

2007 **NAIOP** seminar

Developing Profitably
in Changing Times

Thursday, May 10, 2007

LEED TOUR

Jefferson Green



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The Developer's Viewpoint

Rick Davis
R. Davis Companies

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Why build green?

- It's the right thing to do
- Marketplace wants green
- The market wants worker productivity, worker retention and reduced HR liability
- Lower operating costs

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Why LEED vs. "green design"

- LEED (Leadership in Energy and Environmental Design) is the national recognized system for the development of a truly green building
- LEED certification has value in the marketplace

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The two fundamental questions

- How much more does a “green” building cost over a “conventional” building?
- How quickly can I recover my initial costs, i.e. what is my payback period?

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How much does it cost?

- Nationally – from 1% to 2%
- Jefferson Green – 5%

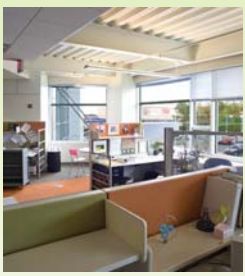

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- Increased glazing
 - Daylighting which provides a great work environment
- Underfloor air distribution
 - Comfort and air quality and energy savings
- Upgraded lighting
 - Energy savings
- Commissioning
 - LEED certification



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How quickly can I recover my initial costs?

- Upfront costs are offset against financial benefits realized by the building's operational cost from:
 - Reduced energy consumption (typically 25% to 50%)
 - Lower maintenance costs from better/longer life materials
- Value-added features can afford owners the ability to command higher rents

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Will I do a LEED building again?

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The image is an aerial architectural rendering of a commercial development. It shows several large, rectangular, light-colored buildings with flat roofs, arranged in a row. The buildings are surrounded by extensive parking lots. A blue line, possibly representing a water feature or a path, runs through the site. In the background, there are other buildings and streets, including one labeled 'TUBRON'. The overall scene depicts a modern, planned commercial or industrial park.

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- What does the future hold?
- Do we have a responsibility?
- What does the customer want?
- What is the customer willing to pay for?



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Design

Julie Walleisa
Dekker/Perich/Sabatini

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Jefferson Green

- 1st LEED core and shell project in New Mexico
- 1st LEED Gold commercial office building in New Mexico
- Largest and most energy-efficient LEED building in New Mexico
- 1 of only 12 LEED-CS Gold projects in the country
- Pursuing LEED-CI Gold on tenant improvement

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LEED

- Family of national green building rating systems
- Created by USGBC
- Comprehensive, third party
- Jefferson Green
 - LEED for Core and Shell (LEED-CS)
 - LEED for Commercial Interiors (LEED-CI)

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Jefferson Green, 7601 Jefferson NE
LEED-CS Pilot Certification Level: Gold
Awarded March 2007

