

NORTH DAKOTA LEGISLATIVE COUNCIL
ENERGY DEVELOPEMENT AND TRANSMISSION COMMITTEE
WEDNESDAY, AUGUST 18th, 2010, 11:30 AM
ROUGH RIDER ROOM, STATE CAPITOL
SENATOR RICH WARDNER, CHAIRMAN

Mr. Richard Bohrer, Architect, LEED® AP
Architectural Concepts Inc.
Bismarck, ND

Mr. Chairman and members of the Energy Development and Transmission Committee, my name is Richard Bohrer and I am an Architect and LEED Accredited Professional practicing Architecture in the State of North Dakota. Unfortunately I am unable to personally attend the meeting today but wanted to express my concerns over the proposed BILL number 10067.0100 which would require a LEED Silver rating for "Any public improvement that is new building construction in excess of two million dollars or a modification of an existing structure in excess of five hundred thousand dollars"

It is my understanding that this bill was before this committee in 2008 which at the time would have followed **LEED Version 2.2**. Under the previous version of LEED to achieve LEED Silver status would have required **33-38** Points.

Under the current Version 3.0 (adopted in 2009), the new point total in order to achieve LEED Silver status is **50-59** points.

Please note from the attached checklist that LEED Silver Certification is not only for energy conservation but also covers:

- **Sustainable Sites**
- **Water Efficiency**
- **Energy Performance**
- **Material Selection**
- **Indoor Environmental Quality**
- **Innovation in Design**

These requirements also make it **mandatory** to incorporate the following:

- **Construction Activity Pollution Prevention**
- **Storage and collection of recyclables**
- **Sustainable Purchasing Policy – (Use of "Green" building cleaners)**

COST OF COMPLIANCE:

Model: \$2,000,000.00 cost of construction 15,000 square foot

Hard Costs:	LEED Registration	\$ 1200.00 for non-members
	Design/Construction Review	\$ 2,750.00 for non-members

Soft costs:	Preliminary energy analysis to determine exemption	\$ 2,000.00 - \$ 4,000.00
	Architectural/Engineering Design Fees (.5 – 1%)	\$ 10,000.00 - \$ 20,000.00
	Cost of Construction 1-4%	\$ 20,000.00 - \$ 80,000.00
	Cost of Commissioning (Prerequisite for LEED silver) 1-2%	\$ 20,000.00 - \$ 40,000.00

EXEMPTION PROVISION:

As the bill is currently written, it has a provision which states, "The division shall provide for an exemption from these construction standards for any public improvement for which a written analysis is provided which proves that the cost of compliance significantly outweighs the benefits." I feel that this section is too vague as it is currently written. Some guidelines need to be in place as to who is qualified to write the analysis. Would it have to be an engineer, a LEED certified professional, an architect, or can the building owner write the analysis. Also, the terms "significantly outweighs" will have to be defined. Will it be in terms of first costs, project scope modifications, length of time for payback, or some other method?

CLARIFICATION OF "MODIFICATION" TO EXISTING BUILDINGS:

The term "modification" is also a vague term. If a public building installs new carpeting and a new roof, it could surpass the \$500,000 threshold. What would be the LEED requirements in that example? Would the entire building have to be modified to meet LEED Silver? Or, would the materials used just have to meet some kind of sustainability threshold? If an addition is constructed, would the entire building (existing and new addition) have to meet LEED Silver or would just the addition have to meet that threshold.

EVALUATION AND TIME FRAME FOR EVALUATION:

Who will be responsible for the evaluation of both the requests for exemption and the verification of LEED Silver Rating for Pubic Buildings in the State?

What will be the added time for introducing another agency review into a system that already takes months for review and certification?

What will be the cost of review from the new agency?

