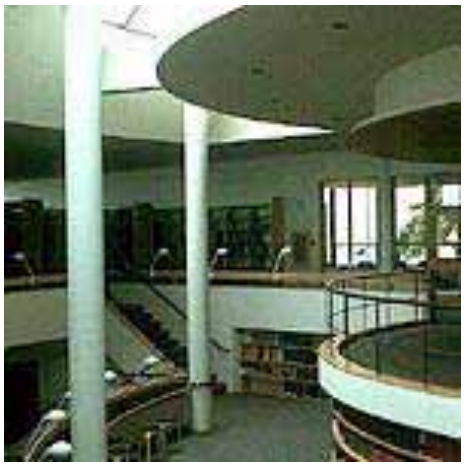
Burton Barr Central Library - Phoenix, AZ
280,000 sq ft

- *bruderDWLarchitects; Ove Arup engineers*
- *Opened May 1995*
- *Rises to five levels*
- *$28 million; $95 per square foot*



Mount Angel Abbey Library – Mount Angel, OR
2,300 sq ft

- *Alvar Aalto*
- *Opened 1970*
- *Known for effective daylighting*
- *Curving atrium and fan-shaped plan*

Biblioteca Jaume Fuster – Barcelona, Spain
60,665 sq ft

- *Architect: Jesop Llinas and Joan Vera Garcia*
- *Opened November, 2005*
- *Budget: 8.5 million euros (US$12.6 million)*
- *140 euros (US$208)/sq ft*

Minneapolis Central Library – Minneapolis, MN
353,000 sq ft

- *Architect: Cesar Pelli*
- *Opened May 2006*
- *Budget: approx. $88.2 million*
- *$250/sq ft*

Salt Lake City Main Library – Salt Lake City, UT
225,000 sq ft

- *Architect: Moshe Safdie and Associates*
- *Opened: February 2003*
- *Budget $78 million*
- *$346.67/sq ft*

Austin Standards and the Local Green Context

Austin benefits from an urban development ethic and civic character sensitive to climate and natural resources. CMPBS provided a summary presentation outlining green initiatives in Austin as well as nationally and internationally with which the project may choose to align and establish as publicly accessible, visible examples of these efforts:

Austin Climate Protection Plan, established February, 2007

- Goal: Make Austin the leading city in the nation in the fight against climate change
- Power all City of Austin facilities with renewable energy by 2012
- All City of Austin facilities, vehicles, and operations carbon-neutral by 2020

- "Go Neutral" Plan to provide tools and resources for citizens, businesses, and organizations to measure and reduce their carbon footprint

Urban Heat Island Mitigation Project, established May, 2001

- Goal: Reduce the urban heat island effect, in which air temperatures in developed areas are 2 to 9 degrees warmer than nearby undeveloped areas
- Encourage tree planting and reflective roofs through educational resources and rebates

Community Wildlife Habitat Project, established March, 2007

- Wildlife Austin! Program part of Climate Protection Plan
- Rewards the creation of spaces for flora and fauna to thrive
- Provide the four basic elements that all wildlife need: food, water, cover and places to raise young
- Benefit the entire community of plants, wildlife, and people through the creation of sustainable landscapes that require little or no pesticides, fertilizers, or excess watering
- *UPDATE: Alice Nance with the City of Austin has provided information to the team re: Best of Texas Habitat certification, which jointly certifies sites with both NWF and Texas Parks and Wildlife at a higher level*

Austin Water Conservation Task Force, established May, 2007

- Goal: Reduce peak day water usage by 1% per year for 10 years, delaying need for additional water plant treatment capacity
- During peak summer water usage, approximately 50% of water use is for irrigation; irrigation accounts for 35% of annual Austin water use
- Consider rainwater and A/C condensate for irrigation to offset reliance on potable water
- Decreasing indoor water usage can also have a significant impact

LED City, adopted January, 2008

- Seeks to increase the visibility of LED lighting while gathering performance and maintenance data

Austin Zero Waste Plan, established April, 2008

- Reduce solid waste per capita by 20% by 2012
- Reach zero waste by 2040.
- Expand and improve local and regional recycling + composting
- New rules and incentives to reduce waste disposal on the horizon

Austin Green Roof Advisory Group, established August, 2009

- Develop financial incentives, including offering technical assistance and design parameters for green roofs and other green infrastructure and low impact development interventions

Architecture 2030 Challenge, adopted by City of Austin February, 2007

- All new buildings to use 50% of the average energy for that building type
- Renovate annually to meet an energy consumption performance standard of 50% of the average for that building type
- The fossil fuel reduction standard for all new buildings and major renovations increases by 10% every 5 years until 2030, when carbon-neutrality is reached.