41 Points Achieved		Possible Points: 63	
General Building Criteria: 2, 3, 5, 24 points		Goal: 26 to 47 points	
2 Sustainable Sites Possible Points: 15		4 Materials & Resources Possible Points: 11	
<ul style="list-style-type: none"> <input checked="" type="checkbox"/> SS-1 Erosion & Sedimentation Control <input checked="" type="checkbox"/> SS-2 Site Selection <input checked="" type="checkbox"/> SS-3 Development Density <input checked="" type="checkbox"/> SS-4 Brownfield Redevelopment <input checked="" type="checkbox"/> SS-5 Alternative Transportation: Public Transportation Access <input checked="" type="checkbox"/> SS-5.1 Alternative Transportation: Bicycle Storage & Changing Rooms <input checked="" type="checkbox"/> SS-5.2 Alternative Transportation: Alternative Fuel Vehicles <input checked="" type="checkbox"/> SS-5.3 Alternative Transportation: Parking Capacity <input checked="" type="checkbox"/> SS-5.4 Alternative Transportation: Reduced Site Disturbance: Paved or Reseal Open Space <input checked="" type="checkbox"/> SS-6 Reduced Site Disturbance: Development Footprint <input checked="" type="checkbox"/> SS-6.1 Stormwater Management: Storm and Quantity <input checked="" type="checkbox"/> SS-6.2 Stormwater Management: Treatment <input checked="" type="checkbox"/> SS-7 Heat Island Effect: Non-Roof <input checked="" type="checkbox"/> SS-8 Heat Island Effect: Roof <input checked="" type="checkbox"/> SS-9 Light Pollution Reduction <input checked="" type="checkbox"/> SS-10 Tenant Design and Construction Guidelines 	<ul style="list-style-type: none"> <input checked="" type="checkbox"/> MR-1 Storage & Collection of Recyclables <input checked="" type="checkbox"/> MR-1.1 Building Reuse: Reuse 75% of Existing Shell <input checked="" type="checkbox"/> MR-1.2 Building Reuse: Reuse 50% of Existing Shell <input checked="" type="checkbox"/> MR-2 Construction Waste Management: Divert 75% <input checked="" type="checkbox"/> MR-2.1 Construction Waste Management: Divert 75% <input checked="" type="checkbox"/> MR-3 Resource Reuse: Reuse 5% (1) <input checked="" type="checkbox"/> MR-3.1 Recycled Content: 5% (Post-consumer + 10 post-industrial) <input checked="" type="checkbox"/> MR-3.2 Recycled Content: 5% (Post-consumer + 10 post-industrial) <input checked="" type="checkbox"/> MR-4 Local/Regional Materials: 20% Manufactured Locally <input checked="" type="checkbox"/> MR-4.1 Local/Regional Materials: 20% Above, 50% Harvested Locally <input checked="" type="checkbox"/> MR-5 Rapidly Renewable Materials <input checked="" type="checkbox"/> MR-6 Certified Wood 		
4 Water Efficiency Possible Points: 5		11 Indoor Environmental Quality Possible Points: 11	
<ul style="list-style-type: none"> <input checked="" type="checkbox"/> WE-1 Water Efficient Landscaping: Reduce by 50% <input checked="" type="checkbox"/> WE-2 Water Efficient Landscaping: No Potable Use or No Irrigation <input checked="" type="checkbox"/> WE-3 Innovative Wastewater Technologies <input checked="" type="checkbox"/> WE-4 Water Use Reduction: 20% Reduction <input checked="" type="checkbox"/> WE-5 Water Use Reduction: 50% Reduction 	<ul style="list-style-type: none"> <input checked="" type="checkbox"/> IEQ-1 Minimum IAQ Performance <input checked="" type="checkbox"/> IEQ-2 Environmental Tobacco Smoke (ETS) Control <input checked="" type="checkbox"/> IEQ-3 Carbon Dioxide (CO₂) Monitoring <input checked="" type="checkbox"/> IEQ-4 Increase Ventilation Effectiveness <input checked="" type="checkbox"/> IEQ-5 Construction IAQ Management Plan During Construction <input checked="" type="checkbox"/> IEQ-6 Low-Emitting Materials: Adhesives & Sealants 2 points for 2 <input checked="" type="checkbox"/> IEQ-6.1 Low-Emitting Materials: Paints 2 points for 2 <input checked="" type="checkbox"/> IEQ-6.2 Low-Emitting Materials: Carpet 2 points for 4 <input checked="" type="checkbox"/> IEQ-6.3 Low-Emitting Materials: Composite Wood <input checked="" type="checkbox"/> IEQ-7 Indoor Chemical & Pollutant Source Control <input checked="" type="checkbox"/> IEQ-8 Controllability of Systems: Provenor <input checked="" type="checkbox"/> IEQ-8.1 Controllability of Systems: Non-Provenor <input checked="" type="checkbox"/> IEQ-9 Thermal Comfort: Comply with ASHRAE 55-1992 <input checked="" type="checkbox"/> IEQ-10 Thermal Comfort: Provenor Monitoring System <input checked="" type="checkbox"/> IEQ-11 Daylight & Views: Daylight 75% of Spaces <input checked="" type="checkbox"/> IEQ-11.1 Daylight & Views: Views for 50% of Spaces 		
7 Energy & Atmosphere Possible Points: 16		4 Innovation & Design Process Possible Points: 7	
<ul style="list-style-type: none"> <input checked="" type="checkbox"/> EA-1 Fundamental Building Systems Commissioning <input checked="" type="checkbox"/> EA-2 Minimum Energy Performance <input checked="" type="checkbox"/> EA-3 CFC Reduction in HVAC&R Equipment <input checked="" type="checkbox"/> EA-4 Optimize Energy Performance <input checked="" type="checkbox"/> EA-5 Renewable Energy: 1% <input checked="" type="checkbox"/> EA-5.1 Renewable Energy: 1% <input checked="" type="checkbox"/> EA-6 Additional Commissioning <input checked="" type="checkbox"/> EA-7 Ozone Depletion <input checked="" type="checkbox"/> EA-8 Measurement & Verification <input checked="" type="checkbox"/> EA-9 Green Power 	<ul style="list-style-type: none"> <input checked="" type="checkbox"/> ID-1 Innovation In Design: Exemplary Recycled Content <input checked="" type="checkbox"/> ID-2 Innovation In Design: Exemplary Regional Materials <input checked="" type="checkbox"/> ID-3 Innovation In Design: Exemplary Program <input checked="" type="checkbox"/> ID-4 Innovation In Design: Exemplary Program <input checked="" type="checkbox"/> ID-5 LEED® Accredited Professional 		

