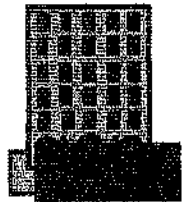
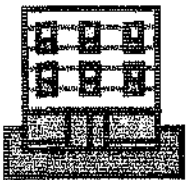
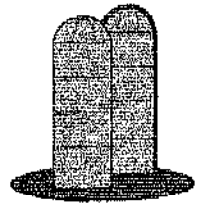
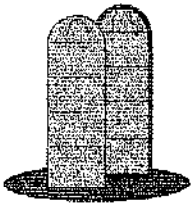
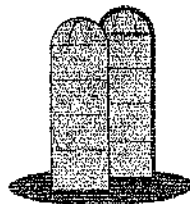


Branch County



Master Land Use Plan



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THE BRANCH COUNTY MASTER LAND
USE PLAN WAS DEVELOPED BY THE
BRANCH COUNTY PLANNING
COMMISSION IN COOPERATION WITH

SMPC

Southcentral Michigan Planning Council

Public Hearing - November 12,1997 Planning

Commission Adoption - November 25,1997

PREFACE

This document is a Master (Land Use) Plan for Branch County. The Plan contains an identification of land use trends, problems, advantages and opportunities which may impact future development; goals and objectives to guide development; practical tools and techniques to achieve the land use goals and objectives and an implementation section for further steps beyond Plan adoption.

A data base report (199 3) was also developed as an initial step in plan development.

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1. Land Use Trends
2. Problems, Advantages and Opportunities
3. Goals and Objectives
4. Future Land Use - Tools and Techniques
5. Recommendations for Implementation

LAND USE TRENDS

AGRICULTURAL LAND USE

While the number of farms in Branch County has continued to follow the decades long, nation-wide, decline, the total farm acreage in the County has stabilized according to the Census of Agriculture. Agricultural land use still makes up 70 percent of the County land area.

The average farm size has risen in recent years. The number of farms under 500 acres has fallen. The total acres in farms of under 500 acres has also fallen, while farms having more than 500 acres increased slightly.

The conversion of farm land to residential use is a trend in the County.

Of potential significance to future land use considerations is one trend in livestock operations. The number of farms with cattle has plummeted. While the number of hog farms has dropped, the total number of hogs in Branch County has risen dramatically. This follows a trend to intensive hog operations common in neighboring counties.

RESIDENTIAL LAND USE

Over the last two decades a trend has been developing whereby persons working in urban counties are choosing to live in nearby rural counties. There are some indications that this trend is affecting the Branch County lake areas in general and Kinderhook Township in particular. Commuter patterns suggest that the population is being drawn from Calhoun County, Michigan and from the Elkhart-South Bend area of Indiana. Similarly, Coldwater Township and to a lesser extent the surrounding adjacent townships experience increased residential development as the City of Coldwater attracts industrial employers.

There is a continuing demand for lower cost lots available for residential development along rural county roads. County primary roads are taking on an increasingly residential character.

A significant demand for manufactured housing is present within the County.

COMMERCIAL LAND USE

The trend over recent decades has been for the central business districts of each city or village to experience difficulty in keeping retail structures occupied. The success or failure of each downtown varies considerably. The theory has been that retail operations locate on State or U.S. Highways just beyond the city or village limit where land is cheap, property taxes low and visibility high. The Willowbrook development within the City of Coldwater at the US-12/I-69 interchange indicates that simple land availability plus high visibility and easy access are the primary factors.

The Willowbrook development reflects a national trend whereby major retail chains are shifting competition to the smaller urban markets. A current trend is towards smaller, easy access shopping plazas. In Branch County US-12 on either side of Coldwater, but particularly to the east of I-69, should continue to attract retail activities. Additionally, interest is likely at the Jonesville, Fenn and Copeland Road interchanges of I-69.

A current trend is toward urban fringe development. Land along major roadways just outside village/city boundaries offers easy accessibility; low development costs while benefiting from high traffic volumes.

Other retail activity has consisted of isolated stores taking advantage of special situations. An example would be the businesses in Kinderhook which serve the Coldwater Lake residential community.

INDUSTRIAL LAND USE

Increased concern over the liabilities associated with both past environmental pollution and the potential for future liability has caused industrial developers to focus efforts on new industrial park facilities. Development by many types of industries has avoided areas not served by sanitary treatment plants. Given these restraints, the City of Coldwater purchased adjacent land and provided full public utility service. The success of the Certified Industrial Park program encouraged Union City and Quincy to follow this approach.

Brownfield redevelopment (the name given to contaminated urban sites) may be more likely with the availability of Michigan Brownfield Development Initiative.

E. RECREATION AND OPEN SPACE LAND USE

With five county parks and 16 Michigan Department of Natural Resources (MDNR) public access sites located throughout the county, and park systems in each city or village, there seems to be adequate recreational resources for county residents based upon MDNR Recreation Standards.

The Branch County Recreation Plan does not call for the establishment of any new park facilities.

The County and the cities have been concentrating on improving facilities at the existing parks.

The State of Michigan has had plans to develop a state park on the south end of Coldwater Lake. However, funding has never been found for the project. Given current State budgets for parks, development of this site is not likely in the near future.

The Michigan Department of Natural Resources applies annually for grant funds to expand the public access site network on lakes and rivers in the County. There have been no recent purchases.

F. PUBLIC FACILITIES AND SERVICES

Beginning about 1990 the City of Coldwater and Coldwater Township initiated discussions on the extension of sanitary sewer service from the city to the township. In 1994 these municipalities entered into a Public Act 425 "Tax Base Sharing" Agreement. The area involved is northeast of the city adjacent to the I-69/Jonesville Road interchange. Related to this project is a joint plan by the Branch and Hillsdale county road commissions to upgrade Jonesville Road between Old US-27 in Branch County and M-49 in Hillsdale County to an 'all-weather' road classification.

Both Union City and Quincy have proposed public utility expansions to serve the new industrial parks. The Quincy proposal includes extension of public utilities to surrounding areas of the township.

2

**Problems -
Advantages
&
Opportunities**

PROBLEMS, ADVANTAGES AND OPPORTUNITIES

A listing of the community's needs, concerns, advantages and opportunities is contained in this Section. This list will be a valuable aid in comparing the present conditions, and expected future conditions of the community, with the goals and objectives of the community which are contained in the following Section. Such comparison permits the community to begin thinking of ways to achieve the goals and objectives which they have established. The implementation techniques which are included in this document are a reflection of the results of this thinking process.

A. AGRICULTURE

1. Problems

- a. good agricultural land is being used for development - need to be concerned with the preservation of good agriculture land
- b. need coordinated planning to eliminate spot zoning and isolated development

2. Advantages

- a. county has a good soil survey
- b. county has a variety of land and water resources
- c. agriculture provides a financially strong economic aspect to the county

3. Opportunities

- a. need to focus on preserving water supply - keep development consolidated around cities/villages
- b. need to continue to look at cooperation between agriculture owners and lake owners with regard to water issues - water quality most important issue for the future
- c. poor agriculture land should be developed for recreation

B. BUSINESS

1. Problems

- a. lack of good 'skilled' work force that conveys positive attitudes and are conscientious
- b. difficult to find help from those who are unemployed - often viewed as unemployable

some perceive that students who attend career center are not college bound - need to impress upon students to understand the importance of education

knowledge available in county not viewed the same as outside training for business and industry - need to change this perception and capitalize on local offerings

concern in county on growth - some members in community do not want growth

lack of housing availability

lack of high paying jobs - unable to afford housing

Advantages

- a. school to work initiative
- b. strides have been made in the area of taxes and product liability
- c. excellent local educational resources available
- d. county has excellent geographic location
- e. good road system for location of manufacturing - access to highways and interstates
- f. utility access - utilities willing to work with business

Opportunities

- a. need county-wide support for economic development
- b. need buy-in at local level with township involvement
need good communication at various levels - efforts to work cooperatively
- d. stronger workforce development board

C. EDUCATION

1. Problems

- a. in some cases the home environment is not conducive to learning - parents are not encouraging their children to succeed in school
- b. teachers lack support from families for a team approach to educating their children

- c. social issues affect the educational process - these societal issues are being addressed in the classroom
- d. lack of high tech/high paying jobs in county to retain graduates
- e. funding of schools - need more equity in funding of education
- f. high percentage of children under the age of 18 in Branch County live in poverty
- g. homelessness of families

2. Advantages

- a. county has a good educational system
- b. all school districts work well together
- c. variety of county-wide programs that address school retention
- d. some schools offer latch key programs offered for working parents
- e. opportunities for students to discuss problems confidentially if one does not currently exist

3. Opportunities

- a. school to work initiative
- b. involve more private business in the schools
- c. mechanisms to evaluate problem areas
- d. continue collaborative efforts
- e. new community college center

D. HEALTH

1. Problems

- a. poor provider participation in Managed Care - none, worst in State
- b. shortage of primary care physicians
- c. high percentage of mothers with less than a high school education

- d. poor socio-economic conditions (i.e., educational attainment, low income levels, etc.)
- e. highest in State for reported and substantiated cases of rape
- f. high death rates from chronic diseases (i.e., ischemic heart disease, diabetes, COPD, breast cancer), suicides and other injuries
- g. high rates of water borne/food borne illnesses

2. Advantages

- a. willingness on part of agencies to collaborate and link initiatives
- b. county has received special designations status (HPSA, MUA)
- c. low STD's and AIDS rates
- d. low cerebrovascular and other heart disease mortality rates
- e. improved access via community hospital to some specialty services
- f. well-established linkages among health and human service providers
- g. overall lower rates for index crimes (felonies)
- h. low percentage of low birth weight babies
- i. county has one of the better children's immunization rates in the State
- j. lower alcohol-related mortality and injury rates from motor vehicle accidents

3. Opportunities

- a. part of Tri-County Care Network Rural Health Planning Project
- b. changing political/financing environment (block grants)
- c. stronger human services coordinating body

TOURISM

1. Problems

- a. no ready access to the lakes - only one public beach front in the county and public access not well marked
- b. shortage of overnight/short-term (daily, weekly) motel/hotel rentals on lakes

2. Advantages

- a. available full-service motel unit in Coldwater - facilitates large meetings and small conventions
- b. good fishing in area lakes
- c. good local events - Car Show/Swap Meet, 4-Corners Art Festival, Applefest, Quincy Tip-Up, Bronson Polish Festival, Union City Carp Rodeo
- d. recently developed tourism bureau - developing general brochure for county

