

Building Green for the Future

Case Studies of Sustainable Development in Michigan

Herman Miller MarketPlace, Zeeland



UrbanCatalystAssociates

Zeb Acuff • Aaron Harris • Larissa Larsen • Bryan Magnus • Allyson Pumphrey

University of Michigan
Ann Arbor, Michigan

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The MarketPlace is one of the only LEED Gold buildings in Michigan and has won numerous awards for its innovative design.



Zeeland, MI

Project type	Commercial
Project scale	Building
Construction type	New Construction - Greenfield
Date completed	January 2002
Address	855 East Main Ave., Zeeland, MI
Subjects	Development Processes
	Energy Efficiency
	Social Benefits
	Lessons Learned
	Cost Benefit Analysis
Total project costs	\$8,455,000 (land excluded)
Building square footage	95,000 sq. ft.
Cost/square foot	\$89/ sq. ft.

Herman Miller MarketPlace

History

The MarketPlace grew from the need to reduce the size of functional areas and to move employees into one building. Before working together in the MarketPlace, employees worked in four different buildings, each with its own lease. Rather than renew each lease, Herman Miller decided to condense resources and construct one high-performing, centrally located building to house those employees.

Herman Miller collaborated with The Granger Group of Companies, a Michigan-based development company with head offices in Lansing and Grand Rapids, to design and develop the building. The two companies formed a unique partnership, both believing in the economic, social, and environmental benefits of building an energy-efficient, LEED-certified building. As both the developer and owner of the building, Granger understood that a unique and energy-efficient property could easily be marketed as a healthier and more productive workplace.

If Herman Miller vacated the lease, Granger felt that it would be easier to lease a high-performing building compared to a traditionally built office building. The Granger Group offered to build at LEED Silver standards. The subsequent lease agreement mandated that a LEED-rated project tie the cost of the base rent directly into achieving that rating. Although the initial goal was to achieve the LEED Silver rating, the building earned the more coveted Gold rating.

"Marketplace is a prime example of how Herman Miller continues to take a leadership role in bringing the environmental sustainability ethic to the corporate workplace."

-Len Pilon, HM director of Workplace Strategy and Facilities.

Development Processes

The Granger Group is committed to green building because, not only is it environmentally sound, it makes the most economic sense in both the short and long terms. By building green and marketing its skill and expertise developing these types of buildings, Granger differentiates itself from its competition. Furthermore, as green building costs have begun to equalize with traditional building costs and as market demand pushes costs lower, the return on investment (ROI) time period is decreasing. According to Greg Markvluer, developer at the Granger Group, Granger has earned a two-to-five-year payback on all the initial fixed costs on of their green design projects. "Even if you don't go for LEED certification, consider all the benefits of green building design. The principles of green building, whether part of a LEED-certification process or independently undertaken, make good economic sense for all parties involved," said Greg Markvluer.

For Granger, integrated design was an essential component of this project. As the project was conceptualized, Granger offered Herman Miller a flexible, LEED-influenced building outline that supported Herman Miller's goals. The design process involved not only Granger and Herman Miller, but included the architecture and design team. Working cooperatively in these functional areas made reaching the goals of energy efficiency and LEED certification much easier.

Prior to the completion of the MarketPlace, Herman Miller employees worked in four separate buildings. By condensing employees and resources into one energy-efficient building, Herman Miller saved on rental and energy expenses.



"This project is sure to draw attention from around the country. MarketPlace is an outstanding demonstration of businesses simultaneously achieving strong economic and environmental performance through smart building design."

-Christine Ervin, US Green Building Council President and CEO

The materials used within the MarketPlace provide for optimal exterior daylight to penetrate into the interior. Specific acoustical absorbent materials help to lower reflected noise levels.



Energy Efficiency

MarketPlace achieves significant energy savings by using standard HVAC products available from multiple manufacturers. The HVAC system's installed cost is less than

\$14 per square foot and realizes a 40% reduction in energy use over ASHRAE standard 90.1. The building automation system—including highly efficient rooftop units, variable air volume energy-recovery units, and perimeter radiant heating—allows users to control systems.

Abundant daylighting decreases the energy needed for indoor lighting, with glass accounting for more than 62% of the building's exterior walls. Carefully selected light sources maintain an average of 0.9 watts per square foot and minimize lighting-system energy demands. The lighting strategy provides adequate general light in coordination with passive daylighting. Task lighting at the work surface is used only when needed.

