences on geosynthetics in Philadelphia, Pa.
Special Sessions

TUESDAY, MARCH 10

9–10:15 am  Room 12

Growing the Geosynthetic Marketplace: GMA’s Mission
Moderator: Boyd J. Ramsey, Geosynthetic Materials Association (GMA)

Over the last 23 years, the Geosynthetic Materials Association (GMA) has been instrumental in helping to grow the geosynthetic industry in North America through education and advocacy. GMA has worked with government on the local, state and federal levels; engaged Congress and federal agencies; helped to create and review geosynthetic/construction specifications and documents; and conducted educational seminars. GMA has also engaged with other industry groups to represented the interests of geosynthetics.

GMA leaders will speak of key moments in the history of GMA and its impact on events, specifications, regulations and legislation. This session will include a summary of GMA’s accomplishments and with that, a demonstration of the value of GMA and the return that is being enjoyed by GMA’s supporters in particular and the overall industry in general.

GMA leaders will also make an in-depth presentation of the future plans of the association and its impact on the geosynthetic marketplace.

10:30–11:45 am  Room 12

Women in Geosynthetics Roundtable Discussion
Moderator: Jordan Wiechmann, Plastatech

Panel Members: Tonya Switalski, General Manager, Titan Environmental USA; Christine Thomas, Vice President of Administration, COMANCO; Andrea Sasu, Global Marketing Director, Solmax; and Fabiana Arriaga, Ph.D., P.E., Geosyntec Consultants

The Fabricated Geomembrane Institute at the University of Illinois has created a group titled “Women in Geosynthetics (WIG)” in order to promote the advancement of women in the geosynthetic industry through education, networking and mentoring opportunities.

Women in Geosynthetics’ roundtable discussion will include the following points of interest:
> maintaining a work/life balance
> maximizing the benefits of social media
> opportunities for women in the geosynthetics industry
> recruiting women into the geosynthetics industry
> professional and collegiate mentorship opportunities
> partnering women professionals with female graduate and undergraduate students

1:30–4:15 pm  Room 12

Vertical and Near-Vertical Geosynthetic-Reinforced MSE Structures—Case Studies on the Influence of Backfill on Alignment of Concrete and Wire Facings
Moderator: Robert Gladstone, Association for Mechanically Stabilized Earth (AMSE)

Achieving MSE wall facing alignment is a critical part of meeting specifications and satisfying customers. Facing alignment depends not only on contractor construction practices, but also on backfill properties, consistency of the supply and installation quality control. Whether the facing is precast or dry-cast concrete, gabions or other wire mesh configurations, results depend significantly on the properties of the backfill. Building tall and/or complex structures exacerbates this dependency.

The Association for Mechanically Stabilized Earth (AMSE) has brought together technical representatives whose presentations will highlight the critical role of backfill in achieving required alignment of geosynthetically reinforced MSE structures with various facings.

Part 1 1:30–2:45 pm Welded Wire- and Gabion-Faced MSE Structures
Part 2 3:00–4:15 pm Precast Concrete Panel-Faced MSE Structures

Gain access to more than 720 technical papers from Geosynthetic Conferences since 2008. Now available digitally with unlimited access and download/print capabilities.

Visit GeosyntheticsConference.com/proceedings-archive
Show Floor Map

Geosynthetics Learning Zone
Join us on the show floor to explore the basics of geosynthetics. Everyone is invited regardless of registration type. The Learning Zone is an area of the show floor with material samples and educational boards. It is also home to the Introduction Series.

HALL B
SHOW FLOOR HOURS
SUNDAY, MARCH 8
Welcome Reception
5–7 pm
MONDAY, MARCH 9
9 am–5 pm
TUESDAY, MARCH 10
9 am–5 pm

REGISTRATION HOURS
(Hall B Foyer)
Sunday, March 8 | 7 am–5 pm
Monday, March 9 | 7 am–5 pm
Tuesday, March 10 | 7 am–5 pm

Thank you Sponsors!
Company Index

The companies in bold are exhibitors with advertisements in this publication.

ACE Geosynthetics ......................... .821
Aero Aggregates of North America ....... .818
AGRU America Inc ......................... .713
American Excelsior Co ..................... .523
Armorform ........................................ .524
Association for Mechanically Stabilized Earth ............... .508
Atarfil S.L. ....................................... .718
Axter Coletanche Inc ....................... .806
Basic Concepts Inc ......................... .824
BOSTD America ................................ .625
Burke Industries ............................... .820
Chesapeake Containment Systems Inc ....... .600
City Sewing Machine LLC ................. .604
Civil + Structural Engineer Magazine ....... .522
Cooley/Engineered Membranes .......... .624
CTT GROUP ........................................ .724
DEMTECH Services Inc ..................... .705
The DrainGreat Company LLC ............. .804
e2 – E Squared ................................... .709
East Coast Erosion Blankets ............... .722
Enka® Solutions .................................. .622
Environmental Specialties
  International Inc. (ESI) ..................... .706
  EPI The Liner Company .................... .521
  Fabinno Co. Ltd. ............................... .619
  Fabricated Geomembrane Institute (FGI) ... .510
  Geo Products LLC .............................. .620
  GeoTree Solutions (GeoTree) ............... .802
  HUESKER Inc. ................................... .701
  Hydrogeophysics Inc ....................... .502
  Informed Infrastructure ..................... .825
  International Geosynthetics Society –
      North America ............................. .809
  Intertape Polymer Group ................. .601
  Jai Corp Ltd .................................... .811
  Leak Location Services Inc ............... .519
  Leister Technologies LLC .................. .507
  MEGAPLAST India ............................ .725
  Midwest Canvas Corp ...................... .618
  Munsch U.S.A. / Munsch Gmbh .......... .719
  MVS ACMEI Technologies Private Limited .... .506
  NCIF International Merchandising Co .... .514
  Nedia Enterprises Inc ...................... .800
  Owens Corning ............................... .611
  Plastatech Engineering Ltd ................ .621
  Polyweld USA Inc ............................ .606
  Presto Geosystems ......................... .525
  Propex GeoSolutions ....................... .503
  Raven Engineered Films ................... .603
  The Reinforced Earth Co ................. .808
  Re-Gen Enterprises ....................... .520
  Rocscience .................................... .813
  Seaman Corporation ....................... .607
  SKAPS Industries ......................... .819
  Solmax International Inc ................. .513
  Strata Systems Inc ......................... .720
  Synteen Technical Fabrics ............... .518
  TechFab India/MEGAPLAST India ........ .725
  Tenax Corporation ......................... .815
  TenCate Geosynthetics Americas ........ .707
  Tensar International Corporation ....... .700
  Textiles Coated Int’l ....................... .512
  Thrace Group ................................... .509
  Titan Environmental USA ................. .704
  TMP America Inc ............................. .803
  University of South Carolina ............ .807
  Watershed Geosynthetics LLC .......... .826
  Western Excelsior Corporation .......... .501
  Wind Defender LLC ....................... .602

