Green Living™ Technologies, LLC

Green Living™ Roofs
Green Living™ Walls

An Environmental Technologies Company

George Irwin, CEO / President
“The Green Wall Editor”

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www.agreenroof.com
Green Living™ Technologies, LLC

Green Roofs and Green Walls

is a privately owned company providing products and services that facilitate and simplify the integration of environmental technologies like Green Roofs and Green Walls into our dwellings and work spaces as we empower local businesses and communities with a model that practices environmental, social and economic responsibility.
Floral & Fauna

Clean Air
Reduced CO₂

Urban Heat Island Effect

Storm Water Runoff

Environmental Green Roof Benefits
Storm Water Runoff
The Use of Lightweight Green Roofs as a Storm Water Mitigation Tool on Historic Buildings with Limited Roof Load Capacity
Case Study

Location: 215 East 8th Avenue, Homestead Pennsylvania (Pittsburgh)

Funding: 3 Rivers Wet Weather Association

Project Owner: David Lewis / Daniel Steinetz

System Manufacturer: Green Living™ Technologies

Installer: G_Space (Philadelphia / Green Living™ Technologies)
Project Specifications:

Installation Date: May 2007

20 lbs. per square foot roof load

2000 square feet Pre-Grown Extensive Green Living™ Roof Panels

Weight: < 15 lbs. per square foot saturated

Water Retention: Up to 8 gallons per 10.72 square feet (1 meter squared)

Plants:
Sedum Acre
Sedum Sexangular
Sedum Album
Dragons Blood

Storm Findings:

• April 20, 2008 - 0.57 inches of rainfall

• A two hour delay in comparison to the time that the control roof began discharging.

• The three peak discharge rates in the control roof runoff coincide with the three peak discharge rates in rainfall intensity. However, the green roof runoff rate was flat during the first peak in rainfall intensity.

• The peaks in the runoff rate from the green roof are consistently lower than the control roof peaks.

• The first peak in the rainfall intensity, the runoff rate from the green roof was less than 8% of the rate of runoff from the control roof.

• The total runoff from the control roof (Figure 2) was very close to the total rainfall volume. However, the total volume of runoff from the green roof was about 35% of the runoff volume from the control roof. Resulting in a rate of 65% storm retention by the green roof.
QUANTITY & QUALITY

Control Roof Runoff

Green Living Roof Panels
DATA COLLECTION
The Pre-Grown Process
The Pre – Grown Installation Process (Homestead)
The Green Living Roof Panels delayed runoff by almost 2 hours and retained 65% of the storm event.

The Green Living Roof Panels can retain up to 8 gallons of water in a 10.5 square foot section.
Not all Green Roofs are Equal

[Diagram showing layers of a green roof assembly: Plant Material, Growing Media, Filter Fabric, Drainage Element, Moisture Retention, Root Barrier, Protection Fabric, Membrane, Waterproofing.]

Typical Built Up Green Roof Assembly
Green Living™ Technologies
Green Living™ Roof Systems
Conventional Built Up Green Roof Systems

- Expensive
- Difficult, time consuming to install
- Long establishment time and greater maintenance
- Not very “green” components
- Heavy – may require structural changes
- Up to 8 layers of material
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Green Roof Systems

Pre-Vegetated Green Living™ Roof Panel shown in Fall of 2007
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3 Green Roof Options

• **Green Living™ Roof Panels**
  • Available pre-vegetated or as a planted in place Extensive system
  • Always the base for Intensive or Hybrid systems
  • Create shapes and odd angles and account for undulations

• **Green Living™ Roof Trays**
  • Easy do it yourself green roof, no special skills or tools
  • Can adjust the water retention capabilities with the GLT water retention
  • Available pre-vegetated or planted in place
  • Save over 75% in installation labor compared to others

• **Green Living™ Walls for Slopes >20 degrees**
  • Green depths from 3” to 6” on slopes greater then 20 degrees
Unique Features: Green Living™ Roof Panels

- Water retention and conservation
- Water wicking properties
- Modularity and mat properties all in one
- Ability to adjust weight, depth, and plant selections
- Erosion control properties due to the water retention mat and root stabilizer
- Pre-grown and non-pre-grown options
- Sloped and flat roof applications
The Green Living™ Roof panels can retain up to 8 gallons of storm water in the 10.72 square foot panel (1 m²).
Ability to Wick Water

The GLT system allows for an even saturation preventing pooling or puddles or sitting water
The Pre-Grown Advantage

• Economical
• Quick, Clean and Simple Installation
• Instant Impact
• Greatly Reduced Maintenance
• Plant Health Guaranteed
• Simple, yet customizable design opportunities
• Immediate Benefits

This picture taken the day of installation.
The Pre-Grown Process:
Seamless Appearance
The Green Living™ Roof Panels in combination with deeper growing media to create pockets of deeper rooted grasses and perennials defined as a “Hybrid” or intensive and extensive roofs combined.
Green Living™ Roof Tray
THE ONLY TRAY SYSTEM IN THE WORLD THAT CAN BE ADJUSTED TO RETAIN A SPECIFIC AMOUNT OF STORM WATER

- Standard 24” x 20” x 4” depth (available in 6” & 8”)
- Easily maneuvered by 1 person
- Lightweight (less than 15 lbs. f2 saturated)
- Pre – Grown & Planted in place options
- Custom control the amount of storm water retention
- Retain up to 4.35 gallons of storm water
- Simple DIY Green Roof
INTENSIVE ROOF TOP GARDENS

Backbay Tower, Portland Maine
Aerial View of Planting Areas
The Green Living™ Roof Systems provide simplicity, function and labor saving opportunities!

We have a green root for you!

Do it your self trays

Sloped Applications

Hybrid

Extensive

Intensive

Pre-Vegetated

Planted in Place

Green Living™ Walls for slopes >20 degrees

Green Living™ Root Trays

Green Living™ Root Panels
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