

Environment, Natural Resources, Energy

Perhaps few other cities in Monroe County are so directly linked the environment and natural resources than Luna Pier. Lake Erie and its coastal beaches and wetlands create unique environments that support a wide range of plants and animals. Improvements in Lake Erie water quality in the past few decades have helped communities like Luna Pier enjoy a resurgence in popularity. The continued health and water quality of Lake Erie substantially impacts Luna Pier as a tourist destination and as a place to live. Visitors and local residents are naturally drawn to the beach to enjoy the views and physical sensations of being near the water. Local industry is also tied directly to the health of Lake Erie from the standpoint that sport fishing charter boats and recreational fishermen utilize Luna Pier as a home port.

Environmental and Natural Resource Issues

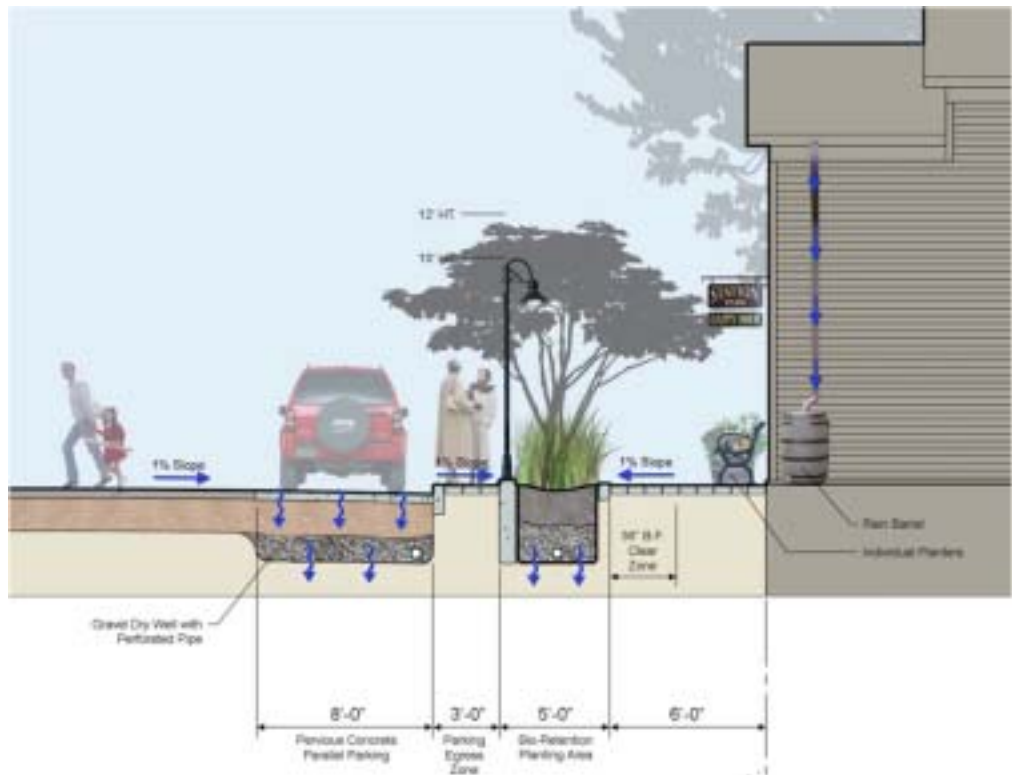
From a Master Planning perspective, environmental and natural resource issues come into focus in the following ways:

- 1. Preserve Water Quality with Better Site Engineering.** Development and redevelopment can have major impacts on the natural environment. Storm water runoff and erosion can help transport pollutants to waterways. Planned redevelopment of the downtown area should incorporate the latest in low-impact development (LID) techniques to help make sure that storm water runoff does not diminish water quality near Luna Pier's Beach area.



Low Impact Development (LID)

LID is an approach to land development (or re-development) that works with nature to manage stormwater as close to its source as possible. LID employs principles such as preserving and recreating natural landscape features, minimizing effective imperviousness to create functional and appealing site drainage that treats stormwater as a resource rather than a waste product. There are many practices that have been used to adhere to these principles such as bioretention facilities, rain gardens, vegetated rooftops, rain barrels, and permeable pavements. By implementing LID principles, and practices, water can be managed in a way that reduces the impact of built areas and promotes the natural movement of water within an ecosystem or watershed.



- 2. Solutions are needed at the Venice Canals.** Stagnant and poor water quality diminishes property values and could potentially create health problems. There are land ownership issues that complicate this matter. This issue requires focused and sustained attention to resolve.



- 3. Maintaining Waste Water Treatment Performance:** Continued efforts are needed to make sure that the waste water treatment plant is upgraded and performing at or above required standards and discharge limits. City residents are directly and substantially impacted by water pollution.