While I am a LEED Accredited Professional and believe there are many benefits to the system. I do not believe LEED SILVER is the place to start for the proposed BILL. If the purpose of the BILL is strictly an economical issue of energy consumption, an energy policy based on ASRE 90.1 would be much more appropriate. I also think that the choice to be LEED should be left up to individual agencies/local public entities since the additional costs would impact project funding and schedule.

Based on the current wording of the proposed BILL I would have to recommend a DO NOT PASS.

Thank you for the opportunity to provide these comments.

Sincerely,

A handwritten signature in black ink, appearing to read "Richard Bohrer", written in a cursive style.

Richard Bohrer
Architect

Attachments: LEED 2009 New Construction and Major Renovations Project Checklist
Current Certification Fees
Building Operating Management "Measuring the Costs to Become LEED Certified"

LEED 2009 FOR NEW CONSTRUCTION AND MAJOR RENOVATIONS PROJECT CHECKLIST

Sustainable Sites		26 Possible Points
<input checked="" type="checkbox"/> Prerequisite 1	Construction Activity Pollution Prevention	Required
<input type="checkbox"/> Credit 1	Site Selection	1
<input type="checkbox"/> Credit 2	Development Density and Community Connectivity	5
<input type="checkbox"/> Credit 3	Brownfield Redevelopment	1
<input type="checkbox"/> Credit 4.1	Alternative Transportation—Public Transportation Access	6
<input type="checkbox"/> Credit 4.2	Alternative Transportation—Bicycle Storage and Changing Rooms	1
<input type="checkbox"/> Credit 4.3	Alternative Transportation—Low-Emitting and Fuel-Efficient Vehicles	3
<input type="checkbox"/> Credit 4.4	Alternative Transportation—Parking Capacity	2
<input type="checkbox"/> Credit 5.1	Site Development—Protect or Restore Habitat	1
<input type="checkbox"/> Credit 5.2	Site Development—Maximize Open Space	1
<input type="checkbox"/> Credit 6.1	Stormwater Design—Quantity Control	1
<input type="checkbox"/> Credit 6.2	Stormwater Design—Quality Control	1
<input type="checkbox"/> Credit 7.1	Heat Island Effect—Nonroof	1
<input type="checkbox"/> Credit 7.2	Heat Island Effect—Roof	1
<input type="checkbox"/> Credit 8	Light Pollution Reduction	1
Water Efficiency		10 Possible Points
<input checked="" type="checkbox"/> Prerequisite 1	Water Use Reduction	Required
<input type="checkbox"/> Credit 1	Water Efficient Landscaping	2-4
<input type="checkbox"/> Credit 2	Innovative Wastewater Technologies	2
<input type="checkbox"/> Credit 3	Water Use Reduction	2-4
Energy and Atmosphere		35 Possible Points
<input checked="" type="checkbox"/> Prerequisite 1	Fundamental Commissioning of Building Energy Systems	Required
<input checked="" type="checkbox"/> Prerequisite 2	Minimum Energy Performance	Required
<input checked="" type="checkbox"/> Prerequisite 3	Fundamental Refrigerant Management	Required
<input type="checkbox"/> Credit 1	Optimize Energy Performance	1-19
<input type="checkbox"/> Credit 2	On-site Renewable Energy	1-7
<input type="checkbox"/> Credit 3	Enhanced Commissioning	2
<input type="checkbox"/> Credit 4	Enhanced Refrigerant Management	2
<input type="checkbox"/> Credit 5	Measurement and Verification	3
<input type="checkbox"/> Credit 6	Green Power	2
Materials and Resources		14 Possible Points
<input checked="" type="checkbox"/> Prerequisite 1	Storage and Collection of Recyclables	Required
<input type="checkbox"/> Credit 1.1	Building Reuse—Maintain Existing Walls, Floors and Roof	1-3
<input type="checkbox"/> Credit 1.2	Building Reuse—Maintain Existing Interior Nonstructural Elements	1
<input type="checkbox"/> Credit 2	Construction Waste Management	1-2
<input type="checkbox"/> Credit 3	Materials Reuse	1-2
<input type="checkbox"/> Credit 4	Recycled Content	1-2

