

Sustainability and Green Government Policies Memo

Prepared as part of the Manitowoc Comprehensive Planning Project
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I. INTRODUCTION & PURPOSE

For Manitowoc, sustainability means a clean and healthy environment that can support and sustain a high quality of life for all residents. The City acknowledges that the process of achieving sustainability will require cooperation among community members and local officials, and a personal philosophy of stewardship.

Completed as a component of the City's 2009 Comprehensive Plan project, this memorandum will examine the role that the City will play in creating a more sustainable future. It is intended to direct the City in strengthening and expanding past and ongoing efforts. This document includes an inventory of the City's efforts to date; proposes a process, or framework, for achieving greater sustainability; an outline of potential sustainability strategies; and several in-depth examples.

Because becoming a truly sustainable community involves more than just municipal operations, this document will also act as a guide for the community—residents, businesses, and other community organizations—to acknowledge and strengthen existing partnerships and lay the groundwork for future collaborations.

II. MANITOWOC'S SUSTAINABILITY EFFORTS TO DATE

In June 2007, the City adopted a resolution to become an “eco-municipality.” Since then, the City has taken concerted steps to advance sustainability through its “Go Green!” initiative. The City has sponsored a variety of programs to forward this initiative, including:

- Educating and promoting what sustainability is and its benefits to the community.
- Switching the municipal bus fleet to a locally produced biodiesel fuel blend, used weather permitting.
- Regularly maintaining municipal fleet vehicles (squad cars, snow plows, buses, end-loaders) to increase mileage and efficiency, and reduce the use of gas and diesel fuel.
- Expanding Manitowoc Public Utilities (MPU) power generation facility to reduce overall plant emissions by utilizing bi-products from local businesses. The two newest boilers at MPU, circulate fluidized bed boilers (CFBs), utilize a “clean coal” technology.
- Constructing new municipal buildings and remodeling existing buildings with high efficiency lighting and insulation to reduce energy use and costs.
- Participating in the State's Energy Independent Communities Program.



- Eliminating the dispensing of plastic beverage bottles in City buildings.
- Hosting sustainability study circles where residents and City staff met weekly for an eight week period to discuss the book, “The Natural Step For Communities: How Cities and Towns can Change to Sustainable Practices,” and brainstorming how strategies outlined in the book may be applied to the City.
- Converting traffic signal lights to LED technology.
- Adopting a Neighborhood Electric Vehicle ordinance (Chapter 10.206).
- Installing bike racks on all Maritime Metro Transit buses.
- Constructing a pilot rain garden at the Visitor Information Center.
- Creating a nine-person Sustainability Committee to work towards sustainable/green techniques (appointed February 16, 2009).
- Developed a pilot project converting street lighting to a more efficient product.
- Administering the local Farmers Market promoting locally grown food and other products.

These efforts to advance community-wide sustainability have laid the foundation for future sustainability initiatives in the City.

III. SUSTAINABILITY FRAMEWORK – AN APPROACH FOR THE FUTURE

The City acknowledges the importance and interconnectedness of the economic, social, and environmental health of the community. This section lays out an approach to support and strengthen the City’s current sustainability initiatives, building a framework for identifying, evaluating, and implementing future strategies.

Why develop a process?

- To increase awareness; which in turn builds momentum for the City’s sustainability movement.

SANTA MONICA, CALIFORNIA GUIDING PRINCIPLES FOR SUSTAINABILITY

1. The Concept of Sustainability Guides City Policy
2. Protection, Preservation, and Restoration of the Natural Environment is a High Priority of the City
3. Environmental Quality, Economic Health and Social Equity are Mutually Dependent
4. All Decisions Have Implications to the Long-term Sustainability of Santa Monica
5. Community Awareness, Responsibility, Participation and Education are Key Elements of a Sustainable Community
6. Santa Monica Recognizes Its Linkage with the Regional, National, and Global Community
7. Those Sustainability Issues Most Important to the Community Will be Addressed First, and the Most Cost-Effective Programs and Policies Will be Selected
8. The City is Committed to Procurement Decisions which Minimize Negative Environmental and Social Impact
9. Cross-sector Partnerships Are Necessary to Achieve Sustainable Goals
10. The Precautionary Principle Provides a Complimentary Framework to Help Guide City Decision-Makers in the Pursuit of Sustainability

Source: www.smgov.net/Departments/OSE/categories/sustainability.aspx

- To institutionalize sustainability as a component of municipal government and daily operations.
- To increase predictability so that community members can be informed of the process, and have the ability to gauge success of the program.

