

Austin Energy Green Building

Green Roofs Update

Kurt Stogdill

Green Building and Sustainability Manager



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AEGB Green Roofs Update

Recent Efforts to Advance Green Roofs in Austin



Education

AEGB has hosted 3 recent tours of Commercial Buildings with Green Roofs and a Professional Development Seminar to Educate Design Professionals



Innovation

The AEGB Commercial Team contributed calculators and wrote a Pilot Point for the Innovation Guide to prepare feedback for the Functional Green Team



Standardization

The AEGB Team will assist in the roll out of Functional Green to Integrate Nature into the City

Green Building Education

Education is one of AEGB's core functions. We provide free professional development seminars and tours instructed by industry experts that qualify for valuable continuing education hours. This ensures Austin's design community is both prepared and inspired.



“Education in the foundation upon which we build our future.”

-- Christine Gregoire (Former Governor Washington State)



AEGB Tours of Green Roofs



The Dell Medical Center

The green roof design was performed by the Ladybird Johnson Wildflower Center and features increased soil depth and a hearty wildflower blend for Austin's harsh weather conditions



Texas Mutual Insurance

A great demonstration of Biophilic Design Principles that support human health and wellbeing through connection to nature



COA Central Library

The accessible green roof at the library features a thriving oak tree and solar panel shading, highlighting Austinite's love for our natural environment and passion for its preservation



AEGB 2/12/19 Professional Development Seminar

A Holistic Deep Dive into Designing to Optimize **Urban Landscape Ecology**



Danielle Pieranunzi

GBCI SITES Initiative

A Rating System for designing, developing and maintaining sustainable landscapes



Katie Coyne

Asukura Robinson

A Landscape Ecologist with a focus on resilient urban site designs



Amy Belaire

The Nature Conservancy

Program Development for Urban Nature Conservation and Functional Green Contributor

Green Building Innovation

“Integrating Nature into the City”

Creative design of vegetated areas into new construction or redevelopment on dense urban sites



AEGB is working with [Development Services](#) and the [Office of Sustainability](#) to pilot initiatives prior to wider implementation through code

Three AEGB Pilot Points for Urban Habitat Restoration



Assess

Perform the Site

Evaluate all of the features on site designated for restoring Austin's urban nature habitats



Excel

Exceed the Established Threshold

Exceed the benchmark for urban ecological restoration and regeneration



Share

Share Information about Cost

This data will help inform the policies impact of the City's Affordability Goals



Pilot Project: 70 Rainey

Four-Star AEGB Rated: “A Park in the Sky”

- The Tenth and Eleventh floors feature gardenlike and immersive ecological architecture
- A verdant living wall wraps the open air parking garage that houses abundant EV charging, including DC Fast
- Green Choice Participant for 100% of the electricity



Suspended Pavement Systems

Emerging Technology

- Structural support for infrastructure enables trees to establish healthy root systems
- Strong enough to support pavement with foot and car traffic
- Will enable trees to grow to their full ecological and economic potential
- Will help shade sidewalks for pedestrians and curtail urban heat island effects



Blue Roofs (aka Water Roofs) Emerging Technology

Designed for temporary storage and gradual release of water, they are less expensive than green roofs and provide the same storm water benefits



Codification: Functional Green

Planned for release in the updated **Environmental Criteria Manual**

AEGB has contributed development tools including Calculators for HVAC Condensate and Rainwater Collection and Landscape Irrigation Requirements



Functional Green is focused on dense urban sites and is one of the several Innovative Performance points being piloted by Austin Energy Green Building

Functional Green Goals



1. Integrate Nature

Into Parcels where building cover and impervious surfaces might otherwise prevent it



2. Provide Flexibility

Multiple approaches can be taken to accomplish the ecological benefits of a standard landscape code



