

WATERLOO GREENWAY SUSTAINABILITY GOALS, COMMITMENTS, AND ACCOMPLISHMENTS

**Waller Creek LGC Meeting
December 8, 2021**

John Rigdon, Waterloo Greenway Conservancy
Lisa Storer, Parks and Recreation Department

Top Climate Change Threats to Austin

- Drought & Extreme Heat
- Flooding
- Wildfires

Waterloo Greenway

- Creates a robust green space & increases carbon sequestration
- Protects from flooding & creates resilient riparian buffer for stormwater
- Provides new downtown mobility to decrease dependence on cars
- Provides a cool microclimate & cleaner ambient air
- Provides programming on local environment & health



Waterloo Greenway Environmental Goals:

- Build an ecologically robust and resilient urban creek, riparian corridor, and park system
- Steward the ecological system built along lower Waller Creek long term
- Connect all people to nature
- Cultivate the next generation of environmental stewards
- Become a national leader in the fields of environmental stewardship and urban greenway projects



Waterloo Greenway



Moody Amphitheater at Waterloo Park

*Achieved
AEGB 4 Stars!*

WATERLOO PARK – INTEGRATED TEAM

- Waterloo Greenway Conservancy
- City of Austin
- Thomas Phifer and Partners [TPP]
- Michael Van Valkenburgh Associates, Inc [MVVA]
- Altieri
- Altura Solutions
- Architectural Engineers Collaborative
- ARUP
- Austin Architectural Graphics
- Austin Permit Service, Inc.
- Bruce Mau Design
- dwg.
- EEA Consulting Engineers
- Environmental Design Inc.
- ETM Associates
- Guy Nordenson & Associates
- James Pole Irrigation Consultants
- Lady Bird Johnson Wildflower Center
- LimnoTech
- McGray & McGray Land Surveyors, Inc.
- Michael Hsu Office of Architecture
- Olsson Associates
- Reg Hough Associates
- RWDI
- Studio 8
- Shah Smith & Associates
- Simpson Gumpertz & Heger
- Theatre Consultants Collaborative
- Terracon Consultants, Inc.
- Tillett Lighting Design Associates
- Treage LLC
- Vermeulens Cost Consultants
- WGI
- DPR Construction
- CleanScapes



In 1991, AEGB developed the first rating system in the U.S. for evaluating the sustainability of buildings, inspiring many to follow (including LEED). AEGB provides design tools and evaluates the sustainability of new and remodeled buildings for single family, multifamily, and commercial projects.



2016 Commercial Rating

59 Points Approved = Four Stars!

Rating Key

★	Required
★★	35 - 44 Points
★★★	45 - 54 Points
★★★★	55 - 74 Points
★★★★★	75 or more Points

REQUIRED MEASURES [Prerequisites]

1. Plans & Specifications
2. Current Codes & Regulations
3. Building Systems Commissioning
4. Building Energy Performance
5. Outdoor Water Use Reduction
6. Indoor Water Use Reduction
7. Low-Emitting Materials – Interior Paints & Coatings
8. Storage & Collection of Recyclables
9. Construction Waste Management
10. Tenant Requirements