Weld membranes ranging from 12-100 mils quickly, easily and safely with the powerful and versatile TWINNY T7 automatic welder.

www.leister.com

We know how.
The companies in bold are exhibitors with advertisements in this publication.

## APPLICATIONS

### Barriers
- AGRU America Inc........................................... 713
- Atarfil S.L............................................................. 718
- Axter Coletanche Inc........................................... 806
- Chesapeake Containment Systems Inc. ................. 600
- Cooley/Engineered Membranes............................... 624
- DEMTECH Services Inc........................................ 705
- e2 – E Squared....................................................... 709
- GeoTree Solutions (GeoTree).................................. 802
- HUESKER Inc......................................................... 701
- Hydrogeophysics Inc........................................... 502
- MEGAPLAST India.................................................. 725
- Midwest Canvas Corp........................................... 618
- Munsch U.S.A / Munsch Gmbh................................ 719
- NCIF International Merchandising Co. .................. 514
- Owens Corning....................................................... 611
- Raven Engineered Films ....................................... 603
- The Reinforced Earth Co. ...................................... 808
- Seaman Corporation.............................................. 607
- Thrace Group......................................................... 509
- TMP America Inc.................................................. 803

### Field & Laboratory Filtration
- NCIF International Merchandising Co. .................. 514
- Thrace Group......................................................... 509
- TMP America Inc.................................................. 803

### Foundations
- Atarfil S.L............................................................. 718
- Enka’ Solutions.................................................... 622
- Geo Products LLC............................................... 620
- HUESKER Inc......................................................... 701
- Hydrogeophysics Inc........................................... 502
- Midwest Canvas Corp........................................... 618
- Presto Geosystems............................................... 525
- Raven Engineered Films ....................................... 603
- Tensar International Corporation.......................... 700
- Thrace Group......................................................... 509
- TMP America Inc.................................................. 803

### Grouting
- Hydrogeophysics Inc........................................... 502
- Thrace Group......................................................... 509
- TMP America Inc.................................................. 803

### Landfills
- AGRU America Inc........................................... 713
- Armorform.......................................................... 524
- Atarfil S.L............................................................. 718
- Axter Coletanche Inc........................................... 806
- Chesapeake Containment Systems Inc. ................. 600
- DEMTECH Services Inc........................................ 705
- Enka’ Solutions.................................................... 622
- Environmental Specialties 
  - International Inc. (ESI)......................................... 706
- Fabinno Co. Ltd.................................................... 619
- Geo Products LLC............................................... 620
- HUESKER Inc......................................................... 701
- Hydrogeophysics Inc........................................... 502
- Intertape Polymer Group....................................... 601
- Leak Location Services Inc................................... 519
- MEGAPLAST India.................................................. 725
- Midwest Canvas Corp........................................... 618
- Munsch U.S.A / Munsch Gmbh................................ 719
- MVS ACMEI Technologies Private Limited...506
- Nedia Enterprises Inc.......................................... 800
- Owens Corning....................................................... 611
- Presto Geosystems............................................... 525
- Propex GeoSolutions............................................ 503

### Liners & Covers
- AGRU America Inc........................................... 713
- Armorform.......................................................... 524
- Atarfil S.L............................................................. 718
- Axter Coletanche Inc........................................... 806
- Burke Industries................................................... 820
- Chesapeake Containment Systems Inc. ................. 600
- Cooley/Engineered Membranes............................... 624
- DEMTECH Services Inc........................................ 705
- e2 – E Squared....................................................... 709
- Environmental Specialties 
  - International Inc. (ESI)......................................... 706
- Fabinno Co. Ltd.................................................... 619
- Geo Products LLC............................................... 620
- GeoTree Solutions (GeoTree)................................. 802
- Hydrogeophysics Inc........................................... 502
- Intertape Polymer Group....................................... 601
- Leak Location Services Inc................................... 519
- MEGAPLAST India.................................................. 725
- Midwest Canvas Corp........................................... 618
- Munsch U.S.A / Munsch Gmbh................................ 719
- MVS ACMEI Technologies Private Limited...506
- NCIF International Merchandising Co. .................. 514
- Nedia Enterprises Inc.......................................... 800
- Owens Corning....................................................... 611
- Presto Geosystems............................................... 525
- Western Excelsior Corporation............................. 501
- Wind Defender LLC.............................................. 602

