City Manager's sustainability and energy topic of the month: Leadership in Energy and Environmental Design (LEED®) certified buildings

Q. What is the city of Mankato doing to ensure city buildings are sustainable and energy efficient?

A. City of Mankato officials strategically look for opportunities to be energy efficient and sustainable when redeveloping or building city facilities. One opportunity is through wise land use practice, such as developing in an area where infrastructure (water mains and sewer lines) is already in place. The new public safety station being built on 1721 Augusta Drive is a good example of this practice. Another wise land use practice is reusing an existing building instead of building new. The Public Safety Center and Orness Plaza are good examples of reused buildings.

What's more, these buildings (redeveloped and new) are both Leadership in Energy and Environmental Design (LEED®) certified by the U.S. Green Building Council. Achieving LEED® certification aligns with the city's strategic plan to pursue sustainable facilities.

Ultimately, taxpayers benefit through:

- reduced costs;
- positive impact on the environment through use of sustainable and environmental-friendly materials

Let's take a closer at what makes these facilities receive "green" certification.

Public Safety Center, 710 South Front Street

The Public Safety Center has achieved LEED® Gold certification, one of the highest LEED® levels possible. To achieve LEED® Gold certification the building was evaluated in the following five categories:

1. Sustainable sites—located downtown, the Public Safety Center is surrounded by services and transportation options, including bike racks and preferred parking for carpools and hybrid vehicles.
2. Water efficiency—low-flow water fixtures help save water; drought resistant plants, trees and grasses eliminate the need for regular supplemental watering.
3. Energy use and atmosphere— the Public Safety Center is 40 percent more efficient than typically designed building. Since it was designed to use as little energy as possible, it contributes to long-term energy reduction costs.
4. Materials and resources—much of the building uses reclaimed and recycled materials, including existing walls, roofs and floors. A great example of material reuse is the second floor railing, which is made from jail cell bars. New materials used, such as paints and flooring, were both environmental friendly as well as considered safe for one's health. Materials were selected locally and regionally.
5. Indoor environment quality—ventilation provides fresh air throughout the building; duct work was protected during construction to help maintain air quality. Design helps ensure temperatures are comfortable throughout the building.

A bonus category is innovation in design. The Public Safety Center was credited for having LEED accredited staff work the project and for including educational signage that highlights and maps the building's "green" features.

Orness Plaza, 900 Hope Street

Orness Plaza, the first city of Mankato building to be LEED® certified, earned a Silver rating. Since recently being remodeled, Orness Plaza has saved $27,000 per year in water and fuel expenses. Building features and their benefits include:

- geothermal heating and cooling system—efficient, cost-effective while maintaining comfortable building temperatures for residents. Fuel oil is no longer needed and the reliance on natural gas has decreased.
- insulated siding—contributes to energy efficiency while enhancing the building's appearance.
- Energy star appliances—saves costs and uses less energy, which helps protect the environment.
- water conserving devices—faucets, toilets and other devices help conserve water use.

Mass Transit Facility

On the horizon is the Mass Transit Facility to store city of Mankato buses and house transportation staff. A goal is to design the building to comply with sustainable building guidelines while staying within a reasonable budget. Since the project is enrolled in Xcel Energy's energy design assistance program, the city of Mankato anticipates to receive at least a 20 percent savings in energy costs.

Passive lighting, radiant floor heating and other types of sustainable materials are being considered as part of the building's plans for sustainability. Design also includes plans for the future so that not only is the building energy efficient, adjustments can be made as needed. For example, one area of consideration is a possible change in fuel options. If compressed natural gas is used as a fuel source, the building's design could transition to using this option as inexpensively as possible.

The city of Mankato is committed to leading the way in energy conservation by looking for opportunities to be save costs and be efficient, while benefiting the environment.

Please contact me at 507-387-8695 or phentges@city.mankato.mn.us anytime I can be of service.