<input type="checkbox"/> Credit 5	Regional Materials	1-2
<input type="checkbox"/> Credit 6	Rapidly Renewable Materials	1
<input type="checkbox"/> Credit 7	Certified Wood	1

Indoor Environmental Quality **15 Possible Points**

<input checked="" type="checkbox"/> Prerequisite 1	Minimum Indoor Air Quality Performance	Required
<input checked="" type="checkbox"/> Prerequisite 2	Environmental Tobacco Smoke (ETS) Control	Required
<input type="checkbox"/> Credit 1	Outdoor Air Delivery Monitoring	1
<input type="checkbox"/> Credit 2	Increased Ventilation	1
<input type="checkbox"/> Credit 3.1	Construction Indoor Air Quality Management Plan—During Construction	1
<input type="checkbox"/> Credit 3.2	Construction Indoor Air Quality Management Plan—Before Occupancy	1
<input type="checkbox"/> Credit 4.1	Low-Emitting Materials—Adhesives and Sealants	1
<input type="checkbox"/> Credit 4.2	Low-Emitting Materials—Paints and Coatings	1
<input type="checkbox"/> Credit 4.3	Low-Emitting Materials—Flooring Systems	1
<input type="checkbox"/> Credit 4.4	Low-Emitting Materials—Composite Wood and Agrifiber Products	1
<input type="checkbox"/> Credit 5	Indoor Chemical and Pollutant Source Control	1
<input type="checkbox"/> Credit 6.1	Controllability of Systems—Lighting	1
<input type="checkbox"/> Credit 6.2	Controllability of Systems—Thermal Comfort	1
<input type="checkbox"/> Credit 7.1	Thermal Comfort—Design	1
<input type="checkbox"/> Credit 7.2	Thermal Comfort—Verification	1
<input type="checkbox"/> Credit 8.1	Daylight and Views—Daylight	1
<input type="checkbox"/> Credit 8.2	Daylight and Views—Views	1

Innovation in Design **6 Possible Points**

<input type="checkbox"/> Credit 1	Innovation in Design	1-5
<input type="checkbox"/> Credit 2	LEED Accredited Professional	1

Regional Priority **4 Possible Points**

<input type="checkbox"/> Credit 1	Regional Priority	1-4
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LEED 2009 for New Construction and Major Renovations

100 base points; 6 possible Innovation in Design and 4 Regional Priority points

Certified	40–49 points
Silver	50–59 points
Gold	60–79 points
Platinum	80 points and above

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CURRENT CERTIFICATION FEES

The certification fee is based on the rating system that the project is certifying under and the size of the project. This fee is paid when the project team submits documentation for review via LEED Online. Certification rates are based on the date the application is submitted for review.

The following fees are for single-building LEED projects only. Special rates may apply to multiple-building projects, please [contact GBCI](#) to obtain a quote prior to submitting an application for certification. Do not submit payment unless you have received an invoice.

[Submitting an Application](#)
[Application for Split Review](#)
[Application for Combined Review](#)
[Certification Fees](#)

	Less than 50,000 Square Feet	50,000- 500,000 Square Feet	More Than 500,000 Square Feet
LEED NC 2009, 2.2, and 2.1	Fixed Rate	Based on Square Footage	Fixed Rate
Design Review			
USGBC Members	\$2,000	\$0.04/sf	\$20,000
Non-Members	\$2,250	\$0.045/sf	\$22,500
Expedited Fee*	\$5,000 regardless of square footage		
Construction Review			
USGBC Members	\$500	\$0.010/sf	\$5,000
Non-Members	\$750	\$0.015/sf	\$7,500
Expedited Fee*	\$5,000 regardless of square footage		
Combined Design & Construction Review			
USGBC Members	\$2,250	\$0.045/sf	\$22,500
Non-Members	\$2,750	\$0.055/sf	\$27,500
Expedited Fee*	\$10,000 regardless of square footage		
CIRs	\$220 per credit		

Please note that all fees are subject to change. No refunds are available.