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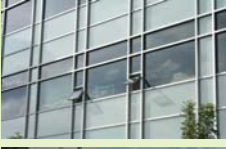

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Envelope

- Daylight over 75% of the floorplate
- High efficiency, high transmittance glazing
- Respond to solar orientation
- External horizontal shades

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Envelope

- Operable windows
- Energy Star, high-emissivity roof to reduce cooling load
- R-19 walls, R-30 roof

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Mechanical

- 45% less energy based on modeling
- Underfloor air system
 - Flexibility, ventilation, control, offset first costs
- Evaporative cooling system with refrigerated backup
- 100% outside air for free cooling
- Rooftop air handlers, gas boilers
- Energy Star appliances

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Water

- Designed to use 30% less water inside the building
- Low-flow urinals
- Faucet sensors
- Flow restrictors at kitchen and coffee bar faucets

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Site

- Preserve existing trees
- Direct run-off to planted areas
- Xeric landscaping
- Irrigation from the city's non-potable line
- Cutoff light fixtures to minimize light pollution
- Bike racks and a designated smoking area

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Materials

- 32% recycled content
- 67% regional materials
- Innovation points
- Mainly standard materials – steel, concrete, gypsum board
- Aluminum frames 40% recycled
- Carpet 30% recycled




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Materials

- Natural linoleum flooring and tackwall: renewable, recycled
- War room walls are xorel, a durable recycled fabric product
- Low-emitting paints, coatings, adhesives, sealants, carpets, and composite wood
- Green Guard certified furniture with recycled content





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- Smart decisions made up front
- Commitment from entire team
- Construction efforts pushed the project from Silver to Gold
 - Low-emitting materials
 - Recycled and regional materials
 - Construction waste recycling


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Construction

Dave Doyle
Enterprise Builders

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LEED and the General Contractor: It's nothing NEW, just different

- Planning stage between Owner, Architect and GC (what is our goal)
- Pre-construction
 - Getting everyone on board: educating subcontractors, suppliers, etc.
 - Buy-in is important through the duration of the project, it can affect certification at the end of the job
 - SWPPP for Erosion and Sedimentation Control prerequisite: Size doesn't matter

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- Waste Management Plan
- Commissioning Schedule
- Construction IAQ Management Plan
- Submittals
 - Additional information is required
 - Dealing with VOC's (volatile organic compounds) MSDS (Material Safety Data Sheets)



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Construction Phase

- Separating recyclable materials
- recording weight, collecting receipts and verifying final destination
- Protecting existing landscaping or natural environment
- Implementing IAQ plan; filtering HVAC system (if used during construction)
- Pictures taken of specific items
- Keeping all ductwork protected and capped
- Keeping site clean, protecting construction materials from the elements
- Building flushout prior to move-in

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Post Construction Phases

- Fill out templates to confirm all pre-construction and construction phase items were completed
- Get your certification...
- Have a big party and...
- Celebrate that you're saving the world and creating a greener planet

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HVAC equipment protected from collecting dust and odors with plastic and shipping panels until final connections are made.

Idling of motor vehicles is restricted where emissions could be drawn into occupied areas.



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HVAC equipment and ductwork was fabricated and sent to the project, dust free and sealed in plastic. Plastic is removed at time of installation and any open ends are resealed with plastic and left sealed until system start-up.



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Porous materials such as insulation are protected from exposure to moisture. Porous items that remain wet for an extended period of time are replaced.



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All return system openings, in or immediately adjacent to construction area, are sealed with plastic.




The system is isolated from the surrounding environment as much as possible, to prevent introduction of pollutants.




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Care is taken by all trades to keep dust and debris at a minimum and contained.



Sources of VOC emissions, such as roofing materials and wet products are covered and sealed as much as feasible to reduce evaporation or release of odors and dusts.



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Is it a big undertaking?

- Know the goal
- Read the Specification Manual
- Communicate and clarify with the Architect
- Understand the process
- Communicate the requirements
- Track/Report the progress

NO BIG DEAL...But IS a Big Deal!