### Micropiles
- TMP America Inc.................................................. 803
### Mining
- AGRU America Inc ..................................... 713
- Armorform .............................................. 524
- Atarfil S.L .................................................. 718
- Axter Coletanche Inc .................................. 806
- DEMTECH Services Inc ............................... 705
- e2 – E Squared ........................................... 709
- East Coast Erosion Blankets ......................... 722
- Enka Solutions .......................................... 622
- Environmental Specialties International Inc. (ESI) .................. 706
- Geo Products LLC ....................................... 620
- HUESKER Inc ............................................. 701
- Hydrogeophysics Inc .................................. 502
- Intertape Polymer Group ............................. 601
- Leak Location Services Inc ........................... 519
- MEGAPLAST India ....................................... 725
- Nedia Enterprises Inc ................................. 800
- Owens Corning .......................................... 611
- Presto Geosystems ..................................... 525
- Propex GeoSolutions .................................. 503
- Raven Engineered Films ............................. 603
- Seaman Corporation .................................... 607
- Solmax International Inc ............................... 513
- Strata Systems Inc ....................................... 720
- Synteen Technical Fabrics ............................ 518
- Tensar International Corporation ................... 700
- Thrace Group ............................................. 509
- TMP America Inc ....................................... 803
- Western Excelsior Corporation ....................... 501

### Pavements
- Atarfil S.L .................................................. 718
- e2 – E Squared ........................................... 709
- Enka Solutions .......................................... 622
- Geo Products LLC ....................................... 620
- HUESKER Inc ............................................. 701
- Intertape Polymer Group ............................. 601
- MVS ACMEI Technologies Private Limited .... 506
- Presto Geosystems ..................................... 525
- Raven Engineered Films ............................. 603
- SKAPS Industries ....................................... 819
- Synteen Technical Fabrics ............................ 518
- TenCate Geosynthetics Americas .................. 707
- Tensar International Corporation ................... 700
- TMP America Inc ....................................... 803
Pile Driving
TMP America Inc............................................803

Retaining Wall Systems
Axter Coletanche Inc......................................806
The DrainGreat Company LLC........................804
Enka’ Solutions.............................................622

Environmental Specialties
International Inc. (ESI)..................................706
Geo Products LLC..........................................620
HUESKER Inc................................................701
Hydrogeophysics Inc......................................502
Munsch U.S.A. / Munsch Gmbh.........................719
MVS ACMEI Technologies Private Limited.......506
Presto Geosystems.........................................525
The Reinforced Earth Co.................................808
Strata Systems Inc.........................................720
Synteen Technical Fabrics..............................518
TenCate Geosynthetics Americas...................707
Tensar International Corporation....................700
Thrace Group...............................................509
TMP America Inc...........................................803

Segmental Retaining Walls
Enka’ Solutions.............................................622
Geo Products LLC..........................................620
HUESKER Inc................................................701
Presto Geosystems.........................................525
The Reinforced Earth Co.................................808
Strata Systems Inc.........................................720
Synteen Technical Fabrics..............................518
TenCate Geosynthetics Americas...................707
Tensar International Corporation....................700
TMP America Inc...........................................803

Transportation
Axter Coletanche Inc......................................806
East Coast Erosion Blankets.........................722
Enka’ Solutions.............................................622
HUESKER Inc................................................701
MVS ACMEI Technologies Private Limited.......506
Propex GeoSolutions......................................503
Raven Engineered Films.................................603
The Reinforced Earth Co.................................808
Seaman Corporation.......................................607
Strata Systems Inc.........................................720
TenCate Geosynthetics Americas...................707
Tensar International Corporation....................700
Thrace Group...............................................509
TMP America Inc...........................................803

Flexible, high-strength, temperature-resistant grid for effective reinforcement of asphalt layers.

HUESKER’s family of HaTelit pavement reinforcement products offer an economical solution to today’s pavement maintenance and rehabilitation projects. By mitigating reflective cracking, HaTelit improves the life-cycle performance of your pavement, thus reducing maintenance intervals and saving you money on costly repetitive repairs.
Products Listings

The companies in bold are exhibitors with advertisements in this publication.

PRODUCTS

Bags/Coir Logs/Wattles
East Coast Erosion Blankets............................722
HUESKER Inc............................................. 701
NCIF International Merchandising Co. ...........514
Nedia Enterprises Inc.................................800
SKAPS Industries.........................................819
Thrace Group ............................................509

Blankets/Matting
Armorform.................................................524
East Coast Erosion Blankets............................722
Enka’ Solutions .........................................622
GeoTree Solutions (GeoTree) .......................802
Midwest Canvas Corp..................................618
NCIF International Merchandising Co. ..........514
Nedia Enterprises Inc..................................800
Propex GeoSolutions.................................503
Raven Engineered Films.............................603
SKAPS Industries......................................819
Thrace Group ......................................... 509
Western Excelsior Corporation......................501

Construction Materials
e2 – E Squared ...........................................709
Geo Products LLC.......................................620
Midwest Canvas Corp..................................618
NCIF International Merchandising Co. ..........514
Presto Geosystems.................................525
Raven Engineered Films.............................603
The Reinforced Earth Co. .........................808
Strata Systems Inc......................................720
Tensar International Corporation..................700
Thrace Group ......................................... 509

Drainage Materials
AGRU America Inc......................................713
The DrainGreat Company LLC.......................804
e2 – E Squared ...........................................709
Enka’ Solutions .........................................622
Geo Products LLC.......................................620
NCIF International Merchandising Co. ..........514
Presto Geosystems.................................525
Raven Engineered Films.............................603
SKAPS Industries......................................819
Thrace Group ......................................... 509
# Products Listings

The companies in **bold** are exhibitors with advertisements in this publication.

