

Burns & McDonnell WHQ

In Pursuit of LEED for Existing Buildings

*Teamed for
Success*

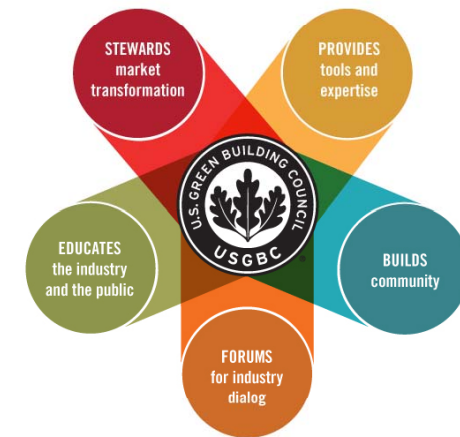
Owner
+
Property
Manager
+
Burns &
McDonnell



LEED Rating System

LEED = Framework for meeting sustainability goals and assessing building performance

- 3rd party green building certification
- Tool for measurable impact on performance
- Promotes whole-building approach



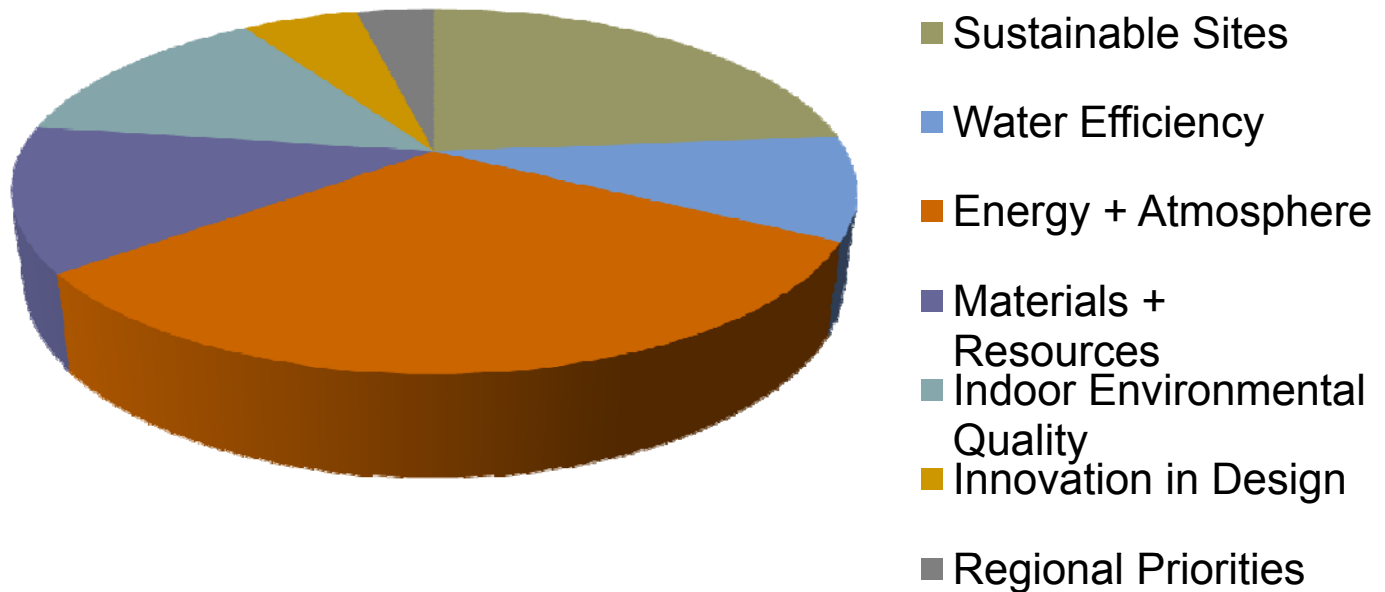
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LEED Building Life Cycle