The Sustainability Framework

The Committee

The City has recently begun regular meetings of its Sustainability Committee. The Sustainability Committee consists of a mix of residents, business owners, City staff, and local officials who possess an in-depth understanding of community issues and resources. The Committee should be charged with the following functions:

- Develop the vision for community sustainability, including developing a sustainability plan. Components of such a plan could include:
 - ◆ Sustainability vision.
 - ◆ Summary of existing sustainability efforts.
 - ◆ Guiding principals/objective.
 - ◆ Sustainability components:
 - Environmental health
 - Public health
 - Transportation
 - Economic development
 - Housing
 - Air quality
 - Climate
 - Energy
 - Open space and recreation
 - Land use
 - Built environment
 - Food
 - Water and wastewater
 - Culture and heritage
 - Habitats and wildlife
 - Equity
 - ◆ Sustainability strategy:
 - Short-term and long-term goals, objectives, policies, programs, and action recommendations for each sustainability component.
 - Community education and participation plan.
 - ◆ Implementation plan:
 - Implementation steps including the responsible party(s), measures of success, and timeline for each action.
 - ◆ Matrix for measuring progress.
- Using The Natural Step principles and Manitowoc-specific guiding principles (see sidebar on previous page for guiding principles from Santa Monica, California) as a guide, act as the coordinating body for sustainability in the City.

**MANITOWOC'S NATURAL STEP
GUIDING OBJECTIVES**

1. Reduce dependence on fossil fuels and extracted underground metals and minerals.
2. Reduce dependence on chemicals and manufactured substances that can accumulate in nature.
3. Reduce dependence on activities that harm life-sustaining ecosystems.
4. Fairly and efficiently meet the human needs of all community members.

- Develop community initiatives and strategies to achieve a more sustainable City given the community's resources and capacities.
- Educate community members and policy makers on the concept of sustainability.
- Work with community leaders, citizen groups, and City staff to effectively implement the chosen actions to achieve results.

The Natural Step Framework

The Natural Step (TNS) Framework is a comprehensive model for planning in complex systems. The Framework provides an approach to arrange and organize various tools for sustainable development, so that strategies and methodologies are aligned to work synergistically with each other. It has helped hundreds of different organizations around the world integrate sustainable development into their strategic planning and create long lasting transformative change.

The City's sustainability study circles are currently using the TNS Framework. The City should continue to use this approach in the future, finetuning and modifying it when appropriate to fit the City's unique situation, challenges, and goals.

IV. COMMUNITY SUSTAINABILITY POLICIES

This section identifies general sustainability policies organized by the following topic areas: land use and the built environment; resource conservation; transportation; economic development; parks, open space, and resource preservation; and agriculture and food systems. These policies could be reviewed and carefully considered by the Sustainability Committee and City decision-makers when evaluating future sustainability initiatives, and could also be incorporated into a sustainability plan described in Section III above.

Land Use and the Built Environment

- a. Continually review the City's development codes to ensure that they facilitate, rather than hinder, implementation of sustainability efforts.
- b. Plan for land uses and patterns that are adaptable to the needs of a sustainable economy and that support sustainable practices.
- c. Work to mitigate environmentally contaminated properties in the City to improve quality of life and minimize negative impacts on the environment.
- d. Encourage the development of diverse housing options to meet a range of income levels, household types, and life cycle needs.

Resource Conservation

- a. Expand the use of alternative energy to reduce dependency on finite natural resources (see side bar on the right).

ALTERNATIVE ENERGY SOURCES

- *Biomass*—renewable energy made from any organic material from plants or animals.
- *Geothermal*—energy generated from heat stored in the earth. Geothermal emits little or no greenhouse gases.
- *Hydropower*—extraction of energy from moving water, such as lakes, streams, and tidal waves.
- *Solar*—generating and storing energy captured from the sun, primarily via three technologies: photovoltaic, solar heating and lighting, and concentrating solar power.
- *Wind*—wind turbines convert the kinetic energy of the wind into mechanical power.