2019



2020



2021





SITE MEASURES

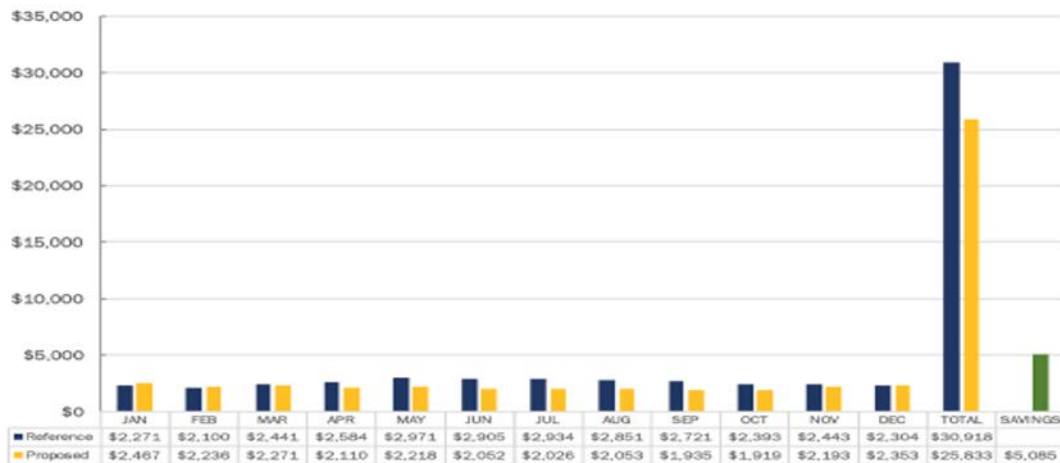


1. Environmental Sensitivity [2 points]
2. Desired Development [2 points]
3. Density [2 points]
4. Diverse & Walkable Communities [1 point]
5. Brownfield Redevelopment [1 point]
6. Site Specific Design [1 point]
7. Public Transportation [3 points]
8. Bicycle Use [1 point]
9. Parking Capacity [1 point]
10. Electric Vehicle Charging Stations [1 point]
11. Protect & Restore Habitat [1 point]
12. Beneficial Open Space [1 point]
13. Access to Local & Regional Produce [1 point]
14. Heat Island Reduction [1 point]
15. Light Pollution Reduction [1 point]
16. Integrated Pest Management [1 point]



ENERGY MEASURES

1. Whole Building Energy Analysis [16 points]
2. Renewables [4 points]
3. Additional Commissioning [3 points]
4. Advanced Energy Metering [1 point]
5. Demand Response [2 points]
6. Green Energy [2 points]
7. District Cooling [1 point]



Whole Building Energy Analysis



Lessons Learned:

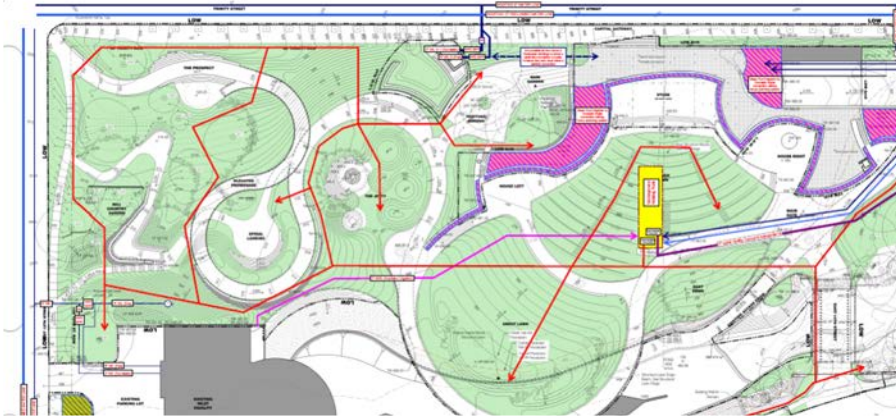
Because the Building Energy Performance is a required measure, it is evaluated during design (and continually confirmed in Construction).

**36.9% Energy Savings
Overall = 11 points**



WATER MEASURES

1. Outdoor Water Use Reduction [3 points]
2. Building Water Use Reduction [6 points]
3. Process Water Use Reduction [2 points]
4. Stormwater Management [2 points]



Water Measures



Lessons Learned:

Because of the general approach to water in our project, we earned all the points in this section. The Stormwater Management and Outdoor Water Use Reduction measures were designed into the park early on.

A change order during construction shifting all the flush fixtures within the building to reclaimed water made a big difference in the Indoor Water Use Reduction measure.



