

## Educational Session on Living Retaining Walls and Slopes

### **Bio**

Mark Woolbright is an inventor and innovator of living walls with over 25 years in design, manufacture, marketing, and installation of plantable, living wall systems. Mark is currently Managing Member of Greenwall Ventures, LLC, and most recently, Division Manager of Filtrexx International's LivingWall Division, and graduated from Eastern Illinois University. Throughout his career, he has been awarded nine patents, with more applications pending. Mark has served on the Board of the St. Louis USGBC and is currently a member of the Green Wall Committee of GRHC which develops course curriculum for its Green Walls 101 course. He is passionate about educating the building community on the environmental benefits of Living Walls and best practices for their use.

### **Theory and Practice of Living Walls**

**Primary topic: Green Roofs/Living Walls**

**Secondary: Sustainable Design and Biophilia**

### **Marketing Statements:**

Why manage grade changes with impervious, heat-accumulating, non-sustainable methods when living walls offer the same functionality with environmental, economic, and aesthetic benefits? This session will teach how living retaining walls minimize storm-water runoff, cool the environment, and provide habitat for native creatures.

**OR**

Retaining walls are traditionally non-vegetated and composed of concrete blocks that only serve as a structural grade change. Trends in green building are driving the development and use of new systems – this session will teach how living walls can provide required structural reinforcement, aesthetic diversity, temperature moderation, green space, and habitat.

### **Learning objectives**

**Structure:** Learn how living walls provide the underlying structure needed to permanently stabilize extreme grade changes.

**Environmental Benefits:** Learn how living retaining walls minimize storm-water runoff, cool the environment, and provide habitat for native creatures.

**Design Flexibility:** Learn how plant based living systems have been shown to benefit buildings, owners, occupants, and the environment.

**Selecting Soil and Plants:** Understand the science behind specially blended growth media and how to properly select growth media and plants for living wall projects.

**Wall Maintenance:** Understand how the "Living" component of living walls is handled after the installation and strategies for successful applications long-term.

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### Course Outline

1. Brief History and Overview ( 10 min )
  - A. Ancient Walls and Why
  - B. Drivers of Living Walls in other countries
  - C. American market drivers for walls
  - D. Evolution of Product offering
  
- I. Structure and Design Flexibility ( 10 minutes)
  - A. Stabilizing grade changes
  - B. Design flexibility for buildings, owners, occupants, and environment
  - C. Designs and specifications
  - D. Structural Design and Availability
- II. Environmental Benefits (15 minutes)
  - A. Storm water management and filtration systems
  - B. Cool environment/reduce heat island effect
  - C. Provide habitat and Green-space
  - D. LEED Contribution
- III. Soil, Plants and Stewardship (15 minutes)
  - A. Science behind specially blended growth media
  - B. Selecting growth media
  - C. Selecting plants and micro-climate analysis
  - D. Maintenance need and intensity – how to deliver
- IV. Case Studies ( 15 minutes)
  - A. Urban Pedestrian/Bike Trail – Saint Louis, MO
  - B. Commercial/Roadway Retention and Storm water management – D.C.
  - C. LEED Middle School site Development – Madison, WI
  - D. Municipal Sports Complex – Fayetteville, AR
- V. Discussion/Q&A (25 minutes)