3. Opportunities

- a. Branch Area Career Center has "hospitality* training program in their curriculum
- b. county has a progressive educational community
- c. supportive city councils regarding tourist needs, evidenced by number of bed and breakfast establishments and new restaurants
- d. revitalized downtown area
- e. Branch County Tourism Bureau brings money for promotion
- f. educate public on advantages of tourism and seasonal residents

TOWNSHIP GOVERNMENT

1. Problems

- a. only about one-half of the 16 townships in Branch County have zoning
 - (1) difficult to control development of prime agricultural land
 - (2) difficult to control the type of development

- b. development brings about issues of water supply and quality
- c. lack of services, i.e., water and sewer, in rural areas may shift development of commercial, industrial and some housing to townships around cities or near interstate highways
 - (1) creates additional burden on these townships
 - (2) additional requirements placed on local units creates additional training and time commitments

2. Advantages

- a. about one-half of the 16 townships do have zoning
 - (1) can control type and location of development
- b. many lakes in the county - abundant water supply
 - (1) attract vacationers to the area
 - (2) people wishing to settle in the county
- c. additional requirements from Federal, State and others as it pertains to land use

3. Opportunities

- a. need a county-wide involvement and support for economic development
- b. need good communications at various levels, i.e., townships and County Planning Commission
- c. with continued development, both in business and housing, there is a need for water supply and quality
- d. need to explore the availability of public utilities, i.e., water and sewer, for areas in need, i.e., residents along rivers or on lakes

CENTRAL CITY

1. Problems

- a. growth influenced by development and employment opportunities (Coldwater's population has increased only 1.5% over the last decade, while Branch County increased 3.3%)

- b. expansion of commercial development in the East Chicago Street area resulted in traffic congestion and safety hazards, leading to a change in the general character of the area
- c. 1990 median family income (\$27,813) is less than county (\$29,389) and considerably less than Coldwater Township (\$34,530)

2. Advantages

- a. steady nonresidential growth
- b. tax abatements to business/industry
- c. complete renewal of zoning ordinances
- d. continual updating of general codes and ordinances
- e. continued monitoring of rental housing units for safety
- f. 30.3 percent of residents are in the 25 to 44 year age grouping: 27.9% are under the age of 18; 16.2% are 65 years or older
- g. Downtown Development Authority was formed to coordinate and revitalize the area, enhance the shopping environment, and improve parking areas and office uses; also allows for tax increment financing (TIFA) in order to capture increases in the tax base created by economic development within the development area
- h. locally owned Board of Public Utilities, which provides electricity, water and wastewater treatment services
- i. increased recycling program for residents to twice a month for paper goods, plastics and glass
- j. combined Public Safety Department, with coordinating chief; all fire fighters are cross-trained as medical first responders
- k. extensive parks and recreation facilities (8 public parks and one bike path) with additional parks under development
- l. adjacent to municipal airport

- m. home of the County Seat
- n. home of the community health center
- o. headquarters for District Library
- h. has public transportation system (BATA) located within city, serving entire county
- i. street system has been classified under Act 51, allowing for continued funding for improvement

3. Opportunities

- a. increased in residential housing development
- b. plenty available land/property for economic development
- c. increased educational opportunities with KCC's Grahl Center (and associated college/university building utilization)

H. ROAD STATUS

1. Problems

- a. gravel roads are in need of upgrading all-
- b. weather system of primary roads local
- c. blacktop system in need of repairing
- d. bridges in need of replacement on both primary and local system

Advantages

- a. primary system that has been repaired at least once in the last 20 years
- b. brush control program through roadside mowing program - purchase of boom mower has been a big asset
- c. Road Commission owned asphalt plant that has allowed more asphalt production with Road Commission personnel
- d. equipment purchases keeping abreast of latest technology and lowering repair expenses, and manpower needed for repairing

3. Opportunities

- a. with additional revenue possible, possible expansion of all-weather system
- b. revenue would be added to local road system, both on gravel and blacktop roads

I. COMMUNITY AT LARGE

1. Problems

- a. shortage of low cost housing
- b. shortage of a trained work force
- c. Branch County has an average family income well below the State level (25% lower - \$37,249/county compared with \$49,958/State) for year of 1990
- d. border state location
- e. lack of technical skills, basic skills, personal management skills (DPH reports educational levels as follows: B.S. degrees average 10.9%/State, but only 10.3% for the county. Advanced degrees are held by 7.5%/State and 3.8%/3-county area) for year of 1990
- f. lack of an infrastructure outside of major cities, villages

2. Advantages

- a. great quality of life
- b. location of county is within 500 miles of 50 percent of all U.S. manufacturing and 50 percent of all U.S. population
- c. available transportation to outside sources
- d. vocational education is available
- e. local junior college with university programs available
- f. available industrial sites
- g. available infrastructure in established industrial parks
- h. community health center
- i. BATA - public transportation system

- j. diversified industries
- k. reasonably sized airport facility
- l. good agricultural and livestock economy

3. Opportunities

- a. continued support of Branch County Economic Growth Alliance
- b. coordination of job training with business/industry
- c. need to assure availability of homes and building sites
- d. promote agri-business
- e. need programs to further promote recreational facilities/activities

3

**Goals
&
Objectives**

BRANCH COUNTY GOALS AND OBJECTIVES

The following goals and objectives have been established as a guide to development decisions. These statements also serve to direct the recommendations of the County Planning Commission as an advisory body to the township, city and village planning and zoning bodies.

A. RESIDENTIAL DEVELOPMENT

GOAL: Provide a choice of housing types, location and environments to accommodate individual capabilities and preferences of current and future populations.

OBJECTIVES:

- a. Provide for growth and development to occur in a controlled and orderly manner which will provide for residential living, yet, will not overdevelop lake areas.
- b. Discourage residential strip development along major transportation arteries.
- c. Discourage extensive single lot residential development in areas of high agricultural activity.
- d. Prohibit residential development in floodprone areas and regulate residential development in natural areas which would be severely damaged by uncontrolled development.
- e. Encourage the preservation, renovation, and maintenance of existing housing and protect existing and future areas from conflicting land uses which would decrease their desirability as residential areas.
- f. Higher density development may occur where serviced by sanitary sewer services provided the development of sanitary sewer and safe drinking water do not create a burden upon the County.
- g. Encourage residential development of a variety of neighborhoods to provide for different housing needs, locational preferences, age groups and income groups.
- h. Encourage the majority of residential development to take place within areas of the County adjacent to developed residential areas or where necessary public services can be adequately provided in the developmental stages (rural subdivisions).

- i. Encourage reasonable cost housing development in the County.
- j. Proliferation of driveway access to major roadways will be discouraged in favor of access to local or service roads in order to preserve the function of major roadways.
- k. Encourage residential development of undeveloped portions of the cities and villages that are not targeted for industrial development.

AGRICULTURAL DEVELOPMENT

GOAL: Preserve to the maximum extent possible the most productive agricultural lands of the County and to avoid conflicts between farm and non-farm uses.

OBJECTIVES:

- a. Develop definite criteria for the designation of the most productive farmlands in the County and take steps to encourage long-term commitments to agricultural activities in the identified areas.
- b. Discourage land development activities in agricultural areas which would lead to land use conflicts or adversely affect farming operations and the economic viability of agricultural activity.
- c. Encourage intensive livestock operations and similar activities to locate away from residential areas. Also provide for the protection, of those operations that cooperate, from the encroachment of residential uses.

COMMERCIAL DEVELOPMENT

GOAL: Provide suitable areas for the orderly development of a variety of commercial and service activities to serve the needs of the projected population.

OBJECTIVES:

- a. Discourage lengthy strip commercial development along major transportation arteries.
- b. Encourage and support activities of Downtown Development Authorities to implement goals and objectives for commercial development.
- c. Encourage adequate off-street parking for central commercial areas.

- d. Discourage conflicting low volume uses within commercial areas.
- e. Encourage major commercial and service facilities to locate in downtown areas or in cluster developments (shopping centers) where essential public services can be economically provided and traffic can be accommodated without increasing traffic congestion.
- f. Encourage neighborhood convenience facilities and services at or near major lake areas and in selected rural locations as necessary to serve the public.
- g. Proliferation of driveway access to major roadways will be discouraged in favor of access to local or service roads in order to preserve the function of major roadways.

D. INDUSTRIAL DEVELOPMENT

GOAL 1: Provide for additional industrial growth within the cities and villages.

OBJECTIVES:

- a. Control industrial development so as to assure compatibility with residential or other land uses in the area.
- b. Industrial development should occur in a manner which provides for direct access to major roadways without relying on residential access streets.
- c. Develop and maintain a public relations program for the purpose of attracting industry to the County.

GOAL 2: Industrial development should occur at locations which meet the following objectives.

OBJECTIVES:

- a. Industrial development should occur in a manner which provides for direct access to major roadways without relying on residential access streets.
- b. Industrial development should occur at locations and in a manner to minimize impacts upon adjacent land uses.
- c. Light industry may be provided for in areas where essential public services can be provided, operating efficiency maximized and congestion and public hazard minimized.

RECREATIONAL AND OPEN SPACE DEVELOPMENT

GOAL: Provide adequate year-round recreation facilities to meet the needs of the residents of the County and preserve and enhance the County's natural features.

OBJECTIVES:

- a. Control lakeshore and stream bank development to assure that development does not directly or indirectly destroy these areas.
- b. Encourage conservation and protection of natural, scenic, lake and wooded areas for public enjoyment.
- c. Encourage the provision of adequate open space and recreational facilities in any major residential development proposal.
- d. Prohibit floodplain development except for recreational purposes.
- e. Develop a forum for communication between all local groups responsible for meeting recreational needs, such as schools, local clubs, ad hoc community groups, etc.
- f. Identify and protect appropriate open space and wetland areas of the County and incorporate these areas in the recreation plan.
- g. Encourage development of parks with facilities and equipment consistent with park size and anticipated usage.
- h. Increase the attractiveness and diversity of existing public recreation facilities to promote greater use of these facilities.

TRANSPORTATION

GOAL 1: Provide for efficient, safe and convenient access to the transportation network.

OBJECTIVES:

- a. Encourage improvement of the road network to accommodate present and future vehicular traffic in an efficient manner.
- b. Review the classifications of the existing roads to determine the primary function of each road (access to property, collection of traffic or major movement of traffic).