- b. Improve energy efficiency, and explore various programs for home and building energy efficiency certification.
- c. Strive to reduce consumption of natural gas and fossil fuel generated electricity through the use of energy efficient construction, alternative energy sources, or on-site energy production.
- d. Encourage the integration of “green” techniques into retrofitting and operations of new and existing buildings.
- e. Explore the potential for a municipal food and yard waste composting program; such a program could be expanded to include institutional uses, such as schools, and privately owned businesses.
- f. Promote the use of water saving technology, such as rain barrels and low-flow appliances and fixtures.

Transportation

- a. Develop a safe, pedestrian-friendly, walkable street grid that includes sidewalks on both sides of every street.
- b. Encourage the use of alternative transportation modes, including regional transit, rideshare, neighborhood electric vehicles, community car programs, bicycling, and walking.
- c. Promote the development of pedestrian safety features in transportation design—reduced street widths, on-street parking, traffic islands, intersection bulb outs, and vehicular travel speeds of no more than 25 mph in residential areas.

Economic Development

- a. Support the adoption of sustainable practices by area businesses, and encourage sustainable businesses to locate in the City.
- b. Promote economic development strategies that capitalize on the place-based assets, and inherent competitive advantages of the area.
- c. Support and encourage locally and regionally based businesses to maximize the reinvestment in the community and region.

Parks, Open Space, and Resource Preservation

- a. Promote low-impact lawn care design, by integrating native plant species, and plants with minimal irrigation needs into lawns and gardens through the site/landscaping plans review process for non-residential development, and protective covenants with new residential development.
- b. Advance stormwater infiltration through encouraging the use of Best Management Practices such as rain barrels, infiltration swales, pervious pavement, rain gardens, and green roofs.
- c. Promote the reduction of City pavement/impervious surface area through reduced street widths, reduced parking requirements, and inclusion of pervious pavement where practicable.
- d. In partnership with the County, Wisconsin DNR, and other stakeholders, improve and protect the water quality of the Manitowoc River and its tributaries.
- e. Promote the use of porous pavements wherever possible (streets, walkways, drives, parking lots, patios, etc.).

- f. Site new parks in areas to enhance neighborhood cohesion, enhance quality of life, and provide common neighborhood gathering places.

Agriculture and Food Systems

- a. Encourage local food production through approaches such as farmer markets, community gardens located within parks and passive open space, and incorporating green houses and orchards into neighborhoods.
- b. Working with Manitowoc County and adjacent towns to preserve and sustainably manage productive agricultural and forestry lands.

Education and Civic Participation

- a. Encourage all community members to participate actively and effectively in civic affairs and community improvement efforts.
- b. Work to ensure that all community members understand the basic principles of sustainability, and use them to guide their decisions and actions - both personal and collective.

V. POTENTIAL SUSTAINABILITY INITIATIVES

As mentioned above, sustainability encompasses a broad spectrum of issues from the built environment to the natural environment. The following is a sample collection of initiatives that the City could undertake to achieve greater sustainability. The initiatives are organized by topic area. Each section also includes a text box with sustainability-related recommendations that were identified in the City’s Comprehensive Plan. See that document for details.

Implementation of the sustainability policies and strategies identified in this section are intended to be a community effort. The most successful sustainability initiative is where all stakeholders – from the City decision makers and staff, to the development and building community, to residents and visitors—have a role to play.

Land use and the built environment

Big box evaluation

“Big box” developments (i.e. a large-format retailer, with footprints of generally more than 60,000 square feet) can have a variety of economic and social impacts on a community including, loss of community character and identity, decline of the historic central business district, and loss of local businesses. Many communities, including Manitowoc,

LAND USE RECOMMENDATIONS FROM THE COMPREHENSIVE PLAN

- A range of future land use types will meet the current and emerging needs of the community.
- The “Planned Neighborhood” development concept encourages a well-planned arrangement of diverse housing types and gathering places to encourage social interaction.
- Infill and redevelopment takes advantage of existing utilities and community facilities infrastructure and reduces the need to build on the edges of the City.
- Design standards for multi-family housing protect urban form and character, and provide quality housing options for the elderly, younger residents, and Manitowoc’s workforce.
- Improving Manitowoc’s urban neighborhoods will compliment investment in the downtown; increase safety, homeownership, and property values; and spur redevelopment of the nearby aging strip commercial areas.

regulate “big box” development through the zoning ordinance to produce projects with superior appearance and site design, and which focus on land uses which would not typically be found in the downtown or neighborhood commercial areas.