LEED Categories



LEED Rating Systems



40-49

Certified

50-59

Silver

60-79

Gold

80-110*

Platinum

MPRs: **required** for certification

+ Prerequisites: **required** elements for certification

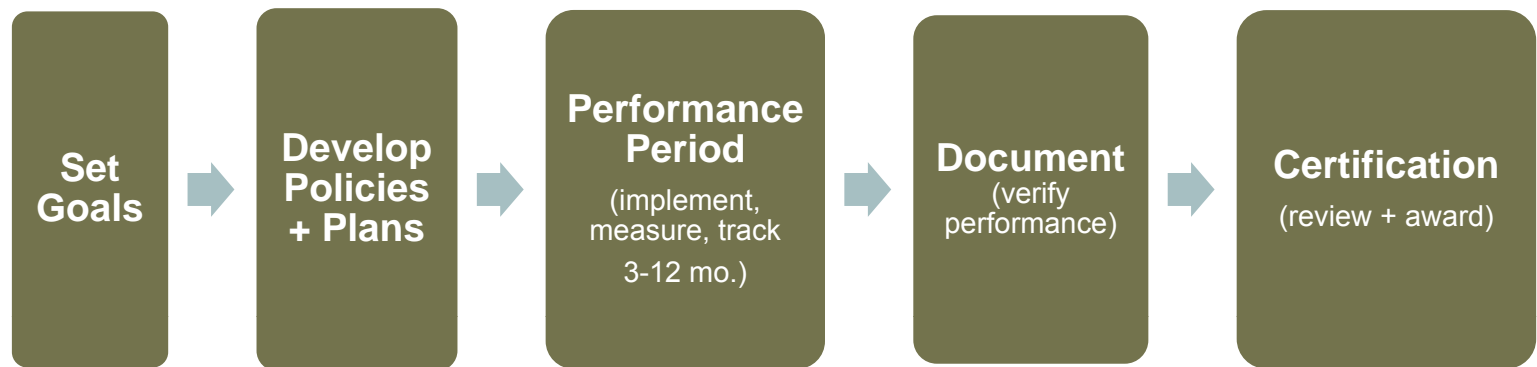
+ Credits: **optional**--gain points toward certification

= Common foundation for performance

= Flexible set of tools and strategies for projects

LEED-EB O+M Process

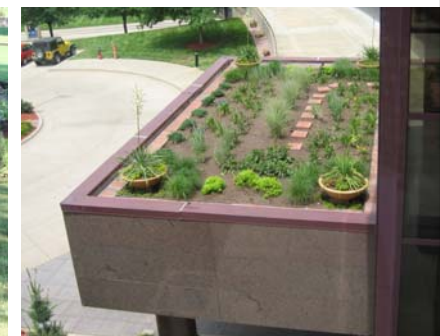
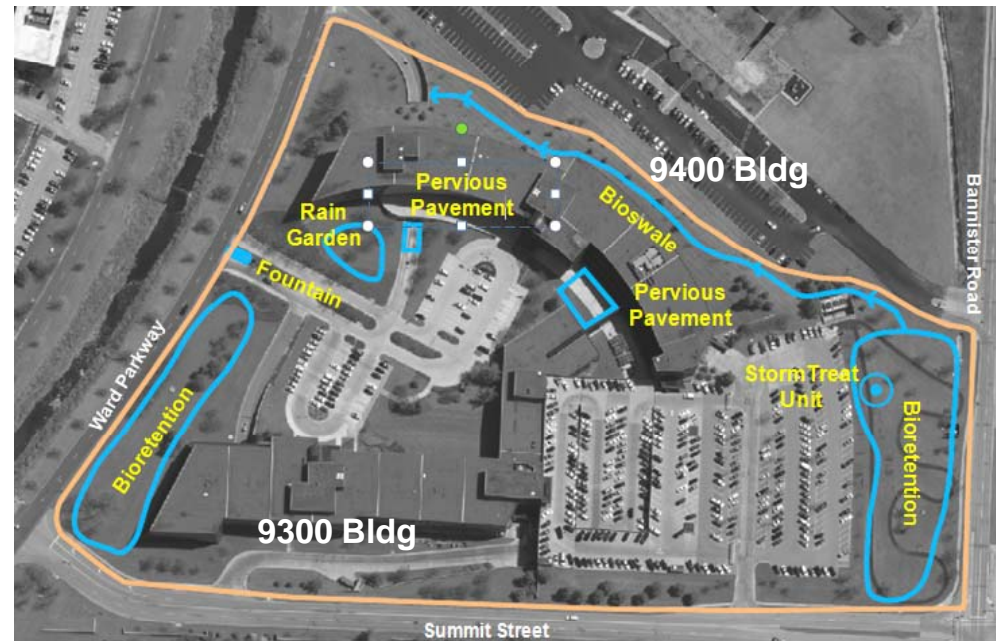
- LEED-Operations + Maintenance process \neq LEED-New Construction/Major Renovation



Sustainable Site Operations

■ Sustainable site development:

- Erosion Control
- Integrated Pest Management
- Sustainable Landscape Management
- Stormwater Control
- Habitat



Transportation

- Commuter incentives
 - Carpools
 - FEV vehicle incentives
 - Added Bus stop
- Fleet gas mileage
 - Add hybrids
 - Gas cap test
 - Tire pressure