- c. Regulate land development to minimize congestion and assure that the road system serves as designed.
- d. Require proper road design in major residential developments .
- e. Discourage residential development along transportation routes.
- f. Identify the transportation needs of those residents without automobiles and support public transit to meet their needs.
- g. Encourage development of pedestrian and bicycle paths in appropriate parts of the County.

GOAL 2: Provide rail and street access so as to encourage and promote commercial, industrial and residential development.

OBJECTIVES:

- a. Identify sources of funding for rail spurs and sidings for industrial parks.
- b. Provide for upkeep and maintenance of main rail line in County.

G. UTILITIES

GOAL: Provide for the timely development of necessary services—sewer, storm drains, water lines, in accordance with present and planned future needs of the County.

OBJECTIVES:

- a. Carefully assess future needs.
- b. Require all development to connect to utility services in a timely manner.
- c. Require all new apartments, mobile home parks and similar medium to high density developments to provide a central sewage disposal system until such time that sanitary sewers are available.
- d. Permit single-family residential development in areas not serviced by sanitary sewer provided lot sizes are consistent with public health requirements for septic systems and County residential and environmental policies.
- e. Maintain, improve and expand as necessary existing sewer and water systems to serve the needs of existing and planned commercial, industrial and residential uses.

- f. Develop a system of priorities to govern the extension of public utilities; i.e. for projects located within the city/village limits, outside the city/village limits and/or substantially beyond the existing built-up area.
- g. Reassess and update public utility improvement programs.
- h. Identify sources of funding for public utility projects.

H. COMMUNITY FACILITIES

GOAL: Provide for a range of community facilities and services to satisfy the present and future needs of the residents of the County.

OBJECTIVES:

- a. Encourage local police and fire facilities to locate with respect to functional service area requirements as the County develops.
- b. Encourage educational facilities to locate with respect to present and future development patterns.
- c. Encourage churches, public buildings and other places of public assembly to be located so as to be easily accessible to the majority of the public.

4

Future Land Use

**Tools
&
Techniques**

RECOMMENDED FUTURE LAND USE PLAN - TOOLS AND TECHNIQUES

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RECOMMENDED FUTURE LAND USE PLAN TOOLS AND TECHNIQUES

This plan contains a section which identifies needs, opportunities and constraints within the community regarding land use. A section containing desired goals and objectives based upon the earlier section is also included in the plan. THIS SECTION identifies the implementation techniques (a "handbook") which communities may use to move toward the ideals reflected in the goals and objectives section. County government's role (primarily through the County Planning Commission) in implementation through this handbook will be two-fold as follows:

- 1) providing information, training, technical assistance and consultation to communities regarding the techniques contained in this implementation section (HANDBOOK), and
- 2) statutory review of municipal plans (and amendments), zoning ordinances (and amendments)

Implementation of the techniques contained herein can contribute substantially to accomplishing the objectives of the plan.

The primary basis for implementing the County Master Plan is to encourage township, village and city planning and zoning as a means of achieving the goals and objectives contained herein. Consequently, the Recommended Future Land Use Plan Tools and Techniques is included in the plan to encourage land development policies consistent with this plan. Although it is customary to include a countywide map of what the County land use pattern should look like in the future, in the case of Branch County with no County zoning and many communities without zoning, it is impractical to expect such a land use pattern to develop without any authority at the county level to implement such a pattern. The County Planning Commission in its review authority over township land use plans and zoning ordinances has an opportunity to influence policy and regulation. Furthermore, since most communities are conducting planning and zoning regulation development in cooperation with the County Planning Commission and a planning relationship with the regional planning commission (Southcentral Michigan Planning Council - smpc) this handbook approach to encouraging proper planning principles is a reasonable approach to achieve the plan goals and objectives.

Since the handbook was developed Public Act 591 of 1996 has been passed and came into effect (April 1, 1997). All communities (even those without zoning ordinances) may now adopt regulations regarding land division under this Act. Consequently, all communities may now have a greater opportunity to influence the shape of the county landscape in the future.

A. LAND DIVISION

Michigan's new Land Division Act (Act 591 of 1996) provides an opportunity for communities to assure that land divisions comply with community land use policy (land use plan) and land use regulations (including zoning).

Land division and property access decisions by individual land owners have significant impacts on overall development patterns and community character. Many communities have seen the effects of unregulated land divisions - fragmented agricultural areas, diminished natural resources, loss of open space, uncontrolled access to roads and increased demand for urban services. The cumulative effects of land division decisions over time have a dramatic impact on the pattern of development in the community and the region, particularly as it relates to eventual need for infrastructure improvements - roads, sewers and water supply - at a high cost.

It is within the authority of local governments to control land divisions, using a variety of tools and techniques available to them. The four tools and techniques described in this section - subdivision regulations, lot split regulations, condominium regulations and private road regulations - are not new. However, their method of addressing the issues as discussed above is new and is the primary focus of this Section. Subdivision regulations are the most frequently used tools but typically deal only with platted property. Lot split regulations and private road regulations should be used together to ensure effective new development. More often than not, one or the other is not included in many local ordinances. Condominium regulations, on the other hand, are emerging as one of the most frequently used of all local regulatory tools.

1. Subdivision Regulations

Subdivision regulations govern the process by which lots are created out of larger parcels. In guiding the division of land into multiple lots or a plat, subdivision regulations address many factors including grading, erosion control, utility easements, street alignments, circulation, lot size and emergency access. These regulations ensure that new lots conform with zoning requirements for area, height, setback and density requirements; streets are properly aligned with the broader road system; water, drainage, and sanitary sewer facilities are adequate; the site is not overcrowded; and open space is sufficient for utilities, recreation, light, air, emergency access and traffic safety. A major purpose of such regulations is to prevent the creation of lots which are "unbuildable" under access controls, zoning requirements or environmental protection regulations. (Source: "Subdivision Regulations", Community Planning Handbook, pp. VII-77 - VII79.

Subdivision regulations establish:

- The administrative review and evaluation procedure for processing preliminary and final plats.
- What must be included in the plat.
- Design principles and standards for lots, blocks, streets, public places, pedestrian ways and utilities.
- Required improvements, which may include streets, sidewalks, water, sewer, and curbs and gutters.
- Financing and maintenance responsibilities.

(Source: Land Division and Access Controls, p. 29) .

Planning and Regulatory Considerations: The Michigan Land Division Act (Public Act 591 of 1996) replaces the former Michigan Subdivision Control Act (P.A. 288 of 1967) and regulates land division and subdivision.

In recent years site condominium subdivisions have been developed under the Condominium Act, P.A. 59 of 1978 (MCLA 559.1). (See section on "Condominium Regulations") . Locally-adopted subdivision regulations that can ensure a more comprehensive approach in site design, relationship to adjacent properties and the site review process. Such regulations can contain more strict standards, establish design standards and address issues relative to the local comprehensive plans and development policies of the community.

Figures 1 through 3 are graphic illustrations involving subdivision platting. Figure 1 is an existing parcel prior to subdivision. Figure 2 illustrates some problems typically created in conventional subdivision design - unbuildable and odd configuration of lots, poor vehicular and pedestrian access and loss of natural amenities. Figure 3 provides an alternative approach in subdivision design which allows for the reduction of lot size to create open space within the subdivision. This approach could result in better vehicular and pedestrian access and preservation of a significant portion of the natural amenities. Such a design could also provide an increase in the number of buildable lots beyond that of a conventional subdivision. However, communities can require that the number of lots in the open space subdivision not exceed the number of lots that would exist if it were conventionally platted. The zoning ordinance and subdivision regulations both would contain provisions to allow this more flexible design - lot size reduction provisions in the zoning ordinance and design standards in the subdivision regulations.