INDOOR ENVIRONMENTAL QUALITY (IEQ) MEASURES



1. Indoor Chemical & Pollutant Source Control [1 point]
2. Green Housekeeping [1 point]
3. Daylighting – Design [1 point]
4. Daylighting – Controls [1 point]
5. Views to the Outside [1 point]
6. Individual Controllability [1 point]
7. Low-Emitting Materials [5 points]
8. Moisture Protection [1 point]
9. Acoustic Quality [1 point]
10. Outdoor Pollutant Control – Commercial [1 point]
11. Construction Indoor Air Quality [1 point]



MATERIALS & RESOURCES MEASURES

1. Additional Construction Waste Management [1 point]
2. Building Materials Use Reduction [3 points]
3. Sustainably Sourced Materials [6 points]
4. Certified Wood [1 point]
5. PVC & Phthalate Free Material [1 point]

[illegible]



EDUCATION & EQUITY

1. Educational Outreach [2 points]
2. Construction Worker Equity [1 point]

INNOVATIONS [5 points max]

1. CWM – Certified Waste Hauler EP [1 point]
2. Drinking Water Access IP [1 point]
3. AEGB Brand Awareness IP [1 point]
4. Stormwater Quantity EP [1 point]
5. Stormwater Quality EP [1 point]
6. Accessible Green Roof [1 point]
7. Electrify Loading Docks/ Idling Reduction IP [1 point]



Accessible Green Roof Innovation

Lesson Learned:

Green roofs do not count for this innovation UNLESS they are accessible [ours are not].

BUT – it helped our overall building envelope / energy performance AND heat island reduction (and arguably, stormwater management)



Electrifying Loading Docks / Idling Reduction Innovation

Lesson Learned:
AEGB staff suggested this Innovation Point because of the electric food truck hookups provided in the park.



Things that Didn't Count for AEGB

Lessons Learned:

There are items that didn't earn our project credit, but which we think are valuable, including:

- Traditional and Nature Play elements
- Constructed Wetland
- Restored section of Waller Creek
- Transplanted Heritage Trees