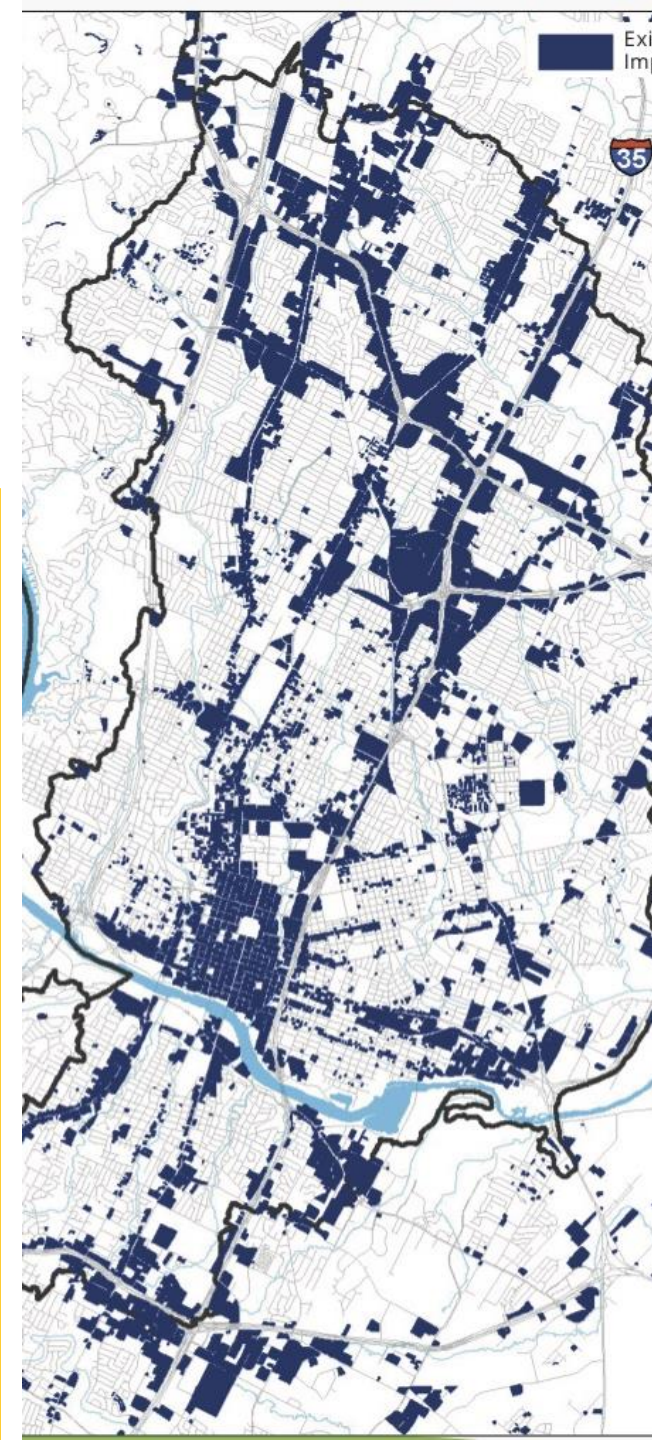
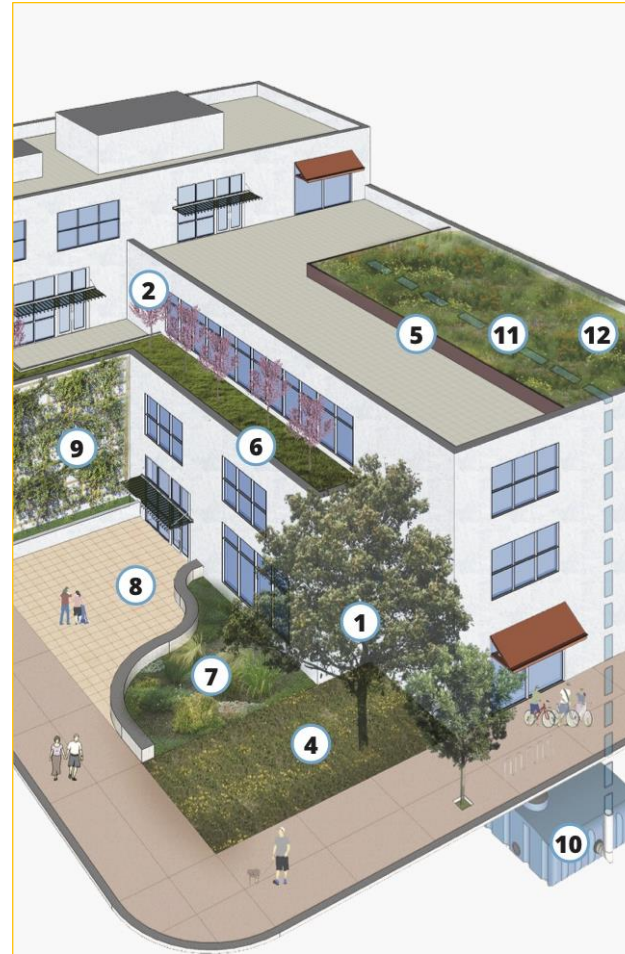
3. Straightforward

Clear Implementation and Review based on a scoring system that represents the ecological function of a site relative to the total site area.