Figure 1
Existing Parcel Prior to Subdivision

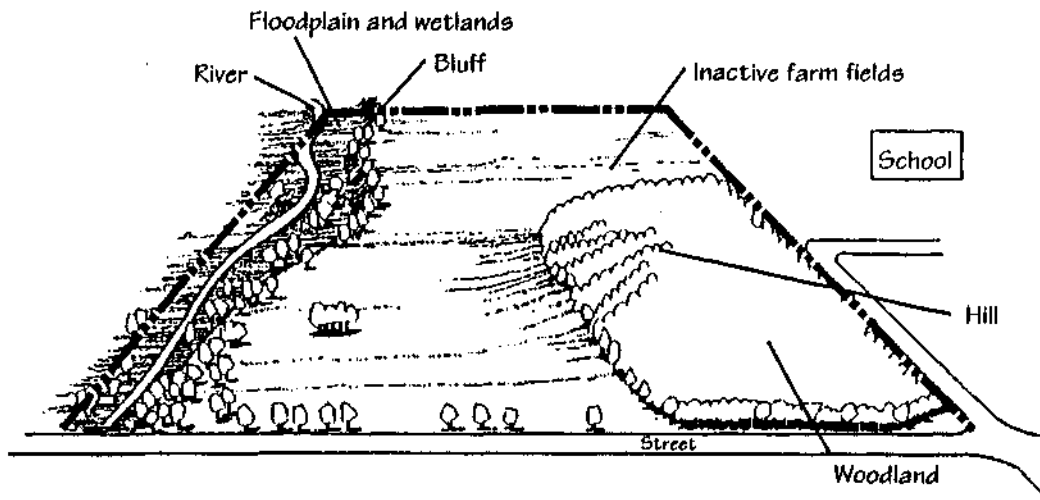
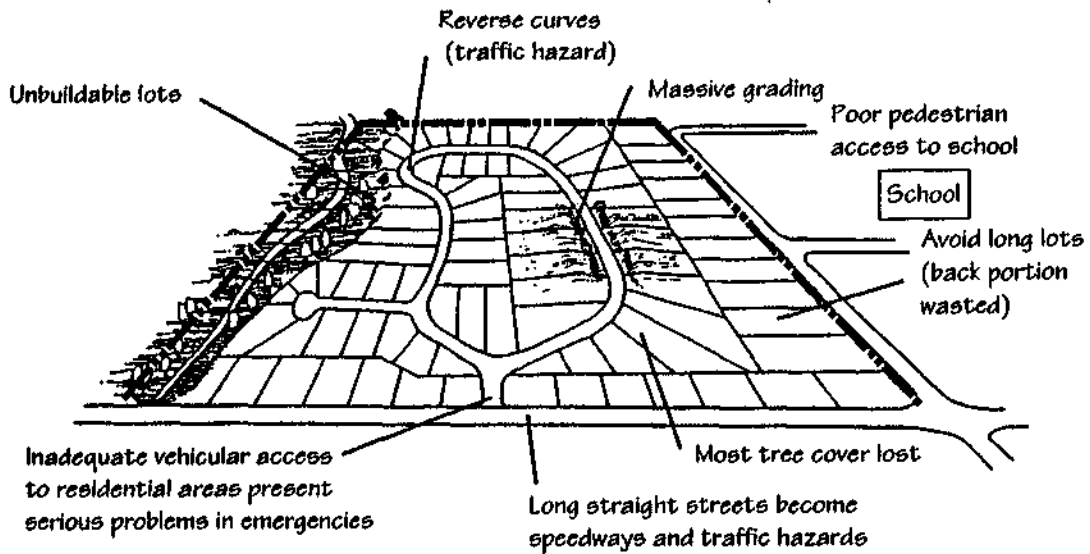
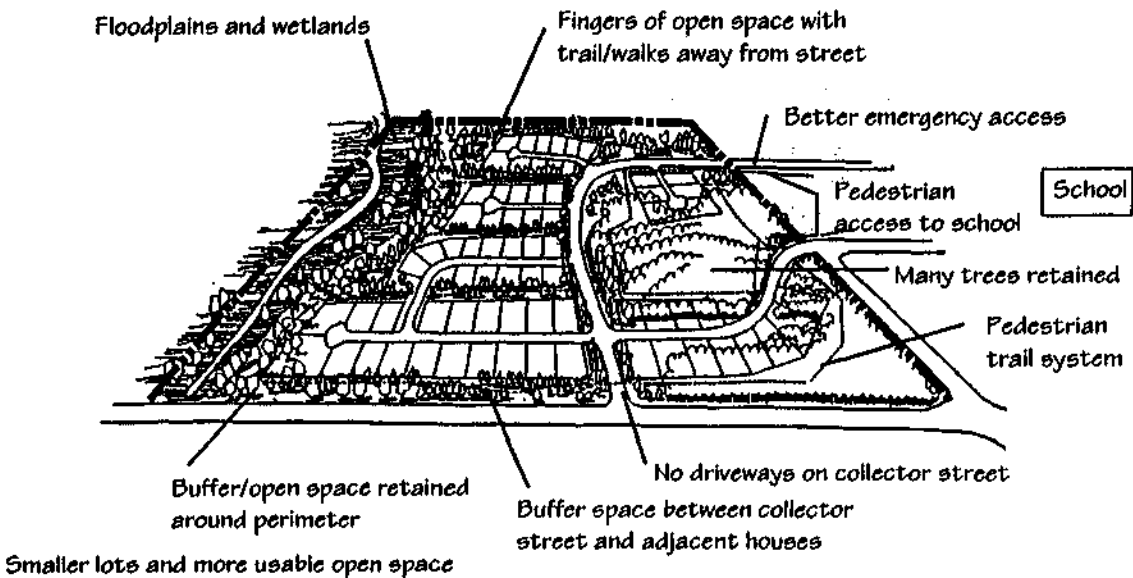


Figure 2
Conventional Subdivision Problems



Source: SEMCOG.

Figure 3
Open Space Subdivision Approach



Note: Communities can require that the number of lots in the open space subdivision not exceed the number of lots that would exist if it were conventionally platted.

Source: SEMCOG.

- Construction timing is in phase with the community's ability to provide services.
- Nature of the site plan is compatible with the neighborhood and community.
- Design of the subdivision creates maximum safety for the future occupants.

(Source: The Practice of Local Government Planning, p. 391).

Local subdivision regulations should incorporate good design standards and a comprehensive review process. These regulations should encourage flexibility to allow for the protection of natural resources and maintenance of open space. Figure 2 shows a typical subdivision and some annotations on frequent problems in subdivision design.

For further investigation on subdivision regulations, a publication entitled "The Subdivision and Site Plan Handbook", published by Listokin and Walker, contains both a model ordinance with commentary explaining ordinance provisions and a reference section covering all aspects of subdivision development. Users of this publication should make sure that model ordinance provisions are consistent with State of Michigan statutes.

References:

Listokin, David and Walker, Carole, The Subdivision and Site Plan Handbook. Rutgers University. Center for Urban Policy Research, 1989.

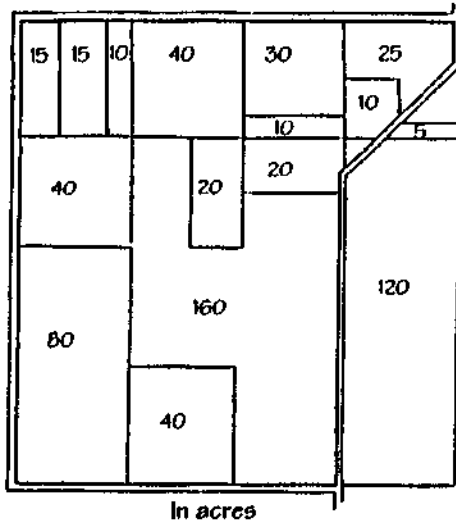
Planning & Zoning Center, Inc., Land Division and Access Controls. Michigan Society of Planning Officials, April 1990.

Planning & Zoning Center, Inc., "Subdivision Regulations". Community Planning Handbook: Tools and Techniques for Guiding Community Change. Michigan Society of Planning Officials, March 1992.

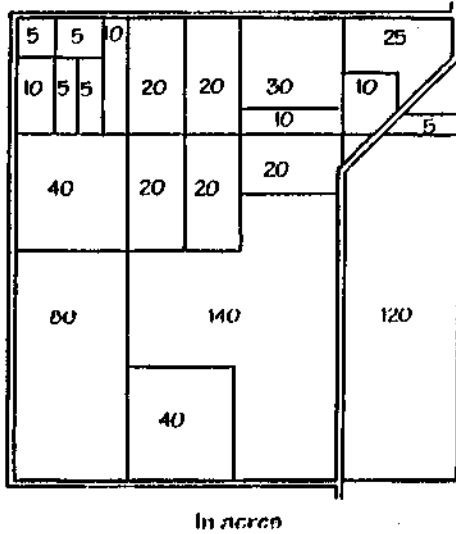
So, Frank S. Ed. The Practice of Local Government Planning. Washington, D.C. International City Management Association, 1979.

Figure 4
Land Division Over Time

1950s

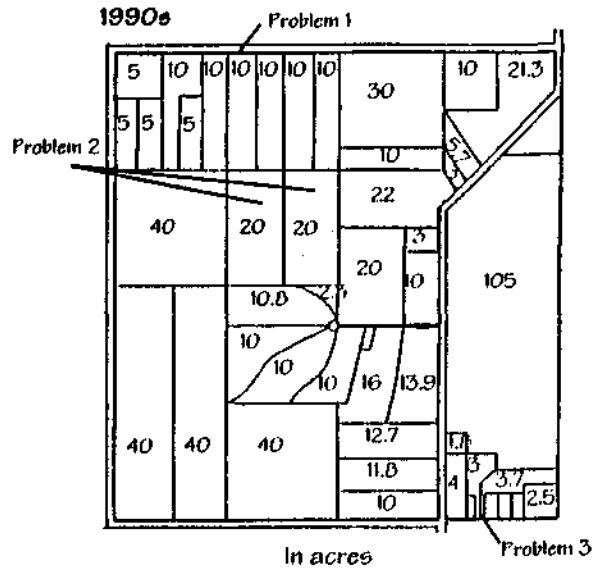


1970s



A look at one section (1 square mile or 640 acres) at three different points in time.

Note:
This graphic portrays actual land divisions that have occurred within a particular section of a township



- Typical land division problems to avoid:
1. Long narrow "bowling alley" type parcels, usually along major roads.
 2. Landlocked parcels.
 3. "Flag lots, frontage only adequate to accommodate driveway.

Lot split regulations can benefit a community by helping to:

- Prevent creation of "unbuildable lots" whose lot width, depth, area, shape and/or frontage do not meet zoning ordinance minimums.
- Prevent creation of lots that cannot support a septic field.
- Ensure access meets minimum public safety and drainage standards.
- Prevent unnecessary fragmentation of valuable natural resource areas.
- Prevent proliferation of strip commercial or residential lots along major roadways.
- Prevent over-development along rural corridors and premature obsolescence of rural roads.

Some of the limitations of local lot split regulations are:

- They do not stop land division of sensitive natural resources lands.
- Compliance is not always assured - some land division violations can still occur.

Once land is divided into small lots, future land use options are severely limited. Lot split regulation is of particular importance to townships where rapid change accompanied by unregulated land division is occurring. Figure 4 shows lot split activity in a township at three points in time over several decades for a one square mile area. The annotation describes the kinds of lot splits that can take place and the problems of usability of the land parcels and inadequate access to the road system that can result.

Planning and Regulatory Considerations: A community's lot split regulation process should consider the following:

- Mandatory review of lot splits will ensure that all new properties meet ordinance requirements.
- Approval by the community should be a precondition to recording the new lot with the county.
- An agreement should be sought with the County Register of Deeds that no new property description will be recorded until community approval is obtained.

- For lot split regulations to be effective, they should be used in conjunction with other regulations, such as the zoning ordinance and its provisions on lot size and width-to-depth ratio, as well as regulations for private roads and driveways to control access.
- Lot split regulations could be contained in the zoning ordinance, lot split ordinance, or combined with subdivision regulations.
- To help prevent future unregulated lot splits, residents and other property owners in the community need to be made aware of the requirements for lot splits.

Typical provisions in a lot split ordinance should include:

Ordinance Introduction:

- Recitation of the purpose of and need for the ordinance.
- General definitions section.
- Effective date of the ordinance.

Review Authority:

- All lot splits must be reviewed and approved by the community before the lot split occurs.
- Specify which local official(s) or body will review and approve lot splits (i.e. zoning administrator, planning director, planning commission, township board, etc.).
- Referrals can go to the planning commission or the municipality's governing body for site plan review.
- Specify the amount of discretion the local government can exercise when reviewing a land division request (limiting discretion increases the chances that the ordinance will survive a court challenge).

Ordinance standards and Review Provisions:

- Private road and easement review.
- Maximum lot width-to-depth ratios.
- Prohibiting of panhandle lots (i.e. flag lots).
- Combined lots.
- Adjustment of common boundary lines.