- 4. Maintain the Healthy Lake Shore.** Continued vigilance is called for in maintaining a clean and healthy lakeshore environment. The Monroe County Health Department monitors the beach area water quality, but sustained local initiatives to prevent pollution and maintain water quality are important.



- 5. Promote Luna Pier as the Southern Anchor of the International Wildlife Refuge.** Luna Pier is the southern-most City located within the new International Wildlife Refuge which was established in 2001. This area extends northward toward Detroit/Windsor, Ontario and was established as the first International Wildlife Refuge in North America. The boundary of this refuge includes islands, coastal wetlands, marshes, shoals, and water-front lands along 48 miles of shoreline. The Detroit River International Wildlife Refuge has received national acclaim for its use of public-private partnerships and has grown from 304 acres to 4,982 acres. The refuge is managed by staff at the refuge office in Grosse Ile, Michigan. Luna Pier's position within this refuge provides eco-tourism opportunities that will be one element of the local economic development strategy. Luna Pier is a place where a journey along the new International Wildlife Refuge can begin or end by boat or kayak. The concept of a "blue trail" for small boats has merit for those outdoor enthusiasts who wish to experience this unique area up close.



- 6. Draw more attention to existing environmental attractions/focal points at either end of the City.** Along with the International Wildlife Refuge, Luna Pier can promote itself as a destination for passive recreation since it is "framed" by the Erie State Game Area to the north and the Woodtick Peninsula to the south. To the north, near Allen's Cove, the Erie State Game Area is a sizeable tract of public land that extends to the north and even west of I-75. To the South, the Woodtick Peninsula is also a sizeable destination that can now be accessed from Erie Road. Bald eagles nest nearby and many types of birds and aquatic mammals are present. The Erie State Game Area is part of the migration route for ducks, swans, geese, wading birds, shorebirds, raptors, and songbirds, and represents some of the best duck hunting habitat in the state.

Opportunities exist to link the City's developing trail system to adjacent state-owned recreation areas. In particular, improvements such as an observation deck/platform or trail north of Water Tower Park would help provide a destination for residents and visitors who wish to visit hundreds of acres of undisturbed natural beauty. Similarly, plans to extend a non-motorized trail south over LaPointe Drain and along Lake Erie provide similar opportunities to connect with adjacent undisturbed natural environments.

Western Lake Erie and the Detroit River provide world class opportunities to view birds and other wildlife. Local habitat is considered exceptional

and has been documented by the United Nations Convention on Biological Diversity, The Michigan Biodiversity Conservation Act, and the Canada-U.S. Biodiversity Investment Program. To help draw attention to these resources, the Byways to Flyways Project produced a pamphlet that provides driving tour of featured birding locations in the Windsor-Detroit Metropolitan Region.

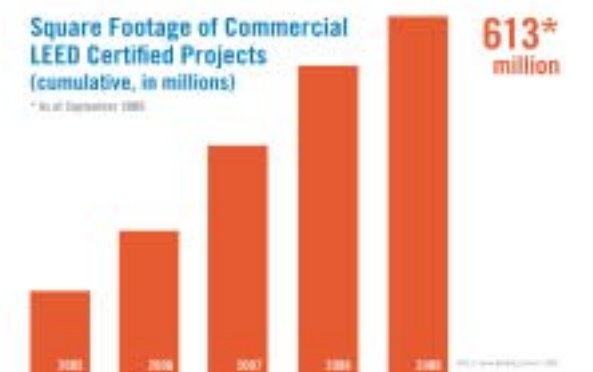


Energy Issues

Historically, energy issues have not had a major role in community planning. The provision of energy to homes, commercial establishments, offices and industry was typically left to private utility companies to address. More recently, sharp spikes and swings in energy prices, and concerns over climate change and cap and trade systems, have changed the outlook toward energy in substantial ways. Many believe that the days of low-cost energy are likely over, as growth in places such as China and India put pressure on world energy supplies. Rising demand for energy translates into not only higher costs, but also pricing uncertainty.