Water Efficiency

- Restroom Retrofits
 - 0.5 gallon urinals
 - 1.28 low-flow toilets
 - Low flow aerators



55% Building Water Use Reduction

Energy Efficiency

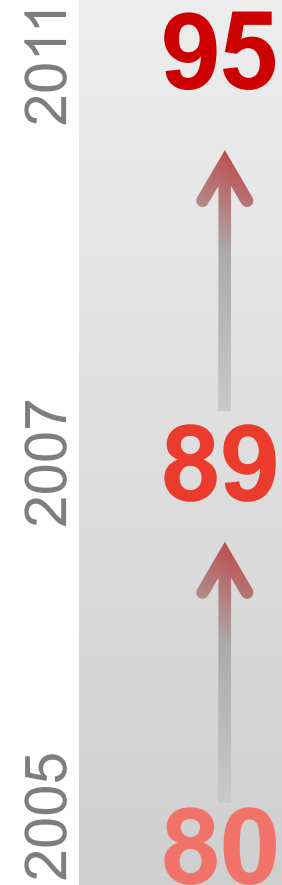
- Lighting Retrofits
- Variable volume pumps
- High-efficiency pump motors
- Replace CRTs with LCDs
- Remove inlet vanes from AHUs
- Condensing boiler replacement
- High efficiency transformer
- Demand-control ventilation
- Occupancy sensors
- Building temperatures



Energy Performance

■ Performance Measurement

- Water Metering + Sub-metering
- Energy Star Portfolio Tracking
- System-Level Metering
- Emissions Reduction Reporting



Material Purchasing

■ Sustainable Purchasing Policies

- Consumables
- Durable Goods
- Reduced Mercury Lighting
- Construction Materials



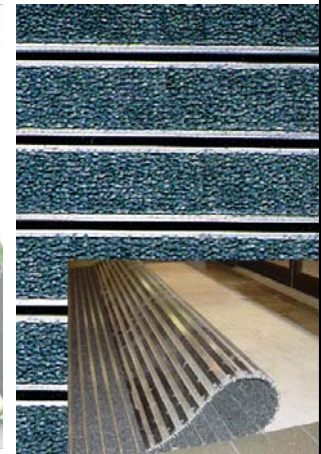
Material + Waste Reduction

- Solid Waste
 - Waste Stream Audit
- Reuse/Recycle
 - Expand current program
 - Mercury-Containing Lamps
 - Construction Materials
 - Electronics
 - Food Waste Composted



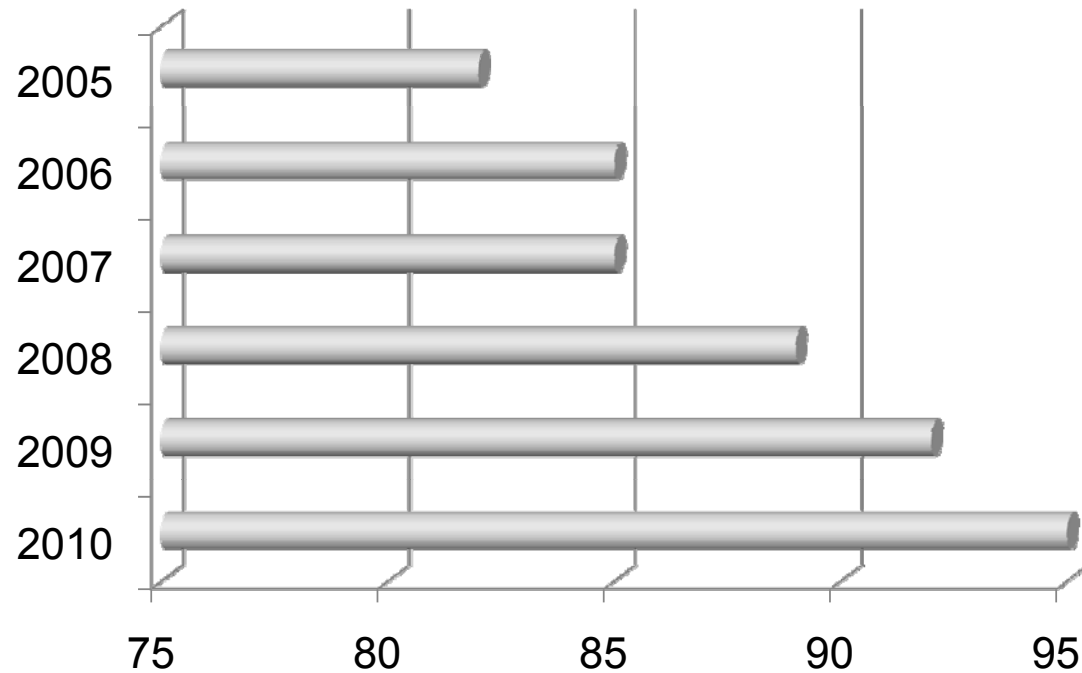
Indoor Air Quality Plans

- Green Cleaning
- IAQ Management Plan
- Low-Emitting Finishes
- Protect Air Quality During Construction



