

Section II. Statement of Problems and Existing Conditions (Green Remodeling Pilot Program Narrative for MPCA Grant)

General Description

This project involves planning and implementing a statewide Green Remodeling Program, with the objective of fundamentally changing the way we renovate our homes. This Minnesota Green Remodeling Program will be coordinated with a larger multi-party effort that seeks to transform the full spectrum of the residential market to favor green building practices (see attached figure). Our project team combines leading remodeling professionals and industry associations with the pioneers and recognized leaders from the State's green building movement.

The ultimate net impacts of an established statewide green remodeling program will be to reduce emissions to air, water and land that result from residential energy consumption and sitework and construction practices. The program will also help reduce the demand for fossil fuels, limit construction and demolition waste, encourage the use of resource-efficient and renewable materials, and contribute to the health of homeowners and renters and our communities.

Problem

The environmental and health consequences of consumer remodeling choices are not well understood and often ignored. State residential building codes and local regulations provide some guidance to builders and homeowners, but these rules are primarily focused on issues of safety and limited standards of durability and energy efficiency. Modern building science tells us that we can do far better in terms of protecting health and well being of occupants, energy consumption and related emissions, materials consumption and natural resource depletion, durability, and waste generation.

Our built environment comprises more than 36% of primary energy use and 65% of our total electricity consumption. Buildings in the U.S. are responsible for 30% of our total greenhouse gas emissions, 40% of raw material use, and 136 million tons per year of construction and demolition waste (U.S. Green Building Council). In addition to these environmental and natural resource impacts, we continue to construct buildings that are less than healthy for the occupants they house. Our own Environmental Protection Agency estimates that the air in our buildings contains 10 times the level of contaminants as outdoor air. Approximately 40% of our children will develop environmentally-induced respiratory ailments, many due to the poor quality of our indoor air.

Over the past 10 years, the majority of attention to and advancements in green building have focused almost exclusively on the commercial and institutional building sectors, in part due to the success of the U.S. Green Building Council and its Leadership in Energy and Environmental Design (LEED) rating system. Green residential building opportunities and challenges are just now garnering broad attention; however efforts to affect the marketplace have been disjointed and confusing to the consumer. And while the remodeling sector comprises a significant portion of the total residential construction market, this segment has been underserved by those interested in "sustainable" market transformation.

Economic Significance

Minnesota's remodeling industry constitutes a \$3-4 billion marketplace, rivaling the size of the State's new construction housing industry. A statewide Green Remodeling Program does not seek to alter the overall size of this market, but rather to redirect attention and building methodology toward more sustainable building techniques. We expect the materials and equipment share of the total market to shift toward environmentally-preferred products such as energy-efficient mechanicals and appliances, certified wood products, low-emission coatings, and recycled-content and locally-derived materials, among others.

Opportunities for Success

The key to the success of Minnesota Green Remodeling Program lies in the broad coalition of industry representatives seen in this proposal. With the key stakeholders at the table during the entire process, we are confident of our ability to obtain consensus and support without the development of competing programs. Additionally, as this remodeling program is developed, the project team will be coordinating programs impacting the other sectors of the residential building industry. By sharing many of the same guidelines and tools for measurement, not only will there be congruence between the programs making it easier for builders and remodelors to easily apply green standards to all of their projects (rather than switching from one vastly different program to another), but utility and energy rebate programs will be able to easily interface with both the remodeling and new construction programs, increasing the accessibility and frequency with which these programs are used.

Other components of the program which will add to its viability and acceptance are: **1)** the creation of tiers and certification, which will allow for large and small budget projects to access the same guidelines and programs; and **2)** the development of an awards and recognition program coordinated with existing awards programs hosted by the trade associations, which receive mainstream media recognition. Currently there are over 200 projects entered annually in just two of the awards programs, generating a revenue stream of over \$35,000 annually.

The area's major lumber yards, which represent the greatest measurable flow of building materials to professional remodelors and new home builders, are increasingly informed and excited about adding sustainable building products to their inventory and training their sales people to identify opportunities to introduce these products to their clients.

The Remodeling and Building Associations have already begun exploring how to encourage and manage the stream of sustainable building related inquires. They have concerns over ensuring that the definition of "sustainable" and "green" and the products and methods associated with them are clearly spelled out to avoid confusion and misrepresentation. They are also very interested in being involved in the education and certification of projects and contractors alike.