However, some communities have gone a step further to control the impacts of these types of developments. For example, Ferndale, Washington (population 10,800) created a community-based point system named EAGLE intended to create unique, viable developments. EAGLE will require retail developments over 20,000 square feet to address the following five categories:

- **E**nergy Efficiency
- **A**dvanced Technologies
- **G**reater Good
- **L**ow Impact
- **E**conomic Development

The indicator-based system was the result of extensive public input, and consideration of approaches which would preserve the community’s character while allowing larger format retailers. (See page 9 for a list of the indicators in each category and their allotted points.) The EAGLE program places the burden on the applicant to justify the points they are proposing. The program also provides the opportunity for applicants, or the public, to propose new indicators. In order to remain effective, and reflect evolving development strategies and technologies, the program is updated on a regular basis.

While the City has a variety of “big box” stores as part of the recently-developed Harbor Town development near I-43, and on the north end of the City, the City should explore establishing a community-based evaluation program for future large format developments to address potential negative impacts and improve the sustainability of the City’s built environment.

Green building code

According to the U.S. Environmental Protection Agency, “green building” is defined as the practice of creating structures and using processes that are environmentally responsible and resource-efficient throughout a building's life-cycle from siting to design, construction, operation, maintenance, renovation and deconstruction. This practice expands and complements the classical building design concerns of economy, utility, durability, and comfort. Green building is also known as a sustainable or high performance building.

Benefits of green building, according to the U.S. Green Building Council, include:

Environmental benefits:

- Enhanced and protected ecosystems and biodiversity
- Improved air and water quality
- Reduced solid waste
- Conservation of natural resources

Economic benefits:

- Reduced operating costs

**Leadership in Energy and Environmental
Design (LEED)® :
A Green Building Rating System**

The LEED rating system is the nationally recognized benchmark for the design and construction of green buildings. The LEED program measures performance in six key areas of human and environmental health: sustainable site selection and design, water efficiency, energy efficiency, materials selection, indoor environmental quality, and innovation in design. For more information about this program, visit the U.S. Green Building Council’s website at www.usgbc.org.

- Enhanced asset value and profits
- Improved employee productivity and satisfaction
- Optimized life-cycle economic performance

Health and community benefits:

- Improved air, thermal, and acoustic environments
- Enhanced occupant comfort and health
- Minimized strain on local infrastructure
- Contribution to overall quality of life

This memo and the “Review of Development Codes” memo dated November 2, 2009 suggest a variety of amendments to make the City’s current zoning code more sustainable. The City could also consider providing incentives for green development, such as density bonuses or the use of tax incremental financing funds. In addition, the City should encourage private developers to seek LEED certification for green buildings (see text box on preceding page). LEED certification is now available for a diversity of project types, including new construction, existing buildings, schools, retail, healthcare facilities, and homes (for the latest certification requirements for each of these types of projects go to www.usgbc.org/DisplayPage.aspx?CMSPageID=222). Alternatively, some developers are choosing to be “LEED-compliant” and not go through the rigorous and costly certification process or take small incremental steps toward improved building performance.

Currently, the Wisconsin Department of Commerce establishes a uniform set of building and development codes for the State for residential and commercial buildings. These codes apply across the State; municipalities may not adopt a more or less stringent code.

However, if State Statutes were ever to change to allow communities to adopt local standards, the City should consider developing a “green” building code. The American Society of Heating, Refrigerating, and Air Conditioning Engineers (ASHRAE), in partnership with the U.S. Green Building Council and the Illuminating Engineering Society of America, is working to develop Standard 189.1—a new, “green” building code standard. Standard 189.1 defines the minimum requirements for a high-performance green building. This standard is intended to be used by municipalities as an incentive or a directive.

Written in code-ready language, Standard 189.1 addresses building performance issues such as site suitability, water use efficiency, energy efficiency, indoor environmental quality, and the building’s impact on the atmosphere. Standard 189.1 also specifies requirements for construction and operation plans, energy use reporting, durability, transportation management, erosion and sediment control, construction, and indoor air quality during construction.