* In addition to regular review fee. Availability of expedited review timelines is limited based on GBCI capacity. Contact GBCI at least ten (10) business days prior to submitting an application to request an expedited review.

The fees above are for projects submitted for review after January 11, 2010, [view past certification fees](#).

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Measuring The Cost To Become LEED Certified

By Jim Nicolow

In the early days of LEED, uncertainty regarding the system's requirements coupled with inexperience resulted in substantial cost premiums for LEED-certified buildings, as high as 25 percent above conventional construction costs in some cases. Not surprisingly, the added cost of green construction meant many project teams stuck to conventional practice.

Today, as the green building industry has matured, sustainable building products and technologies are readily available, and several studies have documented that the "LEED premium" is much less than initially feared.

In establishing project budgets, it is important to distinguish between the construction budget, which typically includes only hard costs (building construction costs, furniture, fixtures, equipment costs, purchase of property, etc.) and total project budget, which includes both hard costs, and soft costs, such as professional fees, construction financing, etc. Soft costs related to administration of the LEED certification process and provisions of specific services required by LEED should be included in any analysis of the LEED premium.

One of the first LEED cost studies was published in October 2003 by KEMA, an energy consulting company. *Managing the Cost of Green Buildings* covered new construction only, was limited to four project types — K-12 schools, laboratories, libraries and multifamily affordable housing — and was focused on the state of California. Despite these limitations, the total project cost LEED certification premiums identified in the KEMA study continue to be among the most commonly cited:

- LEED Certified — 0-2.5 percent
- LEED Silver — 0-3.3 percent
- LEED Gold — 0.3-5.0 percent
- LEED Platinum — 4.5-8.5 percent

A more comprehensive study, titled *Costing Green: A Comprehensive Cost Database and Budgeting Methodology*, was published in July 2004 by Davis Langdon, a construction cost management consulting firm. Focused on construction costs only, the study assessed the incremental cost of individual LEED credits, as well as

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the construction cost impact of various levels of LEED certification. The study included 90 non-LEED projects and 50 LEED-certified projects and found no statistically significant impact, with the conclusion that other programmatic considerations have a much larger impact on construction costs than LEED certification. A July 2007 update titled *The Cost of Green Revisited* arrived at essentially the same results. According to the report, "there is no significant difference in average costs for green buildings as compared to non-green buildings."

Classifying soft costs or "added costs" due to LEED certification will vary depending upon project type. Administration of the LEED certification process and documentation of LEED credits is an added cost directly associated with LEED certification. The USGBC estimates these fees from \$20,000 to \$60,000 depending upon project size, complexity and project team experience.

Commissioning fees, which can range from \$2.50 per square foot on smaller projects with specialty commissioning to as low as \$0.30 per square foot on larger projects with basic commissioning, are not always an added cost of LEED certification. Office buildings are not commonly commissioned, while commissioning is routine in the research building sector and to a growing extent among institutional building projects.

Energy modeling is recommended whenever a project has specific energy efficiency goals, but there are unique requirements for documentation of energy performance in LEED. The cost for energy modeling services can range from \$15,000 on smaller projects to more than \$50,000 for larger, more complex projects. These fees are driven not just by project size but also by complexity of the building design and the mechanical system.

In addition to these soft costs, there are LEED registration and certification fees paid directly to USGBC. The project registration fee is \$600 (\$450 for USGBC members), and the certification fees range from \$2,250 to \$22,500 based on project size (\$1,750 to \$17,500 for USGBC members).

So, the answer to what the LEED premium really is just depends. If LEED certification is pursued at the beginning of the project, teams can conservatively budget 2 percent for construction costs and \$150,000 in soft costs for Certified through Gold level certification on most projects.