## Equipment
- City Sewing Machine LLC .......................... 604
- DEMTECH Services Inc. ............................ 705
- **Leisch Technologies LLC** ......................... 507
- Munsch U.S.A. / Munsch GmbH ..................... 719
- Polyweld USA Inc. .................................... 606

## Erosion & Sediment Control
- **AGRU America Inc.** ............................... 713
- Armorform ............................................. 524
- e2 – E Squared ........................................ 709
- East Coast Erosion Blankets ....................... 722
- Enka Soldations ....................................... 622
- Geo Products LLC .................................... 620
- Geotextiles
- **HUESKER Inc.** ...................................... 701
- Intertape Polymer Group .............................. 601
- Midwest Canvas Corp. ............................... 618
- NCIF International Merchandising Co. .......... 514
- Nedia Enterprises Inc. ............................... 800
- Presto Geosystems .................................. 525
- Propex GeoSolutions .................................. 503
- Raven Engineered Films ............................ 603
- Strata Systems Inc. .................................... 720
- Thrace Group .......................................... 509
- Western Excelsior Corporation .................... 501

## Gabions
- **Strata Systems Inc.** ................................ 720

## Geosynthetics Clay Liners
- **Agri America Inc.** .................................. 713
- Chesapeake Containment Systems Inc. ........ 600
- **E2 - E Squared** ..................................... 709
- Geosynthetics Clay Liners
- **HUESKER Inc.** ...................................... 701
- Propex GeoSolutions .................................. 503
- Raven Engineered Films ............................ 603
- Strata Systems Inc. .................................... 720
- Synteen Technical Fabrics ......................... 518
- TenCate Geosynthetics Americas .................. 707
- Tensar International Corporation ............... 700
- Thrace Group .......................................... 509
- TMP America Inc. ..................................... 803

## Geocomposites
- **AGRU America Inc.** ............................... 713
- Chesapeake Containment Systems Inc. ........ 600
- **E2 - E Squared** ..................................... 709
- Environmental Specialties
- **International Inc. (ESI)** ......................... 706
- Geocomposites
- **HUESKER Inc.** ...................................... 701
- Propex GeoSolutions .................................. 503
- Raven Engineered Films ............................ 603
- Strata Systems Inc. .................................... 720
- Synteen Technical Fabrics ......................... 518
- TenCate Geosynthetics Americas .................. 707
- Tensar International Corporation ............... 700
- Thrace Group .......................................... 509
- TMP America Inc. ..................................... 803

## Geofluids
- **E2 - E Squared** ..................................... 709

## Geofluids
- **E2 - E Squared** ..................................... 709

## Geomembranes
- **AGRU America Inc.** ............................... 713
- Atarfil S.L. ............................................ 718
- Axter Coletanche Inc. ............................... 806
- Burke Industries ....................................... 820
- Chesapeake Containment Systems Inc. .......... 600
- Cooley/Engineered Membranes .................. 624
- e2 – E Squared ......................................... 709
- Environmental Specialties
- **International Inc. (ESI)** ......................... 706
- Geomembranes
- **HUESKER Inc.** ...................................... 701
- Intertape Polymer Group .............................. 601
- NCIF International Merchandising Co. .......... 514
- Nedia Enterprises Inc. ............................... 800
- Propex GeoSolutions .................................. 503
- Raven Engineered Films ............................ 603
- Strata Systems Inc. .................................... 720
- Synteen Technical Fabrics ......................... 518
- TenCate Geosynthetics Americas .................. 707
- Tensar International Corporation ............... 700
- Thrace Group .......................................... 509
- TMP America Inc. ..................................... 803
- Wind Defender LLC .................................... 602

## Geotextiles
- **AGRU America Inc.** ............................... 713
- Armorform ............................................. 524
- Chesapeake Containment Systems Inc. ........ 600
- e2 – E Squared ......................................... 709
- Environmental Specialties
- **International Inc. (ESI)** ......................... 706
- Geotextiles
- **HUESKER Inc.** ...................................... 701
- Intertape Polymer Group .............................. 601
- NCIF International Merchandising Co. .......... 514
- Nedia Enterprises Inc. ............................... 800
- Propex GeoSolutions .................................. 503
- Raven Engineered Films ............................ 603
- Strata Systems Inc. .................................... 720
- Synteen Technical Fabrics ......................... 518
- TenCate Geosynthetics Americas .................. 707
- Tensar International Corporation ............... 700
- Thrace Group .......................................... 509
- TMP America Inc. ..................................... 803
- Wind Defender LLC .................................... 602
It’s clear.
Burke builds perfect potable water protection.

Chlorosulfonated Polyethylene Reservoir Liners & Covers

Polymer Products
AGRU America Inc.................................713
Cooley/Engineered Membranes................624
e2 – E Squared ........................................709
GeoTree Solutions (GeoTree) ..................802
MVS ACMEI Technologies
Private Limited.................................506
Raven Engineered Films.......................603
The Reinforced Earth Co.........................808
Thrace Group ........................................509

Sewing Equipment
City Sewing Machine LLC.........................604
DEMTECH Services Inc...........................705

Silt Fencing
NCIF International Merchandising Co.........514
Nedia Enterprises Inc.............................800
Thrace Group ........................................509

Thread and Bobbins
City Sewing Machine LLC.........................604
DEMTECH Services Inc...........................705
Wind Defender LLC................................602

Water Control
The DrainGreat Company LLC....................804
e2 – E Squared ........................................709
GeoTree Solutions (GeoTree) ..................802
HUESKER Inc.......................................701
Midwest Canvas Corp.............................618
NCIF International Merchandising Co.........514
Plastatech Engineering Ltd......................621
Raven Engineered Films.......................603
Tensar International Corporation............700
Engineering Services

Atarfil S.L. .................................................. 718
Axtex Coletanche Inc. ................................. 806
CTT GROUP .............................................. 714
GeoTree Solutions (GeoTree) .................... 802
HUESKER Inc. .......................................... 701
Hydrogeophysics Inc. ............................... 502
Presto Geosystems .................................. 525
Propex GeoSolutions ............................... 503
The Reinforced Earth Co. ......................... 808