Ferndale, WA – EAGLE Program

<u>Indicator</u>	<u>Available Points</u>	<u>Indicator</u>	<u>Available Points</u>
ENERGY EFFICIENT DESIGN	94 Points	Shuttle Bus	18
Energy Efficient Lighting	8	Commute Trip Reduction Participant	10
Green Power	16	Vertical Construction	20
Solar Orientation	5	Targeted Offsite Improvements	16
Passive Solar Design	7		
Active Solar Design	10	LOW IMPACT	245 Points
Low Emissions	10	Additional Wetland Mitigation	8
Water Efficient Plumbing Fixtures	4	Reduction of Impervious Surfaces	16
Energy Efficient Appliances	4	Onsite Stormwater Control	7
Drought Tolerant Landscaping	4	Natural Landscaping Maintenance	4
Eater Conservation	7	Water Conservation	7
Construction Waste Reduction Plan	7	Passive Open Space	16
Decreased Thermal Conductivity	12	Use of Recycled Materials	20
		Reduce Sprawl	15
ADVANCED TECHNOLOGIES	100 Points	Redevelopment Brownfield	15
Energy Efficient Lighting	8	Reduction of Night Sky Illumination	4
Green Power	16	Habitat Restoration	6
Alternate Heat Source	16	Member Whatcom EnviroStars	1
Recycled Materials	20	Waste Composting	12
Innovative Design	20	Interior Parking	18
Improved Indoor Air Quality	4	Vertical Construction	20
Advanced Lighting Controls	4	Permanent Waste Reduction Plan	10
Design Integrated with Nature	12	Targeted Offsite Improvements	16
		Rain Water Harvesting	4
GREATER GOOD	244 Points	Preserve or Enhance Natural Vegetation	12
Active Open Space	16	Distributed Storm Water Management Systems	12
Park	15	Noise Abatement	8
Community Foundation	8	Shopping Bag Reduction	14
Sponsor of City Event	10		
Member Ferndale Chamber of Commerce	3	ECONOMIC DEVELOPMENT	109 Points
Public Meeting Space	9	Whatcom or Skagit County-based Business	4
Onsite Daycare	16	Local Development	6
Living Wage Jobs	10	Use of Local Materials	8
Health Benefits	8	Adaptive Reuse	15
Evening Activities	9	Information Kiosk for Downtown	4
Equal Access	2	Diversity of Use	22
Weekend Activities	4	Year Round Use	2
Development Progress Updates	5	Contributes to the Success of Downtown	6
Encourage Mixed Residential Development	22	Small Retail Establishments	12
Public Gathering Spot	8	Anchor Effectiveness	5
Promotion of Public Art	12	Maintain and Enhance Natural Resource	
Recreation Opportunities	6	Industries	1
Design for Pedestrians	6	Sale of Local Materials	2
Public Transportation Facility	6	Revolving Loan Fund	12
Delivery Service	2	Restoration/Reuse of Historical Buildings	10
Bicycle Storage	3		

Source: www.ci.ferndale.wa.us

Resource Conservation

“Greening” City Operations

City operations and buildings should be a leader in sustainable practices, and set an example for the rest of the community. A “green” City Hall, for example, would take into consideration the treatment of the following areas:

- Energy
- Waste
- Materials
- Water
- Transportation
- Heating and Cooling
- Lighting
- Cleaning

The State of Pennsylvania’s developed a *Green at Work* guide (www.gggc.state.pa.us/gggc/lib/gggc/documents/greenatworkguide.pdf) which offers advice on ‘what to purchase,’ ‘what you can do,’ and ‘disposal’ suggestions in eight different “green” office topics ranging from greener commuting, to greener meetings, and other day-to-day workplace activities. The City should explore creating its own guidelines for city offices and for local businesses and organizations.

Transportation

Community Car

Community Car is a member-based carsharing service that provides cars by the hour for individuals and organizations. Members share access to a fleet of high gas-mileage and hybrid-electric vehicles located in reserved parking spots throughout the community. Carsharing began in Switzerland in the mid-1980’s and came to the United States in 1998 in Portland, OR. In the U.S. today there are more than 25,000 members of over 20 carsharing organizations nationwide. The City should support the establishment of a private community car organization in Manitowoc.