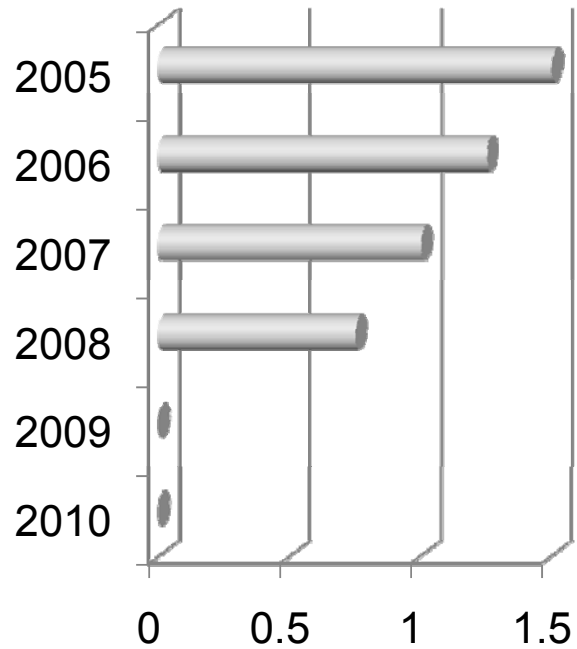
Measurable Outcomes

Energy Star Rating

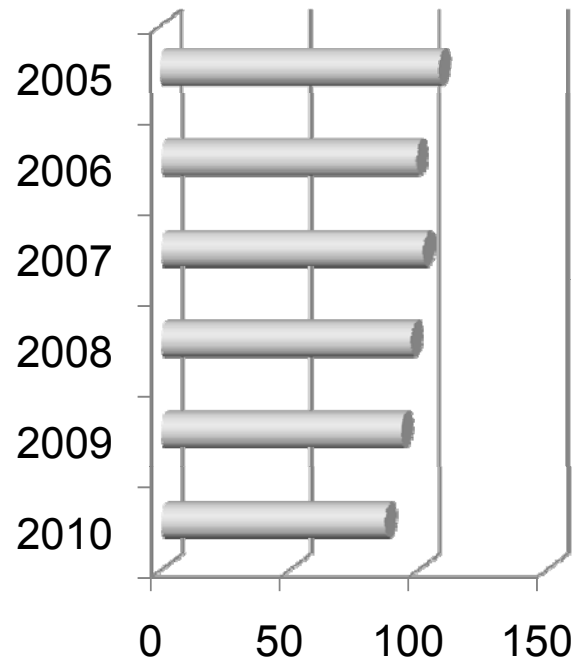


Measurable Outcomes

Operating \$/SF



kBtu / SF



ROI and Incentives

Energy Conservation Measure	Cost of Investment	Annual OPS Savings	Reductions		Return on Investment (Years)	Annual Maint. Savings	KCPL Rebate
			%	Water (gallons)			
Condensing boiler replacement	\$ 180,000.00	\$ 23,000	15%		8		
HW/CW variable volume pumping	\$ 48,600.00	\$ 20,000	50% (+)		1.5--4.5		\$ 7,926
Chiller	\$ 422,000.00	\$ 27,200			15.5	\$ 54,752	\$ 41,821
Lighting Retrofits 2007	\$ 90,300.00	\$ 29,000			3.1	\$ -	\$ 41,821
Lighting Retrofits 2010	\$ 21,432.00	\$ 5,698			2.7 (average)	\$ 2,964	\$ 7,560
Transportation	\$ -				reduce scope 3 emissions		
Restroom plumbing retrofits	\$ 97,500.00	\$ 19,000	55%	1.5 M	5	\$ -	
Outdoor air delivery	\$ 241,700.00	\$ -			IAQ	\$ -	
CO2 + Occupancy sensors	\$ 6,200.00						
Stormwater runoff	\$ 500,000.00		18%	3.4 M	demonstration		
TOTAL	\$ 1,607,732.00	\$ 123,898		4.9M			\$ 99,128

Burns & McDonnell Results

