

## 5e. NATURAL RESOURCES ELEMENT



The City of Adrian is fortunate to own and manage a wealth of parkland within its boundaries, as well as Heritage Park which is located just north of the City. In addition to the many parks, Adrian residents can enjoy the Kiwanis Trail that currently runs along an abandoned rail corridor from the center of the City through Adrian and Raisin Townships toward the City of Tecumseh.

The City's parkland and recreation facilities play an important role in defining the City's character and quality of life. Natural features also play an important role, and although most of the land within the City is developed, there are a number of natural features that deserve

protection including the River Raisin corridor, Wolf Creek, and Lake Adrian.

### RECREATION LAND USE RECOMMENDATIONS

The Future Land Use Plan (Map 5-1) designates a number of areas for recreational use. This category encompasses existing and planned public and private outdoor recreation areas such as playgrounds, picnic areas, camps, sports fields, and the like.

A major recommendation of the Plan is the future development of a linear park that encompasses and extends Riverview Trail along the River Raisin, eventually connecting Island Park on the City's north side with Riverside Park south of Downtown Adrian. Realization of this linear park will likely happen incrementally as development and redevelopment within the corridor occurs. In some cases, implementation may occur with the City acquiring property along the river, and in other cases it may take the form of easements on private property.

While the City's Parks and Recreation Department is not currently planning for the acquisition of additional parkland, the Department's goals include a number of priorities that may potentially impact future land use in the community. The Department is currently exploring options to replace its existing maintenance facility either by redevelopment of the current site or relocation and development of the facility at a new site. In addition, the Department plans to study the need and feasibility for both an aquatic facility and a community center. Priorities such as these may require additional public land within the community that may not be represented on the Future Land Use Plan. It is also important to note that while the Land Use Plan does not identify specific properties for future neighborhood parks, it is a long-term goal of the City to provide neighborhood parkland in appropriate locations to serve all of the City's neighborhoods.

### NATURAL RESOURCES RECOMMENDATIONS

#### Creative Development Techniques

While most of the City's land has already been developed, areas in the City's northeast and southwest retain significant development potential, as well as many other areas that may

experience redevelopment pressures in the future. Creative development techniques, such as clustering and open space residential provisions, may be desirable in these locations. Using tools such as Planned Unit Developments, the City may require developers to preserve a portion of the land in perpetuity as open space or parkland in exchange for flexibility in site design.

### Stormwater Management

Waterways are important in the City of Adrian. People can easily see and appreciate such features as the River Raisin and Lake Adrian, but a less visible contributor to water quality in the City is storm runoff. The degree to which runoff is cleansed of pollutants and excess nutrients from fertilizers has a great deal to do with how quickly stormwater enters streams, rivers, and ponds. Stormwater that falls on parking lots, driveways, streets, building roofs, and to some extent, lawns, runs quickly into storm sewers, carrying with it soot, oil, fertilizer, and other harmful elements. In contrast, water that runs into wetland areas stops, at least temporarily, as it soaks into the soil, helping to prevent flooding and erosion caused by fast currents. Wetlands soils filter harmful materials from the water, and wetlands plants use water, further slowing the progress of runoff into streams, rivers, and lakes.

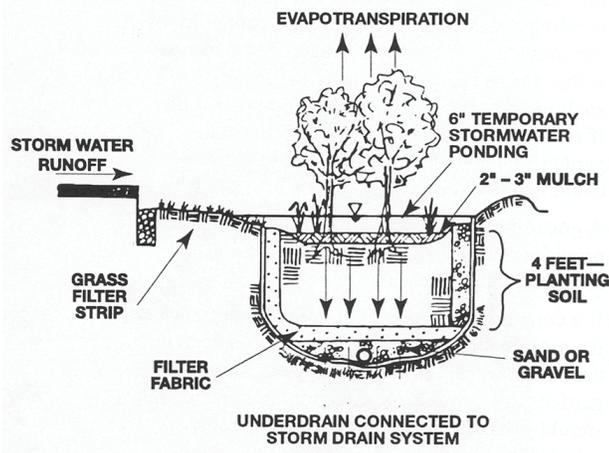
When development and redevelopment occurs in the City, care should be taken to protect the City's waterways. Impervious surfaces (those that do not absorb water) should be limited as much as possible. The size of parking areas should not be excessive for the needs of the development. In residential developments, the amount of street surface should be limited by creative arrangement of lots, and street width requirements should be examined to ensure they are not excessive. Wetlands should be preserved where they exist, enhanced where they have become degraded, and consideration should be given to constructing wetlands where they do not currently exist.

#### Action Items

- ☑ Encourage environmentally responsible practices, such as the use of native species and minimization of lawn areas in new and existing developments.
- ☑ Ensure that parking and paving standards do not lead to excessive impervious services in the City.
- ☑ Incorporate the long-term goal of creating a linear park into the City's parks and recreation planning process.
- ☑ Pursue development of additional trailways and other pedestrian and bicycle facilities throughout the community.
- ☑ Develop incentives to encourage creative development techniques for new development and redevelopment.

The amount of lawn area in a development can also have a significant effect on the amount of runoff produced. Lawns are made up of tightly packed plants. Much of the rain that falls on lawns simply runs off into the street before soaking into the soil. In addition, lawns require care including watering from sprinklers, which contributes to runoff, and applying fertilizer, which pollutes streams and rivers when it is carried away from the site. Preserving more of a development as open space while reducing the size of individual lots can result in a smaller overall lawn area. Planting barrier areas of native shrubs and grasses at the edges of lawns can also enable more water absorption and less runoff into streams. The use of native plants is also advantageous since maintenance and water needs are less substantial. These open space and runoff barrier areas can be approved as part of a site plan or a subdivision plat, and maintained by a condominium or homeowners' association.

Figure 5-16  
**Bioretention Area Profile**



Many of the stormwater management techniques appropriate for new development can also be incorporated into existing developments. Homeowners are especially able to affect the amount of stormwater runoff their yards produce through replanting part of the lawn with native grasses and shrubs, using pervious or semipervious driveway materials, conserving roof runoff through the use of rain barrels, or constructing a rain garden.

One technique that is particularly appropriate for existing development is bioretention. Bioretention is a low impact development (LID) and best management practice that uses soils and vegetation to remove pollutants from storm water. These specialized landscape areas are used to filter and store runoff and promote groundwater recharge through infiltration. As shown in Figure 5-16, runoff is conveyed as sheet flow to the treatment area, which can consist of a grass buffer strip, sand bed, ponding area, organic layer or mulch layer, planting soil, and plants. Once runoff reaches the treatment area, water is ponded and gradually infiltrates the bioretention area or is evapotranspired. This reduces the amount of water flowing from the impervious surface into streams and rivers, and reduces the amount of pollution that ends up in those water bodies.

Bioretention areas can be incorporated into the design of median strips, parking lot islands, and swales. Small "rain garden" bioretention areas can be established in landscaped areas in residential and other developments. Bioretention can be incorporated into developed urban areas by retrofitting existing landscaped areas, parking lots, and streetscape improvements.