RESOURCE CONSERVATION RECOMMENDATIONS FROM THE COMPREHENSIVE PLAN

- “Green” buildings and energy efficiency reduces energy costs, promotes a healthier indoor environment and reduces employee sick time, and decreases waste and energy consumption.
- Waste-to-energy opportunities can reduce the City’s reliance on fossil fuels.

TRANSPORTATION RECOMMENDATIONS FROM THE COMPREHENSIVE PLAN

- Bus transit service can reduce dependence on the single passenger motor vehicle and expand transportation options for residents and visitors.
- Pedestrian and bicycle improvements promotes alternative forms of transportation, reduces energy consumption, and can lead to improved community health.

Economic Development

Green Business Program

The Comprehensive Plan recommends the City explore establishing a “Green Business Program” to encourage sustainability in the private sector. Numerous communities in the western U.S. have instituted this type of program; the longest-standing of these is the Bay Area Green Business Program (www.greenbiz.ca.gov/). This California organization, made up of government agencies and utilities, helps local businesses comply with all environmental regulations and take actions to conserve resources, prevent pollution, and minimize waste. It offers motivated businesses and agencies an easy-to-use framework for improving environmental performance. Over 1,600 businesses and public agencies have been certified since 1997.

The Program was developed by Bay Area local governments in collaboration with US EPA, Cal EPA Department of Toxic Substances Control and the business community. The Association of Bay Area Governments coordinates the Program, which is implemented by Green Business Coordinators in nine participating counties. The regional and local programs are funded by their partners, including local and regional government agencies, utilities, special districts and nonprofit organizations that promote environmental compliance, pollution prevention and resource conservation. Participants must meet the following resource conservation and pollution prevention measures:

Water Conservation

1. Conduct an indoor/outdoor water balance or assessment.
2. Implement all applicable simple conservation measures.
3. Implement three of the suggested or industry specific water conservation measures.

Solid Waste Reduction & Recycling

1. Conduct a waste reduction assessment of solid waste streams.
2. Implement solid waste reduction and recycling measures:
 - Reduce paper waste in five different ways.
 - Incorporate waste reduction methods into your business in five ways.
 - Segregate and recycle or reuse five types of materials from your solid waste streams.

ECONOMIC DEVELOPMENT RECOMMENDATIONS FROM THE COMPREHENSIVE PLAN

- “Green” business growth reflects the City’s progressive economic development approach, advances environmental goals, and can act as a marketing tool for the City.
- Retaining and expanding existing businesses stimulates the local economy.
- Strengthening the link between people and jobs strengthens the City’s workforce by providing accessible, quality education and training opportunities.
- Redevelopment and infill of underutilized lands maximizes the value of existing infrastructure, improves community image, increases tax base and proximity and access to water.
- Quality new housing at all levels encourages diversity and equity in the housing market and contributes to economic vitality.

- Purchase three recycled or used materials/products for your business.

Energy Conservation

1. Have the local energy utility or an energy service company conduct a commercial energy assessment.
2. Perform regular maintenance on heating, ventilation and air conditioning (HVAC) system.
3. Implement two alternative technologies and five behavioral changes.

Pollution Prevention

1. Conduct an assessment of your facility to identify pollution prevention opportunities.
2. Implement pollution prevention measures:
 - Implement six good housekeeping and operating practices.
 - Implement three material, product, technology or process changes.
 - Reuse or recycle hazardous materials/wastes in three ways.
 - Prevent contamination of storm water and runoff by implementing four measures.
 - Implement at least three measures with the goal of reducing vehicle emissions.

Parks, Open Space, and Resource Preservation

Tree Protection

Manitowoc has been a “Tree City USA” for many years. Urban trees contribute to sustainability by cleaning the air and water, reducing air pollution and stormwater costs; increasing economic activity by providing a sense of community and a sense of place that businesses consider when relocating or establishing; and reducing energy costs.

In an effort to preserve trees as an important natural resource, the City could consider adopting a tree conservation and protection ordinance for public and private property (see below for a model ordinance). The City could also encourage residents and businesses to plant new trees where they will make the most significant environmental and financial contribution.

UTILITIES AND COMMUNITY FACILITIES RECOMMENDATIONS FROM THE COMPREHENSIVE PLAN

- Upgrading an expanding utility infrastructure as needed promotes the quality and efficiency of service delivery.
- Offering quality, affordable childcare facilities provides essential quality of life services and supports economic development in attracting workers and employers.