Libraries in the U.S. (Average)

Energy Use Intensity (EUI): **104 kbtu/sq.ft/yr**	
Electricity (59% of total EUI): **61.36 kbtu/sq.ft/yr (17.89 kwh/sf/yr)**	
Reduction Targets	EUI (kbtu/sq.ft./yr)
50%	**52 (8.9 kwh/sq.ft./yr)**
60%	41.6
70%	31.2
80%	20.8
90%	10.4

Figure 7: Current average energy use and specific energy use reduction targets for U.S. libraries according to the Architecture 2030 Challenge

APPENDIX C: PRELIMINARY LEED CHECKLIST

The final preliminary checklist was prepared by Michele Van Hyfte based on team input.

LEED 2009 for New Construction and Major Renovation
Project Checklist

Austin Central Library
3-Nov-09

Y	N	?			
22	0	4	**Sustainable Sites**	**Possible Points:**	**26**
Y			Prereq 1	Construction Activity Pollution Prevention	
1			Credit 1	Site Selection	1
5			Credit 2	Development Density and Community Connectivity	5
1			Credit 3	Brownfield Redevelopment	1
6			Credit 4.1	Alternative Transportation—Public Transportation Access	6
1			Credit 4.2	Alternative Transportation—Bicycle Storage and Changing Rooms	1
3			Credit 4.3	Alternative Transportation—Low-Emitting and Fuel-Efficient Vehicles	3
		2	Credit 4.4	Alternative Transportation—Parking Capacity	2
		1	Credit 5.1	Site Development—Protect or Restore Habitat	1
		1	Credit 5.2	Site Development—Maximize Open Space	1
1			Credit 6.1	Stormwater Design—Quantity Control	1
1			Credit 6.2	Stormwater Design—Quality Control	1
1			Credit 7.1	Heat Island Effect—Non-roof	1
1			Credit 7.2	Heat Island Effect—Roof	1
1			Credit 8	Light Pollution Reduction	1
8	0	2	**Water Efficiency**	**Possible Points:**	**10**
Y			Prereq 1	Water Use Reduction—20% Reduction	
2		2	Credit 1	Water Efficient Landscaping	2 to 4
				[x] Reduce by 50%	2
				[ ] No Potable Water Use or Irrigation	4
2			Credit 2	Innovative Wastewater Technologies	2
4			Credit 3	Water Use Reduction	2 to 4
				[ ] Reduce by 30%	2
				[ ] Reduce by 35%	3
				[x] Reduce by 40%	4
26	0	9	**Energy and Atmosphere**	**Possible Points:**	**35**
Y			Prereq 1	Fundamental Commissioning of Building Energy Systems	
Y			Prereq 2	Minimum Energy Performance	
Y			Prereq 3	Fundamental Refrigerant Management	
10		9	Credit 1	Optimize Energy Performance	1 to 19
				[ ] Improve by 12% for New Buildings or 8% for Existing Building Renovations	1
				[ ] Improve by 14% for New Buildings or 10% for Existing Building Renovations	2
				[ ] Improve by 16% for New Buildings or 12% for Existing Building Renovations	3
				[ ] Improve by 18% for New Buildings or 14% for Existing Building Renovations	4
				[ ] Improve by 20% for New Buildings or 16% for Existing Building Renovations	5
				[ ] Improve by 22% for New Buildings or 18% for Existing Building Renovations	6
				[ ] Improve by 24% for New Buildings or 20% for Existing Building Renovations	7
				[ ] Improve by 26% for New Buildings or 22% for Existing Building Renovations	8
				[ ] Improve by 28% for New Buildings or 24% for Existing Building Renovations	9
				[x] Improve by 30% for New Buildings or 26% for Existing Building Renovations	10
				[ ] Improve by 32% for New Buildings or 28% for Existing Building Renovations	11
				[ ] Improve by 34% for New Buildings or 30% for Existing Building Renovations	12
				[ ] Improve by 36% for New Buildings or 32% for Existing Building Renovations	13
				[ ] Improve by 38% for New Buildings or 34% for Existing Building Renovations	14
				[ ] Improve by 40% for New Buildings or 36% for Existing Building Renovations	15
				[ ] Improve by 42% for New Buildings or 38% for Existing Building Renovations	16
				[ ] Improve by 44% for New Buildings or 40% for Existing Building Renovations	17
				[ ] Improve by 46% for New Buildings or 42% for Existing Building Renovations	18
				[ ] Improve by 48%+ for New Buildings or 44%+ for Existing Building Renovations	19
7			Credit 2	On-Site Renewable Energy	1 to 7
				[ ] 1% Renewable Energy	1
				[ ] 3% Renewable Energy	2
				[ ] 5% Renewable Energy	3
				[ ] 7% Renewable Energy	4
				[ ] 9% Renewable Energy	5
				[ ] 11% Renewable Energy	6
				[x] 13% Renewable Energy	7
2			Credit 3	Enhanced Commissioning	2
2			Credit 4	Enhanced Refrigerant Management	2
3			Credit 5	Measurement and Verification	3
2			Credit 6	Green Power	2

