

Day One - Track Two

Wednesday, March 21st, 2018

9:30 a.m. – 10:00 a.m.

How Soil Bioengineering Technology Combines Ecological Principles and Engineering Practices

Presenters: Robbin Sotir, Robbin B. Sotir & Associates, Inc. and Anna Paris, Maccaferri Canada Ltd.

Biography



Robbin Sotir is President of Robbin B. Sotir & Associates, Inc., a soil bioengineering consultant firm in Marietta, Georgia, USA. Robbin is an accomplished practitioner in the field of soil bioengineering with 40 years of experience. She has authored over 160 publications worldwide and served as the Chairman of the ASTM subcommittee D18-25.10 "Soil Bioengineering" for 6 years. She assisted in the publication on Open Channels for the Ontario Ministry of Transportation. In Canada, she has working experience in B.C., Alberta, Manitoba, Ontario and Quebec. While her main experience is North American based, and has written standards for this technology, she has also worked extensively in Europe and Asia and has produced standards for Asia. She coauthored the book *Biotechnical and Soil Bioengineering Slope Stabilization*; which has been translated into both Japanese and Chinese. She has recently completed assisting Pablo A. Garcia with his new book *Processes of Erosion Control*.



Anna Paris is providing technical and marketing support at Maccaferri Canada Ltd. after being part of the technical department in Italy. Anna has been working on many projects concerning slope reinforcement, erosion control, drainage, flood control and river restoration. She got her MSc in Environmental and Land Engineering at the University of Trento (Italy) and had been a visiting scientist at CSU in Fort Collins (USA) working on sediment transport and river hydraulics projects.

Abstract

In response to increasing environmental concerns, stream and river bank protection efforts must address a wide range of problems in the watershed. In addressing these concerns, the role of vegetation in protecting river and stream banks from erosion has become widely recognized and practiced worldwide. Synergistically, combining highly developed engineering products such as geogrids and gabions with ecological elements such as woody vegetation in correct combinations, the mechanical and ecological strengths and benefits of each are dramatically improved. Prior to initiating the design of a soil bioengineering project, it is important then to determine the desired technical, ecological, aesthetic, economic and educational benefits. Typically, these are balanced against the capital and the long term maintenance costs. Case histories from Europe and different parts of the US including Washington, DC, Oregon and Kentucky will be presented with discussions on improved alternatives.

Learning Objectives

1. Provide insight into soil bioengineering techniques and solutions for stream and river bank erosion protection and the advantages of using engineering products combined with vegetation;
2. Understand the technical, ecological, aesthetic, economic and educational aspects to consider when designing a project; and
3. Understand criteria to consider when designing for short term and long term.