Texas Capitol

Frank C. Bricker Jr.
Tower of the University of Texas

SAN JACINTO BLVD

5TH ST

TRINITY ST

NECHES ST

RED RIVER ST

SAGINAW ST

IH-35

15TH ST

Moody Amphitheater

Waterloo Park

Central Health Breckenridge
Redevelopment Site

Frank C. Bricker Jr.
Special Events Center

Dell Seton
Medical Center

Dell Medical School
at the University of Texas

Symphony Square

The Refuge

Palm Park

Palm School

Austin Convention Center

RAINEY ST

DANFORTH ST

DRAGG ST

CSAKCHINZAR ST

2ND ST

3RD ST

4TH ST

5TH ST

6TH ST

7TH ST

8TH ST

9TH ST

10TH ST

11TH ST

12TH ST

Emma S. Barrientos
Mexican American
Cultural Center

Creek Delta

Pontoon Bridge

Lady Bird Lake

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Waterloo Greenway

Phase 1 Phase 2 Phase 3



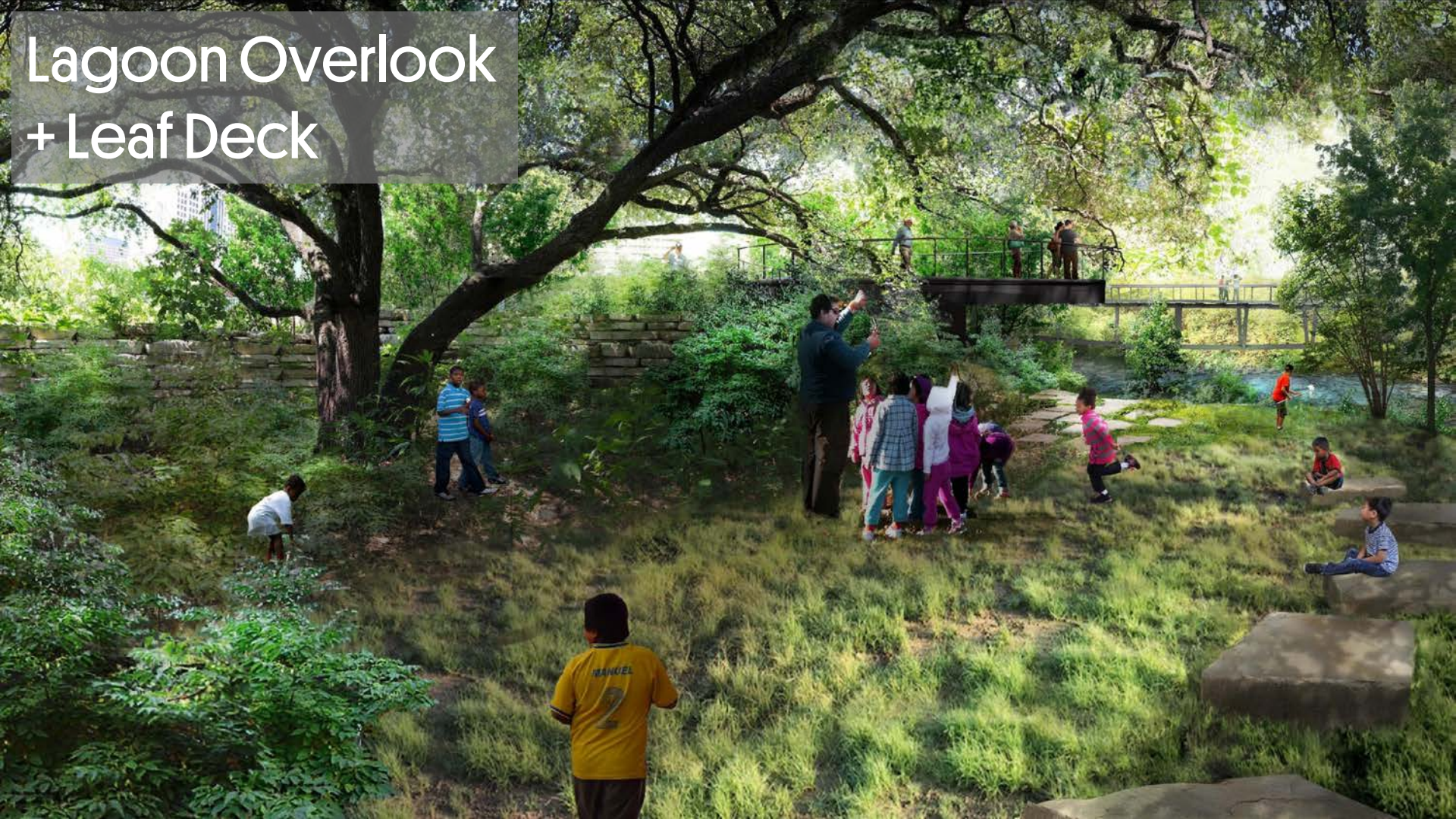
The Confluence [Creek Delta]

*Solidly projecting
SITES Silver, stretching
for Gold!*

THE Sustainable SITES Initiative®

SITES is the most comprehensive rating system used to certify design and construction projects focused on sustainable landscapes that want to measure performance and elevate their value. It was developed here in Central Texas, and is now administered Internationally by Green Business Certification Inc. (GBCI) - just like LEED.

Lagoon Overlook + Leaf Deck



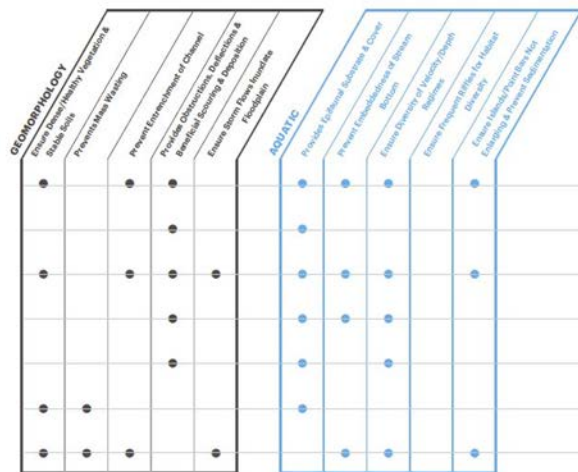
Design submission and
review complete!