Functional Green Applications

- Applies to sites with:
 - Proposed Impervious cover limit greater than threshold, generally within the urban watersheds
 - Sites outside the urban watershed that already have an impervious cover that exceed the threshold
- Weighs the Ecological and Economical Benefits of Landscape Elements



Ecological and Economic Benefits of Landscape Elements


Over 120 published studies were reviewed to identify the benefits that could be expected from each Landscape Element in Austin. Attributes:

 Microclimate Regulation


 Carbon Storage and Sequestration


 Air Pollutant Removal

 Stormwater Retention

 Water Filtration

 Biodiversity Benefits

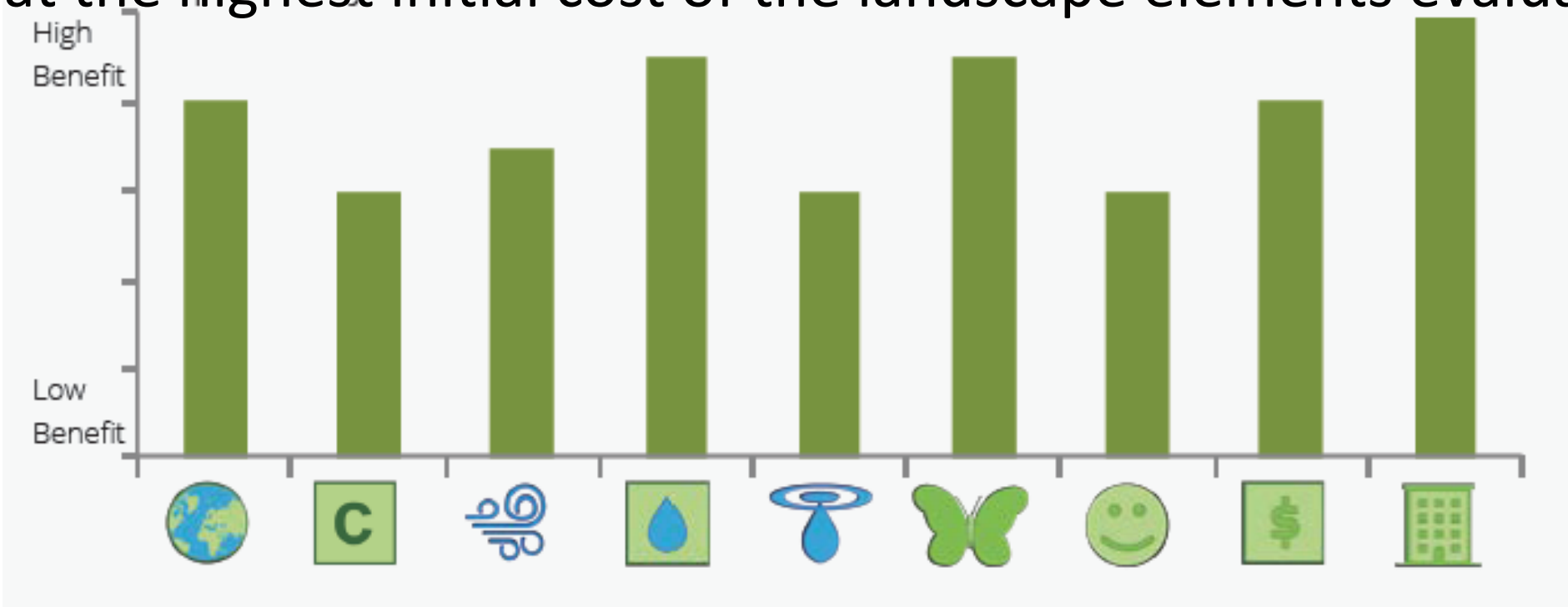
 Human Well-Being

 Effects on Property Value