The region's utility service providers are interested in programs that are easy to integrate and adopt, but also meet their requirements for energy savings. Their interest is in "green" programs that are popular with the general public, and incorporate standards and measurement tools from their existing programs. Bringing the above stakeholders to a table with the MPCA, the State's Energy Office, the University of Minnesota's Center for Sustainable Building Research, and the Green Institute (and other non-profits) is a landmark opportunity that must be capitalized on. With all parties in agreement that a robust and meaningful program be developed that is easy to work with and integrate, we have a chance to positively impact the fastest growing sector in the construction industry.

Dissemination of Results

By definition, the Minnesota Green Remodeling Program aims to be a statewide initiative. Key stakeholders from throughout the Twin Cities and Greater Minnesota will be involved in planning and testing pilot versions of the program in order to assure widespread acceptance and accelerated adoption. Inherent to the program is a Web-based portal through which the general public, industry participants, and local and state government officials can become familiar with the concepts and learn how to engage in green remodeling practices.

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Lead Organization History

In 1993, residents of the Phillips Neighborhood of Minneapolis founded the Green Institute after a 12-year battle against the positioning of a garbage transfer station in the community. Out of this struggle for environmental justice came the recognition that Phillips had a vital need to create more sustainable, community-based models of development. Models such as the ReUse Center and the Phillips Eco-Enterprise Center have brought jobs and economic activity to Phillips while simultaneously improving the quality of the urban environment.

In 10 years, the Green Institute has evolved from a this community-based environmental justice movement to become a regional leader in the sustainability of our built environment. The Institute has proven capacity for planning, financing, launching, and incubating sustainable development initiatives, including the ReUse Center, DeConstruction Services, the Phillips Eco-Enterprise Center, and the Phillips Community Energy Cooperative (a 2,600 member urban energy cooperative). The Institute also has an established track record in raising \$100K to \$2 million in start-up funding for these initiatives from the private and public sectors. Increasingly, the Green Institute is an active collaborator with other organizations for a more innovative, entrepreneurial, environmentally-responsible approach to development.

Qualifications of Project Team Leaders

Corey Brinkema is Executive Director of the Green Institute and brings 20 years of international experience in sustainable development, including 10 years in green building design and development, (612) 278-7113. Corey led the design, financing, tenant recruitment, and construction of the Phillips Eco-Enterprise Center, Minnesota's first comprehensive green commercial building. Corey assists residential, commercial, and institutional developers navigate and optimize the sustainable design and development process.

Michael Anschel, Principal of Otogawa-Anschel Design-Build, and contact for NARI and Ad Hoc Green Remodeling Group, (612) 789-7070. Michael leads an award-winning design-build firm with experience in green remodeling. Michael spearheaded the existing green remodeling standard work of the 13-member Ad Hoc Green Remodeling Group (GRG – representing private, government, utility, and research interests).

Other members of the GRG include:

Harvey Sherman, AIA, President of Building Arts Sustainable Architecture + Construction LLC

Dave Klun, Business and Sales Development manager for The Remod Squad®, a division of Scherer Brothers Lumber. President of the National Association of the Remodeling Industry of Minnesota (NARI of Minnesota).

Ron Smith, Sales Manager for Shaw Stewart Lumber Company

Joseph P. Knaeble, Residential Remodeling Consultant

Ali Awad, AIA, Partner with Awad & Koontz Architects-Builders, Chair of the Remodelors Council of the Twin Cities (RCTC)

Rick Patraw, Supervisor–Sustainable Development at the Minnesota Pollution Control Agency

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Marilou Cheple, Extension Educator and Instructor with the Cold Climate Housing Program in the Department of Bio-based Products at the University of Minnesota

Phil Smith, Information Program Supervisor at the MN Department of Commerce, State Energy Information Office

Christine Bleyhl, AIA, Project Director with Vujovich Design Build

John Carmody is director and **Jonee Kulman Brigham**, **Billy Weber** and **Dan Marckel** are researchers at the Center for Sustainable Building Research at the University of Minnesota. Contact Jonee (612) 626-7641. Members of this team were instrumental in developing the Minnesota Sustainable Design Guidelines, the "B3" Minnesota Sustainable Building Guidelines, the Minnesota Green Affordable Housing Guide, and the EDGE project, which evaluates and applies tools to aid in city and housing developer negotiations.

David Johnston, Founder and President of What's Working, Inc. (303) 444-7044. David has a national reputation for successfully implementing green housing programs and is co-author of *Green Remodeling: Changing the World One Room at a Time*.

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