- Determination of wetlands and floodplains on new parcel(s).
- Ensure that adequate "usable area" exists on each proposed parcel/lot for septic fields, well separation, open space, setbacks, etc.

Review Compliance:

- Conformance to the zoning ordinance.
- Parcels/lots cannot be split and new parcels/lots cannot be sold unless there is compliance with all applicable ordinances.
- Building permits cannot be issued for illegal splits or unapproved lots.

Variances:

- Allow the creation of substandard lots under certain circumstances - if the property owner records an approved affidavit or deed restriction with the County Register of Deeds describing the property and the circumstances and restrictions involved, including, for example, a conservation easement (optional).
- Nonconforming use provision that exempts all parcels legally created before the ordinance was enacted.
- Specify appeals or variance procedures (or referral to zoning ordinance variance procedure).

Applicant Requirements:

- Applicants must provide surveys by registered land surveyors of all resulting parcels.
- All taxes must be paid prior to approving the split.
- Perk tests and septic permits required.
- Fees structure and rates.
- Proof of ownership.
- Permit requirements.

Violation and Penalty Provisions:

- It is a violation of the ordinance not to apply for and receive prior approval for a lot split even if the split would have otherwise been legal.

- A parcel created in violation of the ordinance is a "nuisance" which is subject to abatement.
- Penalties for violating the ordinance.
- Severability clause.

(Source: Adapted from "Regulation of Land Divisions." Planning & Zoning News, pp.5-8.)

References:

Bloom, Clifford H. "Regulation of Land Divisions." Planning & Zoning News, February 1991.

Planning & Zoning Center, Inc. "Lot Split Regulations." Community Planning Handbook: Tools and Techniques for Guiding Community Change. Michigan Society of Planning Officials, 1991.

Planning & Zoning Center, Inc. Land Division and Access Controls. Michigan Society of Planning Officials, April 1990.

Planning & Zoning Center, Inc. Grand Traverse Bay Region Development Guidebook, September 1992.

Planning & Zoning Center, Inc. Grand Traverse Bay Region: Sample Regulations, September 1992.

Tug Hill Commission. Managing Change: A Pilot Study in Rural Design and Planning.

(Also see "Cluster Housing and Planned Unit Development" and "Open Space Zoning Provisions" sections of this handbook.)

3. **Condominium** Regulations

A condominium is a form of ownership under which a tenant of a dwelling or building holds full title to a unit and joint ownership in the common grounds, including associated land and facilities. The land upon which a condominium development is located remains one parcel as opposed to being subdivided into separate lots. Condominium developments are of two forms - "standard" and "site". The standard form includes only the dwelling unit under individual ownership and either attached or detached units. "Site" condominium developments include both the dwelling unit and an area of land immediately surrounding each dwelling or building unit, referred to as the building envelope. The building envelope is defined by the required building setbacks contained in the zoning ordinance. Site condos are typically single-family, detached, residential complexes which very often look like platted subdivisions once developed. Condominium developments can also include structures that are used for commercial or industrial purposes. (Source: "Condominium Regulations." Community Planning Handbook, p. VII-89).

Figure 5 shows a parcel developed as a traditional subdivision, standard single-family detached condominium development and a site condominium development, also with detached units. This illustration clearly shows the difference between the standard and site condominium developments. Condominium developments can also include single-family attached dwelling units. Figure 6 is a single family condominium development with attached units located in the City of Wixom.

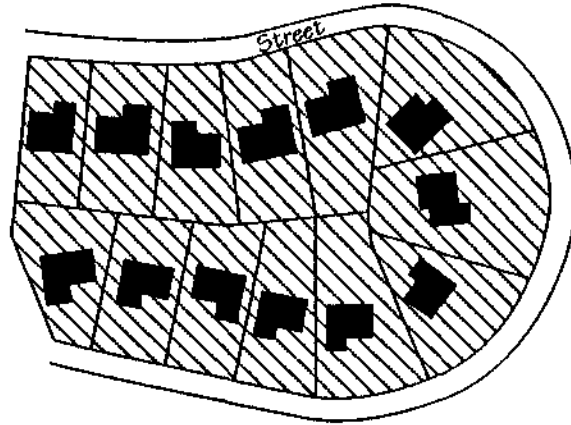
Planning and Regulatory considerations: Local regulation of condominiums is authorized under the Condominium Act, P.A. 59 of 1978, MCLA 559.101. The act requires the filing of specified legal documents with the Michigan Department of Commerce. This statute requires that condominium developments comply with local zoning ordinances. It also prohibits local units of government from treating condominium developments differently simply because of the form of ownership.

Traditional condominium developments can be regulated using standard zoning provisions. However, site condominiums require specific provisions in applying local zoning and subdivision-like regulations. Condominiums are best regulated either through the zoning ordinance or a separate condominium ordinance. It is important in either case to refer to the subdivision control ordinance for all design guidelines, development standards and review procedures. However, it should be noted that differing views exist on how municipalities should review and regulate site condominiums. Therefore, community officials should seek the opinion of their municipal attorney.



Figure 5
Comparison of Traditional Subdivision to Standard
and Site Condominium Design with Detached Units

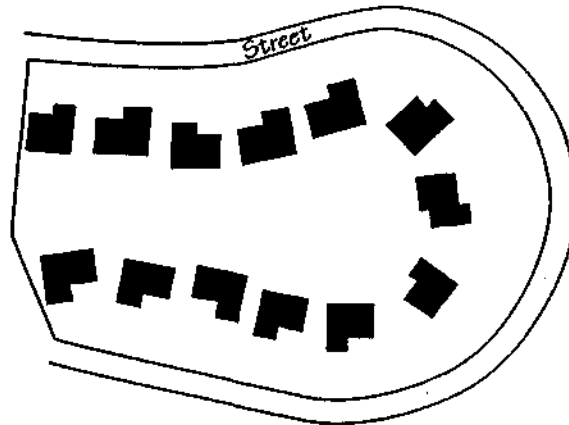
Traditional subdivision development

-  Building footprint
-  Lot lines
-  Private property








Standard single family condominium development

-  Building footprint
-  General common area



Site condominium development

-  Building footprint
-  Building envelope
-  Limited common area boundaries
-  Limited common area
-  General common area

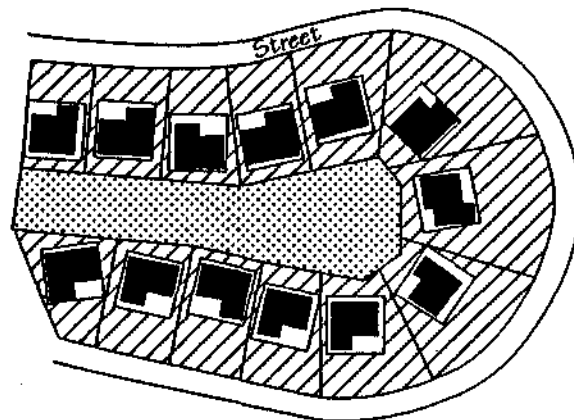
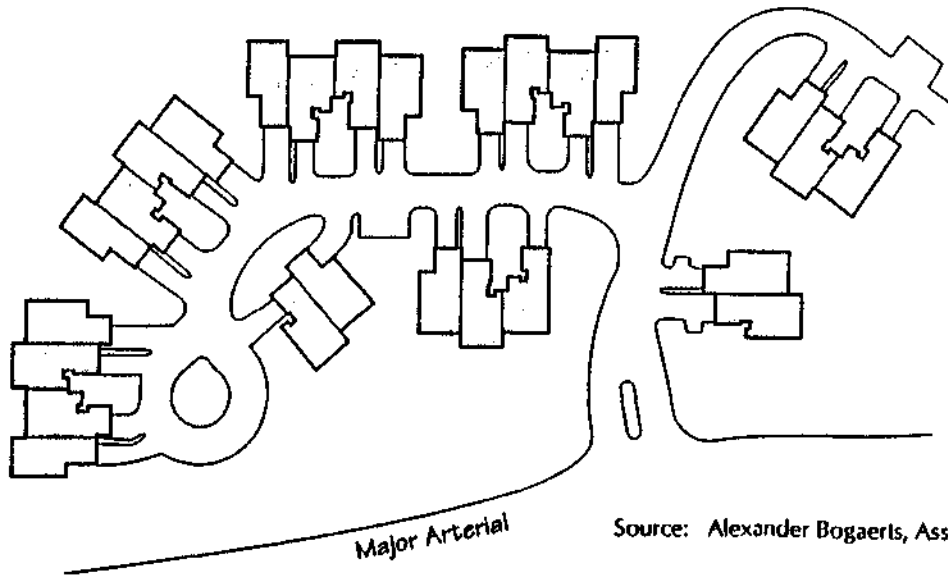


Figure 6
Condominium Design with Attached Units



Source: Alexander Bogaerts, Associates, Inc.

- Define various condominium terms such as:

Building site. Site
condominium project.
Condominium unit. Common
element. Limited common
element. General common
element.

- Require that the minimum building site be equivalent to the minimum lot size of the respective zoning district.
- Require that one principal building may be built per lot or building site.
- Redefine setback to create a new point of reference, e.g., edge of pavement, adjacent principal building.
- Require minimum building site frontage along private roads.
- Ensure that minimum floor area requirements and height requirements of the zoning district also apply to condominium units.
- Include private road standards, including utility easements and maintenance agreements.
- Establish minimum landscaping standards.
- Require site plan review for site condominiums in the zoning ordinance.

(Source: "Ordinances and Subs and Condos: Are You Prepared?" 1993 MSPO Conference.

The rights and responsibilities of condominium property owners are specified in a legal document called a "master deed". This deed describes the organization and operation of the association of co-owners including who owns what and the percentage of ownership. It also describes voting procedures, composition and requirements of the board of directors, and rules and regulations. The deed is accompanied by two exhibits: a condominium subdivision plan and the condominium by-laws. The master deed should be a part of site plan review procedure.

References:

Adkison, Phillip G. "Site Condos." Planning & Zoning News. October 1991.

Dettloff, Kenneth C. "Ordinances and Subs and Condos: Are You Prepared?" 1993 MSPO Conference, October 14, 1993.

Planning & Zoning Center, Inc. "Condominium Regulations." Community Planning Handbook: Tools and Techniques for Guiding Community Change. Michigan Society of Planning Officials, 1991.

Thomsen, Lynda. "Township Can Meet Site Condo Challenge." Michigan Township News, May 1991.

Wortman, Donald R. and Carlisle, Richard K. "Regulating Site Condominiums." MSPO Advisor, December 1988.