Social Benefits

By condensing resources and moving employees from four separate buildings into the one, more collaborative MarketPlace building, employee productivity and overall satisfaction at the company increased.

Organizational Effectiveness

- Job Satisfaction
- Culture and Corporate Image
- Collaboration
- Work Group Process Quality
- Communication

Worker Effectiveness

- Privacy
- Comfort
- Personalization
- Lighting
- Workspace Layout
- Control over Environment

These findings illustrate the link between workplace design features, changes in key employee behaviors, and measurable outcomes related to greater efficiencies in the workplace environment. The health and social benefits easily transfer to the residential environment.

Employee Effectiveness Measures	
17% increase in satisfaction with quality of lighting	20% decrease in personal travel distance
13% increase in perceived availability of alternative settings to do individual work	7% increase in worker productivity following the move to a green, day lit facility
<i>Source: Herman Miller</i>	

Lessons Learned

Herman Miller realizes that sustainable design must begin early in the design process, not as an add-on at the end of a project. Developers need to set roles and expectations at the beginning of the project as LEED points can be lost by simple mistakes. For example, the project lost a LEED point because an HVAC filter was installed backwards. The intent was there, but the execution of this particular point was not.

This project achieved its LEED Gold rating because the corporate client is committed to the environment. Mike Volkema, chairman and CEO of Herman Miller, Inc., says that in regard to the company's commitment to the environment, "We strive to contribute to a world of ecological balance and economic abundance. We build sustainability into all aspects of our business." This dedication to sustainable business practices allowed the Herman Miller project to receive its well-earned Gold rating.

Cost Benefit Analysis

The total amount saved in operational costs over a seven-year lease has been calculated at \$1,001,000.

The following value metrics of the project indicate the savings over a traditional 100,000 square-foot building with a seven-year lease:

- Building costs, including tenant improvements: 33%
- FF&E (Furniture, Fixtures & Equipment): 11%
- Operations costs for 5 months of occupancy: 41%
- Churn costs: (IFMA baseline: 44% churn at \$748 per move): 66%

	Traditional Leased	Marketplace	Savings
Building Costs (including TI)	\$135/sq. ft.	\$89/sq. ft.	\$4,600,000
FF&E Costs	\$31/sq. ft.	\$27.58/sq. ft.	\$341,920
Utility Costs	\$1.97/sq. ft.	\$1.17/sq. ft.	\$0.80/sq. ft. (\$560,000/7years)
Churn Costs	\$1.58/sq. ft.	\$0.55/sq. ft.	\$1.04/sq. ft. (\$726,017/7 years)

Source: Herman Miller

Awards

- Finalist for Business Week/Architectural Record "Good Design is Good Business 2003"
- State of Michigan AIA Award for Sustainable Design, 2004
- Environmental Design and Construction, Excellence in Environmental Design Runner Up Award 2003
- Sustainable Buildings Industry Council (SBIC) Exemplary Sustainable Business Award

References

PowerPoint presentation supplied by Len Pilon of Herman Miller

Case Study developed by USGBC, www.leeedcasestudies.usgbc.org/overview.cfm?projectID=189

Case Study developed by US DOE, www.eere.energy.gov/buildings/highperformance/case_studies/overview.cfm?ProjectID=189

"Herman Miller MarketPlace exhibits unusual interior flexibility while providing a significantly high level of amenity and indoor environmental quality including water and light, and the ability of the site to detain a 100-year storm event. This is a promising prototype for an economically viable, environmentally sensitive, and sustainable solution in the speculative office market."

-Jury naming the MarketPlace a top 10 project in the world, AIA Committee on the Environment.

The Bottom Line

Herman Miller discovered that no matter how committed a company is to green design, sustainability cannot be accomplished without the assistance and guidance of others. Successful sustainable design depends on the commitment of all the members of the team, including the architect, client, and contractor.

By incorporating integrated design from the beginning, the developer, client, and design team realized even greater long-term savings and benefits than initially projected. MarketPlace is Michigan's first developer-owned LEED project, and joins less than fifty Gold-certified projects nationwide. This distinction places MarketPlace among the country's best buildings defined by environmental responsibility, construction, and operating costs, and as a healthy place to live and work.