GOAL = GOLD

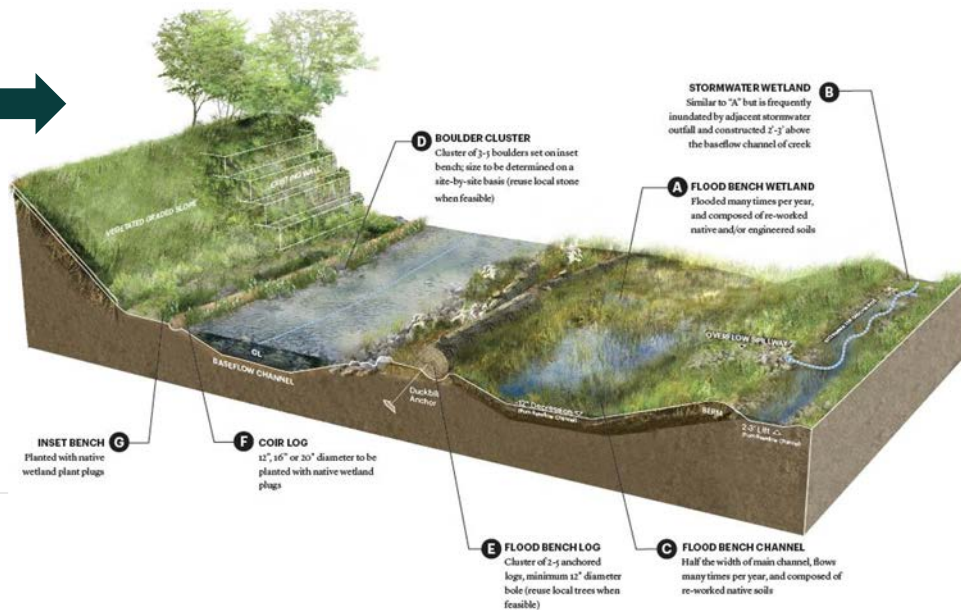
CERTIFIED SITES V2 CERTIFICATION LEVELS	200 POINTS TOTAL
Certified	70 points
Silver	85 points
Gold	100 points
Platinum	135 points



Functional Assessment of Ecosystems



CROSS SECTION: RIPARIAN AREA, FLOOD BENCHES & AQUATIC HABITAT



PREREQUISITES / CREDITS ALREADY EARNED



- P1.1 Limit development on farmland
- P1.2 Protect floodplain functions
- P1.3 Conserve aquatic ecosystems
- P1.4 Conserve habitats for threatened and endangered species
- C1.5 Redevelop degraded sites [3 points]
- C1.6 Locate projects within existing developed areas [4 points]
- C1.7 Connect to multi-modal transit networks [3 points]
- P2.1 Use an integrative design process
- C2.4 Engage users and stakeholders [3 points]
- P4.3 Control and manage invasive plants
- P4.3 Use appropriate plants
- C4.5 Conserve special status vegetation [4 points]
- C4.7 Conserve and restore native plant communities [6 points]
- C4.8 Optimize biomass [1 point]
- C6.8 Reduce light pollution [4 points]
- C8.6 Use renewable resources for landscape electricity needs [4 points]

Elevated Walkway



Lakeview Terrace + Explorer's Garden





Texas Capitol

Mark C. Barker Jr.
Tower of the Four Seasons

SAN JACINTO BLVD

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TRINITY ST

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Phase 1 Phase 2 Phase 3

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THANK YOU!

Questions?