Wyckoff, Mark A. "Site Condo Update." Planning & Zoning News, November 1988.

Wynant, Donna and Williams, Kristine. "Site Condos: A Quiet Revolution". Planning & Zoning News, September 1988.

4. Private Road Regulations

Private roads are often used as a means of access for small developments in rural areas. They usually provide access to lots that do not come under the jurisdiction of platting or subdivision regulations. Use of private roads is becoming more common in rural or semi-rural areas because they are a less expensive alternative to public roads. Because development costs are lower, private road land divisions make low density development an economically viable alternative to platting. Developed areas also use private roads in infill development, especially for those odd-shaped parcels that are difficult to develop under conventional regulations.

Improperly designed or constructed private roads can create several problems, including:

- Access for emergency vehicles may be inhibited by narrow rights-of way, dead ends with inadequate turning space and lack of proper street marking or numbering.
- A narrow right-of-way inhibits placement of public utilities when street capacity increases.
- Development of private roads can promote inefficient use of land and haphazard land divisions that significantly affect future land use patterns of a community.
- Home buyers purchasing property on private roads are often unaware of the maintenance and ownership issues associated with private roads.

- Residents are required to maintain the road. Private roads are often built to lesser standards than public roads and thus deteriorate quickly. Snow removal and grading are often not adequately provided. Property owners then approach the local governmental unit, wanting them to take over the private road and maintain it. A special assessment is often the only way to generate necessary public funds for private road maintenance or improvement.
- Lack of proper documentation of easements for private roads.

(Source: "Private Road Regulations." Community Planning Handbook, p. XII-25).

Planning and Regulatory Considerations: An issue with private roads is what standards should be imposed for road design, surface material, road width and right-of-way width. On one hand, private roads should be built to minimum engineering standards (such as those required by the Michigan Department of Transportation or the county road commission), so that when and if private roads are publicly dedicated, they would be adequate for public road purposes. On the other hand, such standards may be excessive for private roads that are intended to serve smaller developments in rural areas.

Private roads are best regulated in conjunction with land division regulations. Consideration should be given to matching private road standards with the scale of the development being served. Figure 7 illustrates an example of a sliding scale approach with private road standards based on the number of lots to be served.

Figure 7
Sliding Scale Private Road Standards

Number of Lots	R-O-W Easement (in feet)	Roadbed Width (In feet)	Construction Features
2	30	minimum of 12	over adequate culverts
3-6	30	minimum of 16	same as above
7-12	66	minimum of 19	paving on grades >3%; 16' in width
>12(a)	66	24(b)	same as above

- (a) If more than 25 lots have access to a private road, then a second means of access meeting the requirements of the ordinance is recommended.
 - (b) Unless it connects two public roads, in which case county road commission standards shall be met.
- Notes:
- Road base should be of sand/gravel, minimum of 12 inches with top 6 inches of road grade gravel.
 - Road grade standards not to exceed 7 percent.
 - Maximum road length 2,000 feet where development is limited to low density.

Source: Mark A. Wyckoff and John D. Warbach. *Development Guidelines to Protect Community Character*. 1993 Training Workshop. (Standards adapted from the Addison Township, Oakland County and Cvangeline Township, Charlevoix County private road ordinances.)

Standards for private roads should also be tied to the desired or anticipated future development of a community. If a community is likely to become fully developed at urban densities, considerations should be given to constructing private roads to standards that could allow for future public dedication. In older urban communities, private roads can be an integral part of infill development. If a community's vision or goal is to retain its rural or open space character, then private roads could be constructed at lesser standards with the likelihood that they would remain private.

Typical Private Road Ordinance Provisions:

Introduction:

- Definition of private road.

Zoning Provisions:

- Prohibit private roads for commercial, industrial or business uses (i.e. requiring public road frontage for such uses).
- Require a certain amount of frontage on the private road for each parcel benefitted.
- Specify which zoning districts private roads are currently allowed in or allowed in upon approval of the planning commission as a special or conditional use.
- Require upgrades of the road if additional parcels or residences are added.
- Require an alternate or back-up access or private road if the number of residences served is large.
- Regulate the minimum lot size or maximum density along private roads (for example, requiring that lots serviced by private roads be 25 % larger in area than the normal lot size requirements for the zoning district).
- Require a stormwater management plan to ensure that drainage has no adverse impact on neighborhood properties.

Road Standards:

- Require easement and right-of-way width (common standard is 60 feet or allow for sliding scale based on the number of lots to be served).
- Provide easement and right-of-way language for both access and utilities.

- Specify road standards or specifications.
- Specify maximum grade standards.
- Require that brush and trees be cleared for a certain specified distance on either side of the road to maintain clear views, especially at an intersection.
- Require stop or curve signage.
- Require that private roads be formally named and have street signs to assist location of the site by emergency vehicles.
- Specify conditions under which paving is required.
- Specify the maximum length of private roads.
- Determine specifications for the end "turn-around" (cul-de-sac).
- Determine whether or not to regulate driveways involving only a single residence.

Review:

- Require blueprints and plans for site plan approval.
- Obtain the review of appropriate county agencies.

Fee Requirements and Permit Issuance:

- Prohibit any building or commencement of construction on a private road until all appropriate permits and approvals have been obtained.
- Require preliminary private road permit (before construction begins).
- Require final private road permit (after construction and inspection).
- Require all other county and state permits be obtained.
- Prohibit the issuance of building permits until private road standards are met.
- Require permit and inspection fees for certification by a municipal or other registered engineer confirming that the road, as built, meets the specifications and plans (optional).
- Require the posting of a bond or execution of an escrow agreement.

Maintenance Agreement:

- Secure a joint maintenance agreement in recordable form that remains with the land and binds benefitted parcels.
- Provide a recorded statement remaining with the land informing subsequent purchasers that it is a private road which is not maintained by any governmental unit and may never be taken over by a governmental unit.
- Stipulate that, if the private road is not properly maintained, the municipality has the option of making the repairs and charging the costs back to the benefitted properties by placing the cost on the tax roll as a special assessment.
- Provide for a waiver or indemnification and "hold harmless" agreement to benefit the municipality (optional).

(Source: Adapted from Clifford H. Bloom. "Regulating Private Roads." Planning & Zoning News, January 1990, pp. 9-10).

References:

Clifford H. Bloom. "Regulating Private Roads." Planning & Zoning News, January 1990.

Livingston County Planning Department. PEARL, Protect Environment Agriculture and Rural Landscape: An Open Space Zoning Technique, 1992.

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Planning & Zoning Center. Grand Traverse Bay Region: Sample Regulations, September 1992.

B. COMMERCIAL AND INDUSTRIAL DEVELOPMENT

Commercial and industrial needs vary substantially from community to community. The development and growth of a community's commercial and industrial economy is influenced by several factors. Among these factors are: regional location, characteristics of the community population, existing commercial and industrial development pattern, availability of vacant land and the existing transportation system. The questions often asked regarding planning for commercial and industrial development in a community are: how much land should be planned to accommodate future population, and where should such development be located?

1. Commercial Development

The first step in planning for commercial development is to conduct an analysis of commercial needs and future market performance. Such an analysis will help determine current and future commercial land use needs of the community.

Planning and Regulatory Considerations: Considerations in planning and regulating commercial development:

- Do not overplan or overzone for commercial development.
- Rezone land for commercial and industrial development only when infrastructure can support such uses.
- Limit the number of commercial sites at major intersections and designate remaining sites for less intense uses (office, higher density residential).
- Revitalize older commercial areas and, where appropriate, provide for expansion of existing commercial uses.
- Concentrate new commercial development at or near existing shopping center locations before locating new ones.
- Control the number of small strip centers by eliminating commercial zoning on isolated small parcels.
- Regulate the size and shape of land divisions to avoid potential for strip commercial development.
- Where commercial zoning exists or is indicated on the master plan, encourage the integration of commercial development with residential uses through planned unit development (PUD).

If strip commercial development is unavoidable, provide for adequate access and visual controls. Such requirements could include:

- Sufficient setbacks to allow for off-street parking and a parallel access road to reduce traffic conflicts.
- Screening between commercial development and residential neighborhoods to maintain neighborhood character.
- Buffering and landscaping along the major highway to soften the visual impact from the highway.
- Landscaping along and adjacent to commercial buildings to soften the view of buildings.
- Sign control to limit the amount, height, size and type of signage and to soften visual impact from the highway.

Overlay zoning could be used on land along roadways to regulate building design, setbacks, signage, lighting, driveway access and landscaping.

2. Industrial Development

Because of the intensity of development and the potential nuisances associated with industrial uses, siting of industrial development needs to be carefully considered. Industrial uses should be accommodated in well-defined geographic areas within the community to avoid conflicts with residential neighborhoods and commercial areas. Industrial uses should have proper access to major highways, and (as needed) rail lines and airports to accommodate the unique types of volume of traffic they generate. Other considerations include:

- Insuring that the community plan and zoning ordinance does not overplan or overzone for industrial development.
- Providing sufficient infrastructure to support industrial uses.
- Buffering industrial uses from less intensive land uses through the use of appropriate setback standards and landscaping provisions.
- Encouraging industrial uses to locate in industrial parks.
- Providing existing industrial uses with room to grow and expand.
- Prohibiting non-industrial uses from encroaching on existing and planned industrial areas.
- Anticipating adaptive reuse of industrial buildings which are located outside industrial parks.
- Consider environmental factors including direction of prevailing wind when planning industrial locations.