Fabrication

Armoremor ................................................ 524
City Sewing Machine LLC ....................... 604
Environmental Specialties

International Inc. (ESI) .............................. 706
HUESKER Inc. .......................................... 701
Midwest Canvas Corp .............................. 618
Munsch U.S.A. / Munsch GmbH .............. 719
MVS ACMEI Technologies Private Limited 506
Polyweld USA Inc. ................................. 606
Raven Engineered Films ........................... 603

Geophysical Investigations

Hydrogeophysics Inc. ............................... 502

Installer/Distributor/Contractor

Armoremor .............................................. 524
Chesapeake Containment Systems Inc. ....... 600
City Sewing Machine LLC ....................... 604
Cooley/Engineered Membranes .................. 624
Environmental Specialties

International Inc. (ESI) .............................. 706
Propex GeoSolutions ............................... 503
Raven Engineered Films ........................... 603

Leak Detection/QA-QC

CTT GROUP .............................................. 724
Hydrogeophysics Inc. ............................... 502
Leak Location Services Inc. ..................... 519
Munsch U.S.A. / Munsch GmbH .............. 719

Manufacturing

AGRU America Inc. ................................ 713
Armoremor .............................................. 524
Atarfil S.L. .............................................. 718
Axtex Coletanche Inc. ............................... 806
Cooley/Engineered Membranes .................. 624

Organizations/Trade Publications/Websites

Association for Mechanically Stabilized Earth .................................. 508
CTT GROUP .............................................. 724
Fabricated Geomembrane Institute (FGI) ..... 510
Informal Infrastructure ............................. 825
International Geosynthetics Society - North America .................................. 809
Munsch U.S.A. / Munsch GmbH .............. 719

Testing

CTT GROUP .............................................. 724
Hydrogeophysics Inc. ............................... 502
Munsch U.S.A. / Munsch GmbH .............. 719
Polyweld USA Inc. ................................. 606
Propex GeoSolutions ............................... 503
ACE Geosynthetics ✧ GMA
BOOTH 821
Taichung, Taiwan
+88 62659926

ACE Geosynthetics is the leading manufacturer of geosynthetics in Asia providing integrated, geosynthetic-related products and solutions for worldwide engineering projects including MSE, environmental remediation, erosion control, shoreline protection and coastal structure construction.

Aero Aggregates
BOOTH 818
Eddystone, PA
United States
+1 610 447 8900
www.aeroaggregates.com

Ultra-Lightweight Foamed Glass Aggregates are produced from 100% post-consumer recycled glass. The aggregates have a highly frictional surface and combined with a low unit weight, inerterness, high permeability, and insulating properties, foamed glass aggregate is ideal as a lightweight backfill.

American Excelsior Co. ✧ GMA
BOOTH 523
Arlington, TX
United States
+1 817 385 3500
www.curlex.com

American Excelsior is a manufacturer of erosion and sediment control products with manufacturing locations and distribution partners all across the U.S., making products and personal assistance always close to you or your job site. Learn more about the Curlex brand by visiting www.curlex.com.

Armorform
BOOTH 524
Houston, TX
United States
+1 832 731 0754
www_armorform.com

Armorform is a highly engineered fabric-formed concrete erosion control and scour prevention system. Armorform utilizes double layer woven geotextiles engineered exclusively to serve as forms for casting concrete erosion control revetments and linings for use in all forms of civil construction.

Association for Mechanically Stabilized Earth
BOOTH 508
Reston, VA
United States
+1 571 392 5901
www.amsewalls.org

AMSE promotes the use of MSE retaining structures engineered and supplied through a single source of responsibility and constructed in accordance with specifications which ensure value, performance, reliability and long-term safety. AMSE members produce complete MSE wall systems that use steel and, in some situations, geosynthetic soil reinforcements.

Atarfil USA Inc. ✧
BOOTH 718
Suffolk, VA
+1 751 263 4057
www.atanfil.com

Atarfil specializes in High Performance geomembranes for safe containment solutions: waste (environmental protection, waste disposal and capping), water (storage, canals, floating covers, ornamental, evaporation, irrigation for agriculture, aquaculture), and mining (heap leach, tailing dams, closures).

Axter Coletanche Inc.
BOOTH 806
Saint-Laurent, QC
Canada
+1 514 903 1912
www.coletanche.com

Bituminous Geomembrane for waterproofing construction and civil engineering works. Coletanche offers its expertise and provides robust products especially designed for environmental, hydraulic, transport, containment and other construction applications.

Basic Concepts Inc.
BOOTH 824
Anderson, SC
United States
800 285 4203

BOSTD America ✧ GMA
BOOTH 625
Blackwell, OK
United States
+1 580 722 2100
www.bostd-america.com

We are an international manufacturer of earth stabilization and other geosynthetics. Our company’s E’GRID geogrids and E’DRAIN drainage products are recognized worldwide for their high quality and cost effectiveness. BOSTD is now seeking U.S. distribution partners for biaxial geogrid product lines.

Burke Industries ✧ GMA
BOOTH 820
San Jose, CA
United States
+1 408 297 3500
www.burkeind.com

Since 1969 Burke Industries has been a leading pioneer in producing CSPE-based geomembranes for use as lining and floating covers for potable water. Multi-ply constructions and custom colors available and all are NSF-61 and AS/NZ 4020. Knowledge and accountability are cornerstone to our reputation.

Chesapeake Containment Systems Inc.
BOOTH 600
Statesville, NC
United States
+1 704 208 3440
www.ccsliners.com

Chesapeake Containment Systems, Inc. (CCS) is a professional environmental construction firm dedicated to serving its customers since 2007. We provide services from geosynthetic installations, piping systems, repairs and inspections, floating covers and concrete protective liners.