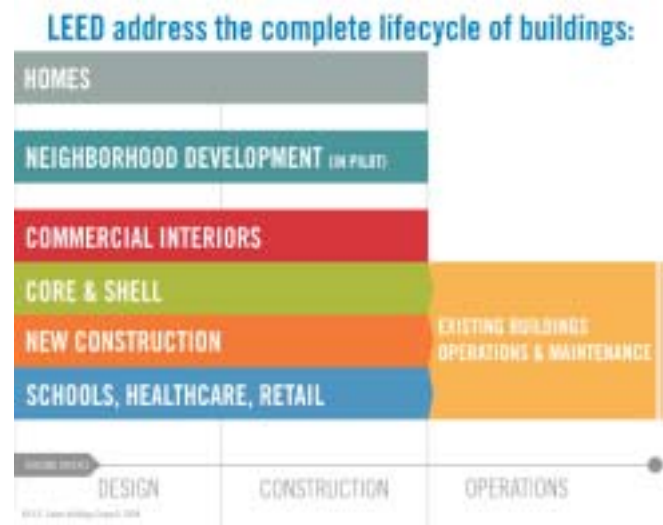
Increasingly, local governments are looking at energy utilization and consumption in new ways. From a Master Planning perspective, energy issues come into focus in the following ways:

- 1. Embracing LEED for future public buildings.** LEED stands for Leadership in Energy and Environmental Design and it is a voluntary third party rating system established by the United States Green Building Council (USGBC). LEED principles advocate a holistic "integrated design approach" to Building Design, Construction and Operation. On April 22, 2005, Governor Granholm signed Executive Order #2005-4 requiring all state-funded new construction and major renovation projects over \$1,000,000 to be LEED certified. While up-front costs may be slightly higher, LEED-certified buildings typically enjoy reduced energy consumption, lower operating costs, health benefits and increased productivity.



2. Embrace/ Encourage other LEED

Principles. Since the establishment of the USGBC and the creation of the LEED rating system, LEED has evolved to encompass other specific rating systems. LEED-ND (neighborhood development) standards will be in place in 2010 and offer many useful development principles that can be incorporated into local codes and regulations.



3. Utilization of LED lighting. Communities are increasingly utilizing LED (Light Emitting Diode) lighting in street lights and interior lighting applications.

LED lighting fixtures involve more up-front costs, but energy utilization is generally cut by one half, and the fixtures themselves last many times longer. Therefore equipment costs are lower in the long run. A few years ago, Ann Arbor was among the first cities in the nation to install LED street lights. Today, many communities are following this trend as the return on the initial capital investment is relatively short and net savings are realized rapidly. LED lighting also has interior applications in office spaces, conference/meeting rooms, etc.



4. Support redevelopment options for the Consumers Power Plant in the context of various alternative energy initiatives. Redevelopment options at the Consumers Power Plant could include alternative energy initiatives and/or processes involving waste heat recovery. These could represent significant opportunities for Luna Pier as it remains engaged in future conversations and initiatives.



5. Large-Scale and Small-Scale Wind Energy. Michigan is among a group of states that are expected to experience significant commercial wind energy development. Lake shore areas in particular have an especially high wind power capacity potential. Luna Pier will be open to dialog to explore cooperative ventures related to wind energy.

Increasingly, wind energy is being considered by residential, commercial and industrial users to supplement conventional sources of power. Small pole-mounted windmill structures are being located in urban areas where they can have impacts on adjacent property. Small wind turbines are electric generators that utilize wind energy to produce clean, emissions-free power for individual homes, farms, and small businesses. With simple technology, individuals can generate their own power and cut their energy bills while helping to protect the environment. Small wind turbines have rated capacities of 100 kilowatts and less, and the market is expected to continue strong growth through the next decade. Luna Pier will take steps

to ensure that regulatory mechanisms are in place to allow small-scale wind energy structures to be utilized in appropriate locations with appropriate development standards.

6. Curb Light Pollution. As a planning policy, the City of Luna Pier will take reasonable steps to reduce light pollution as means to help preserve environmental quality. This impacts future choices to be made concerning lighting public spaces and regulation of private development relating to parking lot illumination, architectural accent lighting, security lighting and landscape lighting. As a City that takes part of its name from a celestial body, it is appropriate to consider implementing reasonable steps to curb light pollution and preserve night time views of the sky as much as possible. Guidance is available from organizations such as International Dark-Sky Association to encourage or require fully shielded light fixtures to direct light downward and minimize “light trespass.” According to the International Dark-Sky Association, dark sky-friendly lighting design takes into consideration issues such as low glare lighting equipment, full cutoff and lower wattage luminaries.

“Light pollution is largely the result of bad lighting design, which allows artificial light to shine outward and upward into the sky, where it’s not wanted, instead of focusing it downward, where it is. Ill-designed lighting washes out the darkness of night and radically alters the light levels—and light rhythms—to which many forms of life, including ourselves, have adapted. Wherever human light spills into the natural world, some aspect of life—migration, reproduction, feeding—is affected.”

“Of all the pollutions we face, light pollution is perhaps the most easily remedied. Simple changes in lighting design and installation yield immediate changes in the amount of light spilled into the atmosphere and, often, immediate energy savings.”