C. TRANSPORTATION CORRIDORS

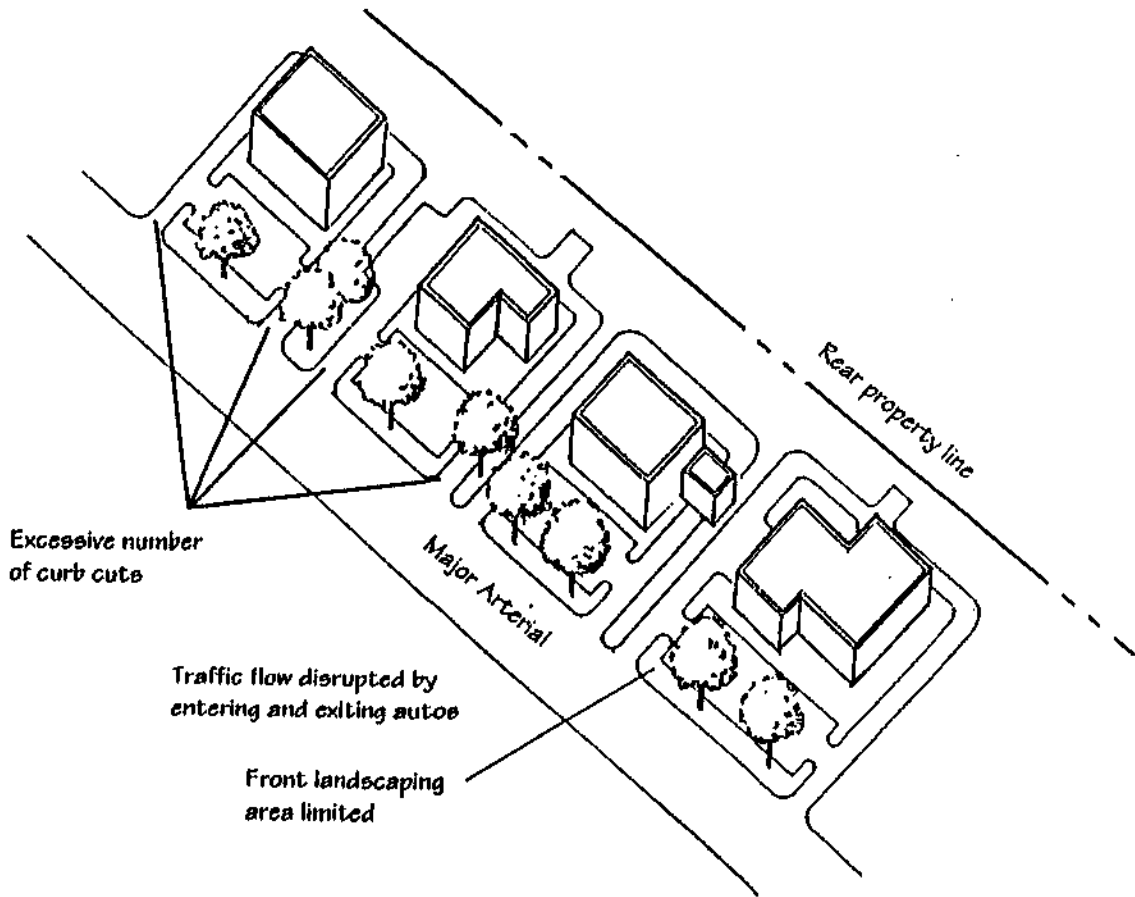
The major arterial roads in the county are necessary for the movement of goods and people in a safe and efficient manner. Most of these roads were originally built to serve limited traffic volumes of a rural population but now serve urbanized populations by moving large volumes of traffic at higher speeds. These major transportation corridors also satisfy the needs of commercial establishments which locate along these routes for exposure to passing motorists and convenient access for their patrons.

In areas where development patterns have not been established, planning policies and zoning designations can direct development along transportation corridors to minimize the disruption of traffic flow and maximize safety. Policies in the local comprehensive plan and provisions in the zoning ordinance are needed to manage the number, location and design of driveways and encourage alternative access, such as frontage roads, rear service drives and shared driveways to serve more than one development. Overlay zoning is one way to impose additional requirements along transportation corridors. In addition, land division regulations limiting small lots with multiple driveways are also important to controlling strip development along major roads.

Preserving future right-of-way in existing transportation corridors addresses future traffic needs and provides for land acquisition at a lower cost.

In areas where development patterns have already been established, negative impacts of strip development can be addressed through corridor redevelopment planning and remedial actions such as retrofitting of access controls, buffering and landscaping, parking and lighting standards.

Figure 9
Individual Access – Front Parking



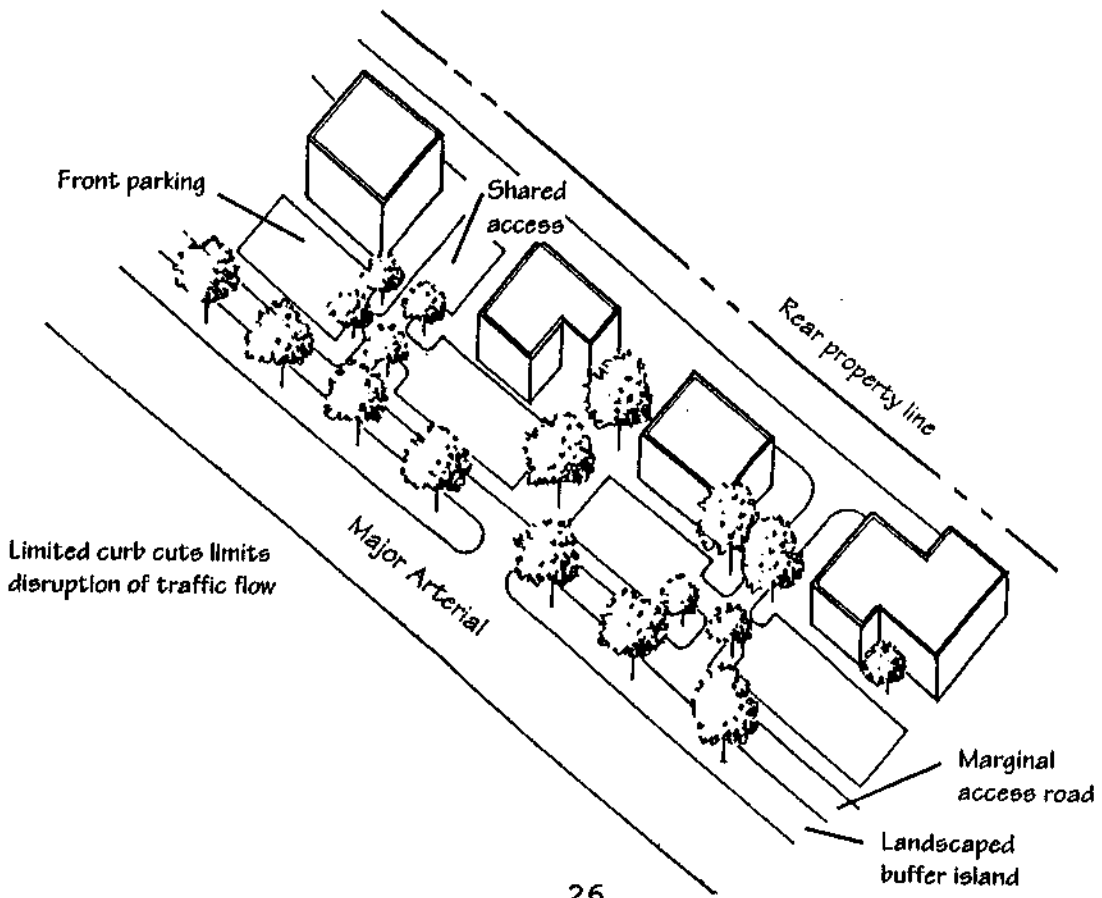
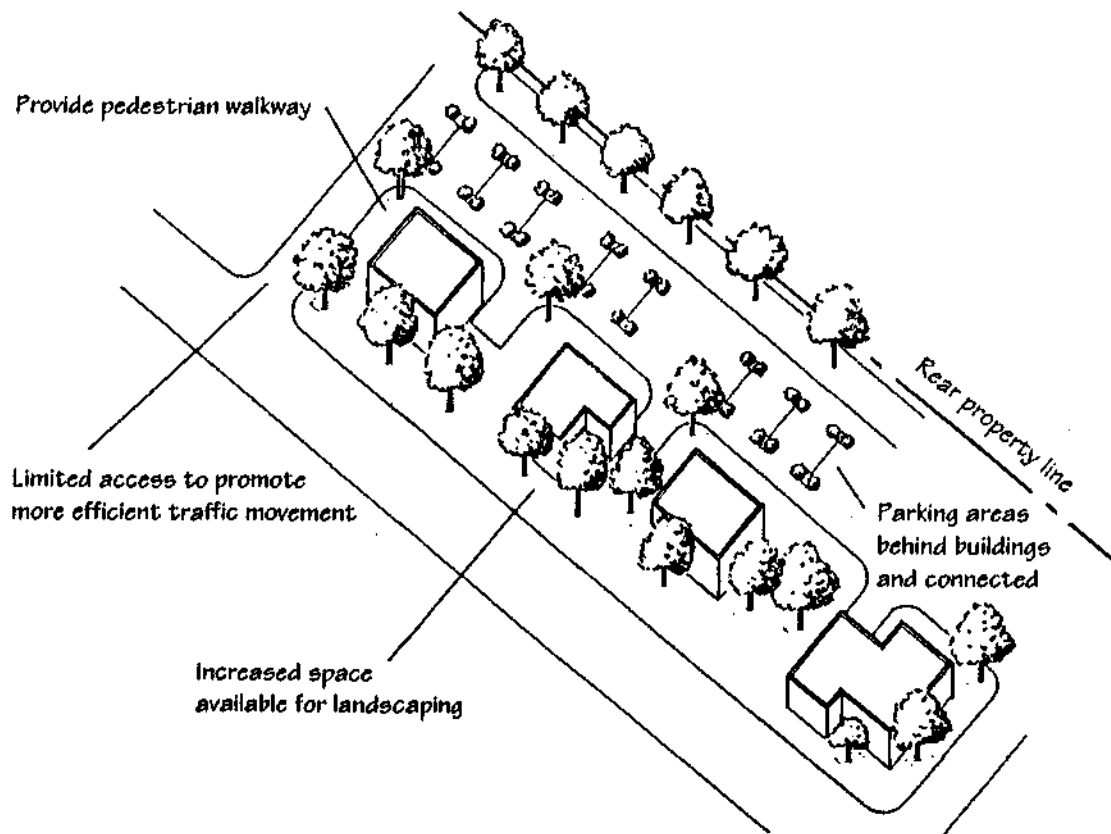


Figure 10A

Marginal Access – Rear Parking



2. Buffering/Screening/Landscaping

Buffering, screening and landscaping are all techniques for separating land uses using either natural or human-made features. Screening, buffering and landscaping requirements address the visual, light and sound impacts. Buffers and screens serve to reduce conflicts between incompatible land uses, minimize soil erosion, reduce stormwater runoff and enhance community appearance. Screens are generally used to reduce visual impact and are often accomplished with fences, walls, trees or shrubs. Buffers are used to reduce light and sound impacts, using water, hills, berms, groupings of trees or other landscaped features for this purpose.