City Sewing Machine LLC
BOOTH 604
Dallas, TX
United States
+1 972 243 3522
www.citysewingmachine.com

City Sewing Machine is one of the largest industrial sewing companies in North America. We are an authorized distributor of Union Special and Juki machines as well as Genuine (OEM) parts. We take pride in servicing our customer needs from sales of new machines, used machines as well as thread, needles and many other types of supplies.
Demtech leads the industry for quality and innovation, Demtech equipment is reliable, durable and fastest possible. Powered by ISO17025. State-of-the-art facility covers) —including potable (reservoir liners and floating preservation geomembranes (tunnels), and water protection/waterproofing (below-grade and oil), military inflatable boats, containment (fuel, chemical, and turf reinforcements mats. Manufacturer of erosion blankets and turf reinforcements mats. East Coast Erosion is a leading manufacturer of erosion blankets and turf reinforcements mats. With multiple facilities and international distribution we can quickly provide product. Our main values are quality products and excellent service.

Environmental Specialties International Inc. (ESI) BOOTH 706 Baton Rouge, LA United States +1 225 291 2700 www esi liners.com Having installed over 2.5 Billion square feet of geosynthetics involving more than 2,000 projects in 50 states, Environmental Specialties International (ESI) is the largest geosynthetic installation contractor in the United States. We have the competency and capability to complete your project as you’d expect.

EPI The Liner Company + GMA BOOTH 521 Traverse City, MI United States 800 455 6637 www.geomembrane.com For over 35 years EPI has focused on quality products, fair prices, and commitment to service. Originally created in 1980 to serve the oil industry in Michigan, EPI is a full service geosynthetic supplier having fabricated over 500 million square feet of flexible geomembrane liners.

Geo Products LLC BOOTH 620 Houston, TX United States +1 281 820 5493 www geoproducts org Geo Products manufactures the EnviroGrid cellular confinement system. Our EnviroGrid geocell is a lightweight, expandable confinement system an economical erosion barrier or structural foundation. The main applications are soil stabilization, slope and channel erosion control and retaining walls.

The Geosynthetic Materials Association (GMA) is the geosynthetics industry association representing manufacturers, distributors, and service providers. GMA provides member companies with engineering support, business development, education, and government relations.
Geosynthetics Magazine
GEOSYNTHETICS LEARNING ZONE
Roseville, MN | USA
www.geosyntheticsmagazine.com
Geosynthetics is a publication for civil engineers, contractors and government agencies in need of expert information on geosynthetic engineering solutions. Geosynthetics presents articles from field professionals for innovative, exemplary practice. Geosynthetics magazine is the industry news leader and is the official publication of GMA and IGS-NA.

hydroGEOPHYSICS Inc. ✪
BOOTH 502
Tucson, AZ
United States
+1 520 447 3315
www.hgileakdetection.com
HGI has extensive experience providing leak detection and leak location technology on buried tanks, ponds, dams, and geosynthetics for municipal, mining, industrial, and nuclear facilities. We work successfully on dry or solution filled structures and in resistive or highly conductive solutions.

Informed Infrastructure
BOOTH 825
West Allis, WI
United States
www.informedinfrastructure.com
Informed Infrastructure, the magazine for civil & structural engineers, provides news and information on the latest trends in projects, products, and technology via a magazine, eNewsletter, website, webcasts, and video.

International Geosynthetics Society – North America
BOOTH 809
Jupiter, FL
United States
+1 561 768 9487
IGS-NA (The North American Chapter of the International Geosynthetics Society) is an organization in which individual and student members comprise the learned society whose mission is to support the development of geosynthetic technologies through education, communication and networking.

Intertape Polymer Group ✪ GMA
BOOTH 601
Sarasota, FL
United States
800 565 2000
www.itape.com
From agricultural irrigation to industrial applications, AquaMaster Geomembranes are the proven choice for your site requirements. Intertape Polymer Group (IPG) provides sound solutions for water resource management and a wide range of civic and industrial applications.

Jai Corp Ltd.
BOOTH 811
Mumbai, India
+91 22 61155230
www.jaicorpindia.com
We are pleased to introduce Jai Corp Ltd. as one of the largest plastic processors in India. We started operations in 1987 with pp woven geotextile. Today Jai Corp Ltd. has one of the largest weaving capacities of about 70,000 metric tons annually.

Leak Location Services Inc. ✪ GMA
BOOTH 519
San Antonio, TX
United States
+1 210 408 1241
www.llsi.com
Leak Location Services Inc. (LLSI) specializes in electrical leak location surveys of geomembranes for a broad spectrum of applications to include frac ponds, landfills, surface impoundments, heap leach pads, and more for the waste management, energy, mining, oil and gas industries worldwide.

Leister Technologies LLC ✪ GMA
BOOTH 19
Itasca, IL
United States
+1 630 760 1000
www.leisterusa.com
Leister manufactures a full range of equipment suitable for geo installation, including a line of extrusion welders, wedge welders, hot air tools and test equipment that are well-suited to the demands of geosynthetic installation and plastic fabrication. Leister’s got it covered.

MegaPlast India
BOOTH 725
Mumbai, India
+91 22 2292 0005
www.megaplast.in
MegaPlast is a leading manufacturer of geomembranes. We are manufacturing geomembranes that are 8 meters wide, adhering to the highest quality standards. We have state-of-the-art testing facilities, which is GAI-LAP certified. We have our product certified for GM13 from TRIL. We manufacture black and other colors.

Midwest Canvas Corp. ✪
BOOTH 618
Chicago, IL
United States
+1 605 988 4941
www.midwestcanvas.com
We are a manufacturer of polyester string reinforced polyethylene films and extruded non-reinforced films up to 20 mils.

Munsch U.S.A./Munsch GmbH
BOOTH 719
Placerville, CA
United States
www.munschwelding.com
Plastic Welding and testing equipment for the geosynthetics industry.