NATURAL RESOURCE RECOMMENDATIONS FROM THE COMPREHENSIVE PLAN

- Expanding and improving the park and recreation system promotes the mental and physical health of City residents.
- Stormwater best management practices reduce the amount of impervious surface area and improve water quality.
- Protecting the Manitowoc River corridor and watershed improves groundwater resources, improves wildlife habitat, improves streambank and beach health and aesthetics, and adds to the quality of life in the region.

A tree preservation ordinance could contain the following elements:

- **Purpose:** This section should reflect the community's priorities in tree conservation. Does the community want to protect trees in order to protect its watershed, or is it to protect historic trees? From a legal standpoint, it is most important that communities clearly state what they want the ordinance to accomplish.
- **Authority:** This section should cite the state enabling legislation that allows communities to protect trees. In doing so, the community acknowledges that they have the authority to do so and that they have verified that their ordinance does not exceed that authority.
- **Definitions:** Definitions will vary depending on the scope and purpose of the ordinance and might include “tree,” “heritage tree,” “mitigation,” “dripline,” and “afforestation.”
- **Inventory/Information Requirements:** There are two elements to this section. The first, an inventory of trees on public property, is already completed. Second, where the ordinance protects trees on private property, the ordinance should require developers to perform an on-site tree inventory.
- **Identification of Protected Trees:** This section clearly delineates the characteristics of trees the community wants to protect. This may be as simple as protecting trees of a certain size or species. The City could also use factors such as age, location and general condition.
- **Identification of Who Must Comply with the Ordinance:** This section identifies the activities that trigger the ordinance and who must and must not comply with it. Some communities do not require tree preservation measures if only small parcels are affected or if small numbers of trees are involved.
- **Administration:** This section identifies the agency or individual responsible for ensuring compliance with the tree ordinance. Most communities assign the job to one of four types of agencies: planning and zoning; parks and recreation; public works; or environmental resources. The City will also need the services of a professional arborist or forester to assess compliance and provide technical expertise.
- **Standards:** This section will vary depending on the scope and purpose of the ordinance, but generally the City may either adopt comprehensive local standards or refer to accepted professional standards.
- **Enforcement:** Ultimately, after all the decisions of what to protect and how to protect it have been made, to be of any value the ordinance must contain some provisions for penalizing violators. Small fines might just be seen as a cost of doing business. However, such measures as linking fines and penalties to the actual value of trees destroyed, considering each tree damaged or removed a separate violation, and invoking penalties for each day the violations persist can have a significant impact on the attitudes of potential violators.

Agriculture and Food Systems

Community Gardens

Community gardening and other forms of urban agriculture have been shown to provide a variety of economic, environmental, and public health benefits, as well as reductions in crime. The City could consider amending its zoning ordinance to allow (either conditionally or by right) community gardens in all zoning districts. Below is model language defining and regulating these uses.

Community Garden Description: An area for cultivation and related activities divided into one or more plots to be cultivated by more than one operator or member. These areas may be on public or private lands.

1. Regulations:

- a. All activity areas and structures shall comply with the required setbacks and height regulations for principal structures within the zoning district.
- b. Site plan submittal shall include the property owner, established sponsoring organization, and garden manager.
- c. Site plan which demonstrates considerations for and indicates locations of structures, materials storage, equipment storage, access for deliveries and pickups, water availability, shaded rest area, and availability of public parking.
- d. The following structures are permitted—tool sheds, shade pavilions, barns, rest-room facilities with composting toilets, and planting preparation houses, benches, bike racks, raised/accessible planting beds, compost bins, picnic tables, seasonal farm stands, fences, garden art, rain barrel systems, beehives, and children's play areas.
- e. Signs shall be limited to identification, information and directional signs, including sponsorship information where the sponsorship information is clearly secondary to other permitted information on any particular sign and shall not exceed a total aggregate area of 48 square feet.
- f. Fences shall comply with the City's fence regulations, except that chicken wire, woven wire, and related garden fencing shall be permitted without restriction around and within cultivated areas.

Market Garden Description: An area for cultivation and related activities divided into one or more plots to be cultivated by more than one operator or member. These areas may be on public or private lands, with onsite sales of crops grown onsite.