6	4	4	**Materials and Resources**	Possible Points:	**14**
Y			Prereq 1	Storage and Collection of Recyclables	
	3		Credit 1.1	Building Reuse—Maintain Existing Walls, Floors, and Roof	1 to 3
				Reuse 55%	1
				Reuse 75%	2
				Reuse 95%	3
	1		Credit 1.2	Building Reuse—Maintain 50% of Interior Non-Structural Elements	1
2			Credit 2	Construction Waste Management	1 to 2
				50% Recycled or Salvaged	1
				x 75% Recycled or Salvaged	2
		2	Credit 3	Materials Reuse	1 to 2
				Reuse 5%	1
				Reuse 10%	2
2			Credit 4	Recycled Content	1 to 2
				10% of Content	1
				x 20% of Content	2
2			Credit 5	Regional Materials	1 to 2
				10% of Materials	1
				x 20% of Materials	2
		1	Credit 6	Rapidly Renewable Materials	1
		1	Credit 7	Certified Wood	1
10	0	5	**Indoor Environmental Quality**	Possible Points:	**15**
Y			Prereq 1	Minimum Indoor Air Quality Performance	
Y			Prereq 2	Environmental Tobacco Smoke (ETS) Control	
1			Credit 1	Outdoor Air Delivery Monitoring	1
1			Credit 2	Increased Ventilation	1
1			Credit 3.1	Construction IAQ Management Plan—During Construction	1
		1	Credit 3.2	Construction IAQ Management Plan—Before Occupancy	1
1			Credit 4.1	Low-Emitting Materials—Adhesives and Sealants	1
1			Credit 4.2	Low-Emitting Materials—Paints and Coatings	1
1			Credit 4.3	Low-Emitting Materials—Flooring Systems	1
1			Credit 4.4	Low-Emitting Materials—Composite Wood and Agrifiber Products	1
		1	Credit 5	Indoor Chemical and Pollutant Source Control	1
		1	Credit 6.1	Controllability of Systems—Lighting	1
		1	Credit 6.2	Controllability of Systems—Thermal Comfort	1
1			Credit 7.1	Thermal Comfort—Design	1
		1	Credit 7.2	Thermal Comfort—Verification	1
1			Credit 8.1	Daylight and Views—Daylight	1
1			Credit 8.2	Daylight and Views—Views	1
6	0	0	**Innovation and Design Process**	Possible Points:	**6**
1			Credit 1.1	Innovation in Design: SS 4 - Comp Transportation Management Plan	1
1			Credit 1.2	Innovation in Design: SS 6 - Comprehensive Capture and Treat System	1
1			Credit 1.3	Innovation in Design: SS 7 - 100% of Parking Underground	1
1			Credit 1.4	Innovation in Design: EA 6 - 100% Electricity from renewable sources	1
1			Credit 1.5	Innovation in Design: MR 4 or 5 - 30% of materials comply	1
1			Credit 2	LEED Accredited Professional	1
4	0	0	**Regional Priority Credits**	Possible Points:	**4**
1			Credit 1.1	Regional Priority: SS 6.1	1
1			Credit 1.2	Regional Priority: SS 6.2	1
1			Credit 1.3	Regional Priority: MR 2 (75%)	1
1			Credit 1.4	Regional Priority: SS 5.1 or WE 2 or EA	1
82	4	24	**Total**	Possible Points:	**110**

Certified 40 to 49 points Silver 50 to 59 points Gold 60 to 79 points Platinum 80 to 110

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