MVS ACMEI Technologies Private Limited ✪ GMA
BOOTH 506
Hyderabad, India
+91 9393 922 442
www.mvsigroup.co.in
MVS ACMEI has proven its presence in the industry with its wide range of products and solutions. We are the first company to successfully market 12 feet wide geomembranes from 10 MIL to 45 MIL with UV Exposure warranty up to 20 years.

NCIF International Merchandising Co.
BOOTH 514
Qingdao, China
+86 532 856 5756
www.ncifgroup.com
NCIF started as a woven geotextile manufacturer in China in 2008 and has grown to be a trusted supplier of geosynthetic products, construction materials, and agricultural fabrics worldwide.
Nedia Enterprises Inc. ◆ GMA
BOOTH 800
Ashburn, VA
United States
+1 571 223 0200
www.nedia.com

Nedia Enterprises offers a complete line of erosion control, sediment control, and bioengineering products made primarily from natural fibers. We provide innovative quality products and excellent service to our customers in the erosion control and bioengineering industry.

Plastatech Engineering Ltd. ◆ GMA
BOOTH 621
Saginaw, MI
United States
800 892 9358
www.plastatech.com

Plastatech® produces calendered and extruded PVC films, weft-inserted textiles, reinforced and non-reinforced geomembranes, and laminated vinyl fabrics that are used for tension structures, commercial roofing, temporary shelters, agricultural storage, pond liners, and other applications.

Polyweld USA Inc. ◆ GMA
BOOTH 606
Houston, TX
United States
+1 281 821 4156
www.polyweldusa.com

Polyweld USA was founded in 1984 to address the various challenges encountered during liner installation by the teams working onsite at various project locations. Since then we have become a competitive leader in manufacturing welding equipment for a vast array of geomembranes and geosynthetics.

Presto Geosystems ◆ GMA
BOOTH 525
Appleton, WI
United States
+1 920 738 1342
www.prestogeo.com

Presto Geosystems partners with engineers to solve challenging soil stabilization problems with the world’s origina l, and most complete geocell system-GEOWEB®. The GEOWEB 3D system stabilizes unpaved roads, slopes, channels and creates vegetated MSE retaining walls. Free project evaluations.

Propex GeoSolutions ◆ GMA
BOOTH 503
Chattanooga, TN
United States
+1 423 553 2036
www.propxglobal.com

Propex Geosolutions is a global leader in geosynthetic and erosion control solutions for earth stabilization, offering a portfolio that helps build and rebuild key infrastructure across the globe.

Polyweld USA Inc. ◆ GMA
BOOTH 606
Houston, TX
United States
+1 281 821 4156
www.polyweldusa.com

Raven Engineered Films ◆ GMA
COVER 2
BOOTH 603
Sioux Falls, SD
United States
+1 605 335 0174
www.ravenefd.com

Raven Engineered Films is an innovative 60-year manufacturer of advanced geomembrane liners and covers. Producing reinforced, non-supported, textured, geo-composites, and EVOH barrier geomembranes in 20-80 mils. From GRI-GM geomembranes to NSF certifications, Raven provides leading-edge solutions.

Raven Engineered Films ◆ GMA
COVER 2
BOOTH 603
Sioux Falls, SD
United States
+1 605 335 0174
www.ravenefd.com

Re-Gen Enterprises
BOOTH 808
Reston, VA
United States
800 446 5700
www.reinforcedearth.com

Re-Gen Enterprises is the pioneer in liner removal solutions. Our aim is to save you time and resources in removing existing liner. We look forward to meeting you!

Rocscience
BOOTH 813
Toronto, ON
Canada
+1 416 698 8217
www.rocscience.com

Rocscience is a world leader in developing 2D and 3D software for civil, mining, and geotechnical engineers. For over 20 years, we’ve used leading-edge research to build geotechnical tools used by more than 7,000 engineers around the world for slope stability, excavation design, and geotechnical analysis.

Seaman Corporation ◆ GMA
BOOTH 607
Wooster, OH
United States
+1 330 262 1111
www.xrgeomembranes.com

XR Geomembrane products, manufactured by Seaman Corporation, have more than 40 years of proven performance. As the best coated fabric products in the world, XR Geomembranes are highly engineered for the very toughest of applications and used in a wide variety of industries.

SKAPS Industries ◆ GMA
BOOTH 819
Athens, GA
United States
+1 706 354 3700
www.skaps.com

SKAPS Industries is a high quality leading manufacturer and supplier of geosynthetics products. We hold a strong market presence in over 60 countries. Customer satisfaction is of utmost importance to us and we at SKAPS ensure it by providing excellent customer service. Visit our website at www.skaps.com.

Solmax International Inc. ◆ GMA
BOOTH 513
Varennes, QC
Canada
+1 450 929 2544
www.solmax.com

Solmax is positioned among the worldwide leaders in the manufacturing of geomembranes and offers both containment and fluid transportation solutions including HDPE pipes, valves, fittings and accessories. Our vision: Covering the world, protecting the earth.
Strata Systems Inc. + GMA
BOOTH 720
Glen Raven, NC
United States
800 680 7750
www.geogrid.com

Strata Systems is the manufacturer and worldwide distributor of advanced soil reinforcement products that deliver system solutions for MSE retaining walls, reinforced steep slopes, embankments over soft soils, and load support applications. Our technical resources ensure innovative geo-solutions.

Synteen Technical Fabrics + GMA
BOOTH 518
Lancaster, SC
United States
+1 719 243 7940
www.synteen.com

Synteen is a United States owned and operated manufacturer of geogrids and high strength geotextiles for soil reinforcement applications.

TechFab India + GMA
BOOTH 725
Mumbai, India
+91 22 2287 6224
www.techfabindia.com

Providing world class geosynthetic products and services to enable owners, consultants and contractors to design and implement reliable, economic and easy to construct solutions for a wide range of geotechnical, transportation, hydraulic and environmental related problems.