1. Regulations:

- a. All activity areas and structures shall comply with the required setbacks and height regulations for principal structures within the zoning district.
- b. Site plan submittal shall include the property owner, established sponsoring organization, and garden manager.

AGRICULTURAL RECOMMENDATIONS FROM THE COMPREHENSIVE PLAN

- Implementing efficient and well-planned City development will preserve farmland, promote efficient extension of municipal utilities and services, and reduce vehicular travel times.
- Use of local foods promotes community health, supports the local economy, reduces transportation costs, and increases food security.

- c. Site plan which demonstrates considerations for and indicates locations of structures, materials storage, equipment storage, access for deliveries and pickups, water availability, shaded rest area, and availability of public parking.
- d. The following structures are permitted: tool sheds, shade pavilions, barns, rest-room facilities with composting toilets, and planting preparation houses, benches, bike racks, raised/accessible planting beds, compost bins, picnic tables, seasonal farm stands, fences, garden art, rain barrel systems, beehives, and children's play areas.
- e. Seasonal farm stands shall be removed from the premises or stored inside a building on the premises during that time of the year when the garden is not open for public use.
- f. Signs shall be limited to identification, information and directional signs, including sponsorship information where the sponsorship information is clearly secondary to other permitted information on any particular sign and shall not exceed a total aggregate area of 48 square feet.
- g. Fences shall comply with the City's fence regulations, except that chicken wire, woven wire, and related garden fencing shall be permitted without restriction around and within cultivated areas.

Expand Education and Civic Participation

Moving the City toward sustainability will require not only a sustainability plan, but also substantial education and outreach activities to increase community support and establish a common understanding of what sustainability means for Manitowoc. The following techniques and approaches to educate community members have been successfully utilized in other communities. The City could expand its educational programming and promote additional civic participation opportunities through a variety of strategies including:

Host Regular Educational Programs

Educational programs, such as workshops, seminars, and informal community events with a sustainability bend are an excellent way to build community and promote a sense of ownership in the overall movement toward sustainability. Examples could include how-to workshops on rain barrels, composting, gardening, or energy efficiency. Community sponsored educational seminars featuring field experts (e.g. experts in energy, water, farming, natural resources, etc.) could foster greater understanding of complex systems and encourage participation in sustainability programs.

Promote Sustainability in Schools through Curriculum, Building Design, and Operation

Including sustainability in school curriculum imparts in students the importance of social and environmental justice and economic prosperity. Students will often return home and impart new knowledge on to their parents; further infusing sustainability in the community. Aside from curriculum-based approaches to sustainability in schools, the operation and design of buildings can also be enhanced to promote sustainability, benefiting not only the environment, but also students. Studies have shown that academic performance is linked to building design issues such as lighting and climate control.

Promote Sustainability Initiatives through the City's Website and Other Media Outlets

Local medial outlets are integral in informing the public about sustainability and related municipals projects and initiatives. Continued use of the City's website, as well as internet-based networking

(e.g. facebook, twitter, blogs), cell phone text message trees, radio and television public service announcements, newspapers, and other print publications can provide low-cost media coverage and reach varied audiences.

VI. NEXT STEPS

The concerted efforts of City officials and staff, businesses and organizations, and residents and visitors will be necessary to implement the City's vision for sustainability. The following are potential strategies that may be considered as initial steps toward this goal.

Continue Regular Meetings of the Sustainability Committee

As described in Section III of this document, the City should continue regular meetings of its Sustainability Committee.

Develop a Sustainability Plan

The City should consider developing a municipal sustainability Plan as described in Section III of this document. A sustainability plan would establish clear direction to expand and promote sustainability initiatives within the City.

Hold Monthly City Staff Coordination Meetings

The City should consider conducting regular staff coordination meetings to provide an opportunity for interdepartmental planning and collaboration, as well as a platform for City staff to showcase unique departmental programs and accomplishments.

Hire a Full-Time Sustainability Coordinator

A sustainability coordinator's responsibilities would include developing, planning, coordinating, and implementing municipal and community-wide sustainability initiatives and activities, such as seminars, conferences, workshops, and short educational courses. The addition of a sustainability coordinator to the City's staff roster would demonstrate to the community the City's commitment to advancing sustainability. This full-time position may also have the capacity to research and seek out federal, state, and non-profit funding sources to advance specific actions or programs.