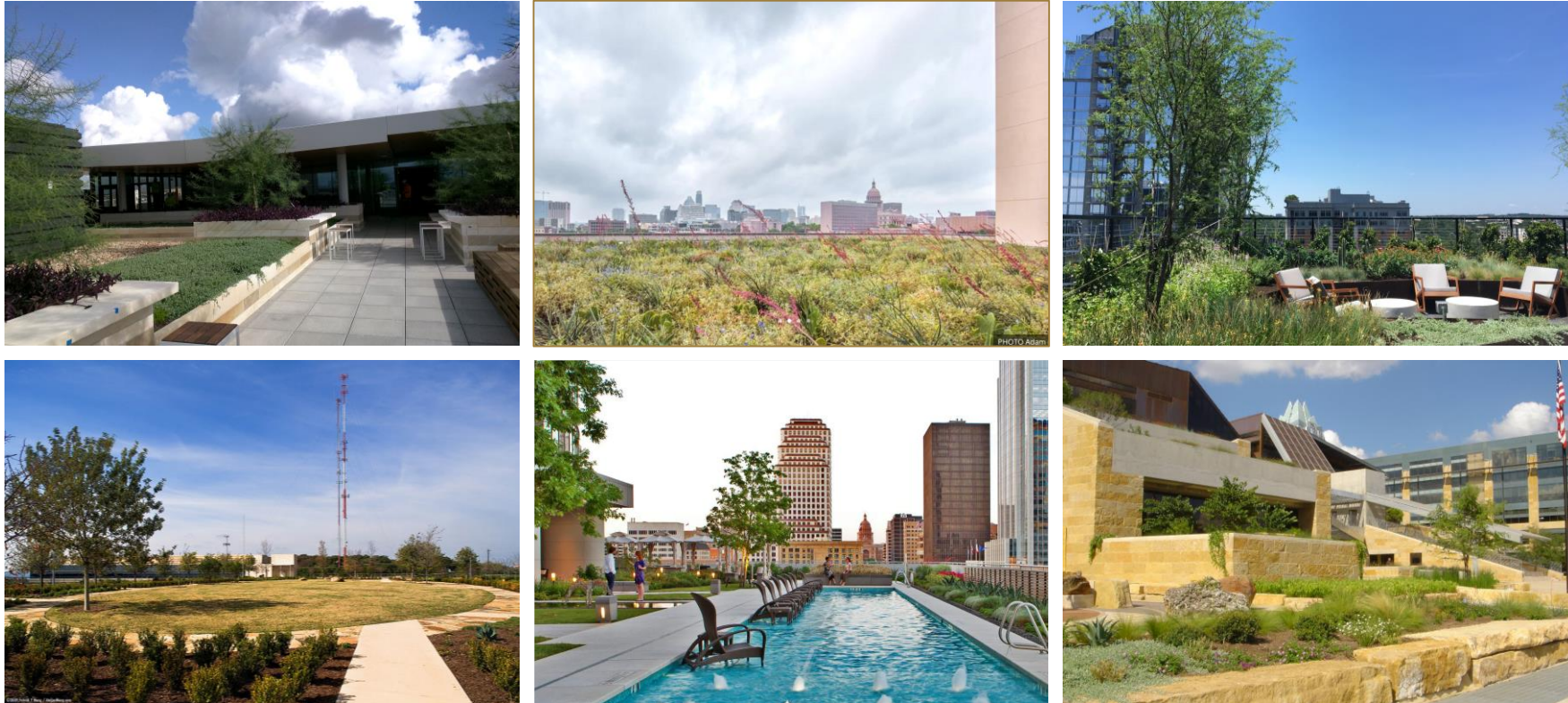
 Effects on Developable Area

Ecological and Economic Benefits of Green Roofs

Besides preserving existing trees, intensive (followed by extensive) green roofs provide the greatest level of cumulative benefits, they also come at the highest initial cost of the landscape elements evaluated.



Green Roofs in Austin are becoming more Numerous



The Ronald McDonald House, The Texas Mutual Insurance Headquarters Building, the Dell Children's Medical Center of Central Texas, Escarpment Village, the Austonian, Palisades West, the Dell Teaching Hospital, 70 Rainey Street, 5th + Colorado, the COA New Central Library, Austin City Hall, etc...





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