Tenax Corporation
BOOTH 815
Baltimore, MD
United States
+1 410 522 7000
www.tenaxus.com

Tenax Corporation is an international company established more than 65 years ago with manufacturing in the United States and Europe. Tenax manufactures and supplies Biaxial Geogrids, Geonets, and Geocomposites to the Industry. Tenax has the ability and expertise to help you design your projects.

TenCate Geosynthetics Americas + GMA
BOOTH 707
Pendergrass, GA
United States
+1 706 693 2226
www.tencategeo.us

TenCate Geosynthetics is the global leader in geosynthetics. Our geogrids and geotextiles are engineered with advanced application knowledge to meet project specifications for transportation construction, mechanically stabilized earth, erosion control, and water and waste management.

Tensar International Corporation + GMA
BOOTH 700
Alpharetta, GA
United States
+1 770 344 2090
www.tensarcorp.com

Tensar is a full-service provider of specialty products and engineering services, offering innovative and cost-effective alternatives to standard construction methods. Tensar solutions use advanced soil reinforcement technologies and incorporate engineered applications for infrastructure site development.

Textiles Coated Intl.
BOOTH 512
Manchester, NH
United States
+1 603 296 2221
www.textilescoated.com

TCI’s CrossFilm™ material is a major breakthrough for use as secondary containment liners, geomembrane liners, and spill containment materials for corrosive containment and high temperature applications.

Thrace Group + GMA
BOOTH 509
Athens, Greece
+30 210 987 5042
www.thracegroup.com

Offering a world of materials and solutions for 24 market segments, to over 1500 clients in a global network of more than 80 countries, Thrace Group operates in Europe, Asia, Australia and the Americas, employing 1600 specialized professionals and 28 cutting-edge production technologies.

Titan Environmental USA + GMA
BOOTH 704
Houston, TX
United States
866 327 1957
www.titanenvirousa.com

Titan Environmental USA is your one-stop-shop for prefabricated geomembranes. Catering to a variety of markets in the United States, we operate with the highest quality control and customer service standards in the industry to provide the best product for your application.

TMP America Inc.
BOOTH 803
Alpharetta, United States
+1 770 674 4509
www.tmgeosynthetics.com

Founded in 1998, TMP Geosynthetics has been specialized in the manufacturing and marketing of geogrid, geotextile, geocell and polypropylene concrete fiber ever since. Our high quality products are widely recognized and certified by standard institutions from Europe and the United States.

University of South Carolina—Dept of Civil and Environmental Engineering
BOOTH 807
Columbia, SC
United States
+1 803 777 7160
www.cec.sc.edu

The department of Civil and Environmental Engineering at UniSC is at the forefront of research and education on intelligent and sustainable infrastructure. Our cutting-edge research aims at discovering knowledge and providing practical solutions to societal challenges. Our educational programs aim at training the engineer of the future. This is an engineer capable of designing innovative solutions with far-reaching societal impact.

Watershed Geosynthetics LLC + GMA
BOOTH 826
Alpharetta, GA
United States
+1 770 777 0386
www.watershedgeo.com

Watershed Geo is an environmental solutions company offering unparalleled geosynthetic options for civil and environmental applications in erosion control, soil stabilization and waste containment. Through best-in-class materials and extreme engineering, our products deliver improved safety and reduced environmental impact while limiting the long-term costs associated with landfill management and hardened armor revetment.

Western Excelsior Corporation
BOOTH 501
Evansville, IN
United States
800 772 2040
www.westernexcelsior.com

Western Green is one of the largest erosion control manufacturers in the country and a leader in the industry, representing brands Western Excelsior and North American Green. In business since 1977, we specialize in manufacturing and distributing quality erosion and sediment control solutions.

Wind Defender LLC
BOOTH 602
Pottsville, PA
United States
+1 570 617 7479
www.wind-defender.com

Wind Defender LLC is a full-service geosynthetics distribution company and sole provider of the Wind Defender® ballast system for exposed membrane covers. Direct all inquiries to Elliot Pugh at 570-617-7479 or elliot@wind-defender.com.
Invest in Your Future

Influence and grow the geosynthetics market through membership in IFAI’s Geosynthetic Materials Association.

- Access the industry’s most comprehensive resources all year round.
- Advocate for your industry at the federal and state level.
- Read Geosynthetics magazine and stay informed.

Visit IFAI.com/Geosynthetics to learn more.
Geosynthetics Conference 2021 is coming to Kansas City, MO, Feb. 21–24, 2021. This event is hosted by the Geosynthetic Materials Association (GMA), a division of Industrial Fabrics Association International (IFAI) and will be co-locating with the International Erosion Control Association (IECA) Region One Annual Conference and Expo.

Through co-locating with IECA, join over 3,000 professionals in all facets of the geotechnical industry and erosion control industries to connect, network and discover new products and services on the combined show floor. Participants will experience short courses, plenary sessions, technical papers, roundtables and panel discussions sharing developments across the geotechnical, civil and geoengineering communities.

Save the date today!
GeosyntheticsConference.com
ADVANCED ENGINEERED CLOSURE SYSTEM

SUBTITLE D CLOSURE SYSTEM FOR IMPOUNDMENTS AND LANDFILLS

- Eliminates need for additional soil
  - Eliminates cover soil above the geosynthetics

- No slope stability concerns
  - Eliminates the risk of slope failure

- Provides clean runoff
  - Clean storm water runoff wherever product is installed

- Faster installation
  - Installs 50% faster than traditional closure

- No mowing/continual maintenance
  - Reduces annual maintenance costs by approximately 90%

35 acre landfill closure in Connecticut, topped with 5 acre solar array.

To learn more visit us at Booth #713

Als a Watershed Geo Patented Product
Over 2,000 acres of closure...