The entire design team worked to create an effective building without losing track of the initial cost. The target was an HVAC system that requires 40% lower energy costs than what is budgeted in the baseline model ASHRAE 90.1 - 1999.

Contact Information

Client	Paul Murray, Herman Miller, paul_murray@hermanmiller.com
Developer	Greg Markvluer, The Granger Group, gmarkvluer@thegrangergroup.com
Architect	Mike Corby, AIA, Integrated Architecture www.intarch.com

Resources for further information

www.hermanmiller.com

www.usgbc.com

www.thegrangergroup.com

Urban Catalyst Associates

Urban Catalyst Associates

Urban Catalyst Associates (UCA) is an interdisciplinary team of recent University of Michigan graduate students who have combined their experiences, interests, and educations to create a positive impact on the future of the State of Michigan. The team holds a strong passion for fostering innovative, sustainable development that will shape the evolution of the new urban environment.

In collaboration with the Michigan Department of Environmental Quality, Urban Catalyst Associates developed this handbook to serve as inspiration and ready reference to the development community and other interested groups. As the State furthers its investment in green development, the UCA team hopes that this handbook will encourage developers to infuse elements of environmental sustainability into their planning and development processes.

Urban Catalyst Associates can be contacted via email at uca@uca-michigan.com. See the contact information below for information on contacting individual team members.

Zeb Acuff

Zeb holds Master's degrees from the School of Natural Resources and Environment and the Taubman College of Architecture and Urban Planning, both at the University of Michigan in Ann Arbor. He is also a 2001 graduate of the College of Agriculture and Natural Resources at the University of Delaware. Zeb has extensive experience in farmland preservation and local planning research, as well as familiarity working with demographic and social science media. His professional interests include parks and recreation planning, non-motorized transportation, trails and greenway development, and public transit systems. Zeb and his wife currently reside in Dexter, Michigan. Zeb can be contacted via email at zeb@theacuffs.com.

Bryan Magnus

Bryan graduated from the University of Michigan in April, 2005, with an MBA from the Ross School of Business and a MS from the School of Natural Resources. His undergraduate degree is in Finance and Actuarial Math from Bryant University in Smithfield, Rhode Island. Bryan has extensive knowledge of socially and environmentally responsible business with an emphasis on renewable energy and alternative transportation. He has interned with General Motors' Fuel Cell Activities Group as well as Honeywell's Transportation Systems, and is currently employed by Honeywell TS as a Marketing Analyst. Bryan, his wife Lynn, and their "child" Meadow (dog) live in Ann Arbor, Michigan. Bryan can be contacted via email at magnusb@umich.edu.

Aaron Harris

Aaron will complete his final year at the University of Michigan in spring 2006 with both an MBA from the Ross School of Business and an MS from the School of Natural Resources and Environment. Prior to Michigan, Aaron co-founded Harris Brothers LLC, a real estate development/management company based in Chicago and focused on green building design and environmentally sensitive renovation projects. Upon completion of graduate studies, Aaron plans to return to the real estate field to pursue urban brownfield redevelopment projects. Aaron graduated from the University of Wisconsin-Madison with a BA in Sociology (Honors) and a Certificate in Environmental Studies. Aaron can be contacted via email at aaronmh@umich.edu.

Allyson Pumphrey

Allyson graduated from the School of Natural Resources & Environment with a Master's degree in Landscape Architecture in April 2005. Prior to attending the University of Michigan, she received her BS in Landscape Horticulture & Design from Purdue University in West Lafayette, Indiana. Allyson has experience in residential site design and urban redevelopment projects. Her professional interests include urban trails and greenways, brownfield redevelopment, and urban design. Allyson is employed by InSite Design Studio, Inc. in Ann Arbor, Michigan. Allyson can be contacted via email at apumphrey@insite-studio.com.

Larissa Larsen

Larissa Larsen, Ph.D., is an assistant professor with positions in both the School of Natural Resources and Environment and the Urban Planning Program at the University of Michigan. Larissa has a Master's in Landscape Architecture degree from the University of Guelph in Canada and a Ph.D. in regional planning from the University of Illinois at Urbana-Champaign. Prior to becoming a professor, Larissa practiced landscape architecture and urban planning in Chicago. Her current research investigates the ecological and social impacts of urban settlement patterns. Larissa can be contacted via email at larissal@umich.edu.