Buffering, screening and landscaping requirements should be included in the zoning ordinance and applied where different land uses abut, to all large scale and nonresidential developments and to residential and non-residential developments along transportation corridors. These requirements should be administered during the site plan review.

Planning and Regulatory Considerations:

Include policies or guidelines in the community's master plan regarding the use and extent of landscaping in residential and non-residential areas in the community.

Classify land uses by impact according to size, scale and environmental impact.

Provide flexibility in landscape design requirements, e.g., specify the use of landscaping for screening based on degree of conflict between adjacent land uses.

Require landscaping area between roadways and residential and non-residential developments to reduce the visual impact from the road and enhance community character.

Landscaping should be concentrated to increase its impact; dense planting can effectively reduce headlight glare and muffle road noise.

Control traffic flow and speed through the careful placement of landscaping, buffering and screening.

D. OVERLAY ZONING

Overlay zoning allows a separate zone to be applied "on top of" an area of preexisting zones, thereby imposing an additional set of requirements without altering the requirements imposed by the underlying zoning district. Development can only occur in these areas when the conditions for both zoning districts are met.

The process for implementing overlay zoning is quite similar to traditional zoning. Overlay zoning is described in the zoning text, the location of the zone is mapped, and the overlay zone is adopted by the governing body. The overlay zones are administered through the usual zoning process.

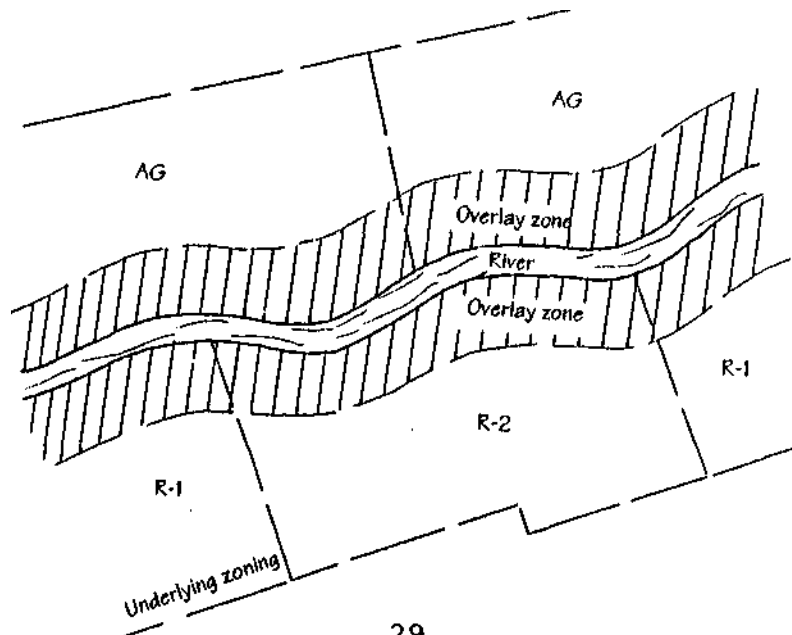
Planning and Regulatory Considerations: The boundaries for overlay zones can be established for specified areas without regard to property lines or land use. Overlay zoning is a method that allows for mixed use within conventional zoning and is an alternative to rewriting the existing zoning provisions.

Overlay zoning can be used for a variety of situations. It is particularly useful in environmentally sensitive areas such as wetlands and floodplains, in areas of special urban design qualities, such as historic districts and along commercial corridors.

Overlay zoning provides added protection to wetlands and floodplains by creating a buffer or larger setback around or along these sensitive areas. Figure 20 shows an overlay zone paralleling a riverbank and how it relates to underlying zoning districts along the river.

In the case of historic areas, an historic district overlay zone can be applied to an area consisting of several different zoning districts. This historic district overlay permits uses and densities as allowed under the current zoning, but requires structures within the overlay zone to be built or maintained in compliance with regulations to ensure historic compatibility.

Figure 20 - Overlay Zoning



E. SITE **PLAN** REVIEW

Site plan review is a process whereby development projects are reviewed by a municipality to determine compliance with provisions contained in the community's zoning ordinance. As defined by Michigan law, a site plan is the document and drawings required by the zoning ordinance to ensure that a proposed land use or activity is in compliance with local ordinances and state and federal statutes. The site plan itself shows the physical layout of a project, including buildings, lot lines, roads, utilities, landscaping, etc.

Site plan review can be an effective and powerful land use decision-making tool. Before approval for a use is granted, the proposed development project must be in compliance with all applicable local, state and federal standards and procedures. Any deficiencies in compliance can result in denying the proposed use for the land. From the local government perspective, site plan review can be used to ensure that development projects are consistent with the goals and objectives and satisfy the policies of the comprehensive plan and that the standards for height, bulk, setback, density, lot sizes, parking, landscaping and other zoning requirements set forth by local ordinances are met. It works well to ensure that the development has a good physical design, that it relates to the presence of the community's infrastructure, that it is compatible with adjacent land uses and that it will not have an adverse impact on the natural environment. It is a tool that can help a community achieve and maintain its desired community character.

Planning and Regulatory Considerations: Site plan review can be applied to all development projects. State enabling legislation requires local site plan review for subdivision plats, planned unit developments (PUDs), cluster housing and special or conditional uses specified in the zoning ordinance. For other types of permitted uses to be subject to site plan review, the procedures and standards must be spelled out, in the zoning ordinance. Such permitted uses may include:

- Multiple family. Site condominiums. Commercial and industrial uses. Institutional uses. Public projects, such as utilities.

Site plan review should also be required for any changes to existing development, e.g., expansions, demolition, moving of structures, etc. Individual single-family homes are usually exempt from site plan review, requiring only a plot plan which may include drainage provisions for a building permit.

There are several basic elements of site plan review. The elements listed below should be covered in the site plan regulations and standards contained in the zoning ordinance:

- Safe traffic flow, ingress and egress.
Parking. Loading and unloading of goods.
- Topography and soils.
Stormwater management.
- Sanitary sewer and water. On-site septic systems and wells.
Other utilities (electricity, natural gas, cable television, telephone).
Landscaping/buffering/screening/fencing.
Pedestrians and bicycles.
- Trash and dumpsters.
Signage.
Open space.
Natural environment.
- Natural hazards.
- Historic structures.
- Emergency vehicle access.
Lighting.
Accessory structures.
Rooftop equipment/structures.
Right-of-way considerations.
Presence of waste or hazardous materials.

The Figure on the following page is a checklist of items that should be a part of a site plan. The items required, proposed or not applicable will vary depending on the type of development.

Site plan review should be used in conjunction with other local review requirements, including community impact analysis, traffic impact analysis, soil erosion and sedimentation compliance and environmental impact review. These analyses and reviews should be completed prior to any site plan approval action. They provide information concerning environmental, economic, social and cultural impacts that proposed development projects may have on the community and allow local decision makers to make rational decisions on the development requests.

Other considerations in developing an effective site plan review process are:

Site plan review should be closely linked to the community's comprehensive plan.

Site plans should be prepared by and carry the seal of a registered or licensed professional. Every version should be dated with the current date and the prior version date. County, state and federal agency reviews should be an integral part of site plan review. (Michigan Department of Transportation, state or county health departments, Michigan Department of Natural Resources, county drain commission, county road commission).

Fees may be charged to cover the cost of administrative reviews by establishing an escrow account. (See section on Administrative Fees for Development Reviews in this handbook).

Figure 8

1. Correct scale []
2. Name of person preparing signed and sealed plan* []
3. Date, northpoint []
4. Property line dimension []
5. Street right-of-way widths []
6. Existing utilities (sewer, water, gas, etc.) []
7. Show adjacent property and buildings []
8. Existing topography, trees and other features []
9. Off-site ground, parking lot, roadway, driveway and/or structure elevations for minimum distance of 50 feet []
10. On-site grid of maximum 100 feet intervals each way (closer where rolling terrain warrants) and minimum 2.0 feet contours []
11. Location of new structures including side and front yard setbacks and building length and width (show a general floor plan) []
12. Number of dwelling units per building []
13. Height of structure []
14. Percent one-room apartments (efficiencies) []
15. Total number of rooms if multiple-family []
16. Parking requirements met []
17. Number of units and bedrooms each building []
18. Parking lot layout (showing paved area) including ingress and egress and service area []
19. Parking lot space dimensions []
20. Loading and unloading space []
21. Site grading and drainage plan (on-site evaluation for pavements, drives, parking lots, curbs, sidewalks and finish grade at buildings) []
22. Utility connections (sanitary sewers, water, storm sewers) []
23. On-site storm water retention []
24. Fire hydrants (on- and off-site) []
25. Sidewalks and elevations []
26. Sedimentation and erosion control plan []
27. Landscape plan showing plant materials to be used []
28. Sign requirements met []
29. Require walls and fences or greenbelts []
30. Corner clearance []
31. Service drive needed []
32. Acceleration lanes and traffic pattern []
33. Trash receptacle locations showing elevation drawing []
34. Mail box locations []
35. Air conditioner unit locations []
36. Special site features (play areas, pools, etc.) []
37. Handicapped facilities []
38. Building elevation drawings for sides of the building []
39. Rooftop screening []

* Where property line surveys, topography, sewer, water or storm drains are shown, the name of the registered engineer or land surveyor preparing such elements of the plan shall be indicated on the plan.

Source: Vilican-Leman & Associates, Inc.

- Prior to submitting an application for site plan review, a developer/applicant conference should be convened to discuss the development concepts and specific requirements for site plan review.
- Site plan review is typically a two-step process - preliminary review of a sketch plan and action on a final site plan. Developers should be required to submit conventional subdivision layout sketch plans for cluster and PUD proposals to compare densities achieved under each.

The authority to review and approve site plans must be specified in the zoning ordinance. Responsibility for site plan review could either reside with the planning commission or be done administratively by community planning staff and/or consultant, or both. Although site plan review is a technical and administrative process and not a policy procedure, in some communities final action on site plans is done by the community's legislative body.

Site plan review requires the assistance and expertise of a trained professional. Although this may pose a problem for small communities or poorly financed ones, there are options to be considered. They are:

- Hiring of an outside consultant, with the cost borne by the applicant through the charging of review fees and escrow accounts .
- Seeking assistance that may be available from the county planning office.
Using the standards set forth by county and state agencies as a basis for local review.

P. PERFORMANCE GUARANTEES

A performance guarantee is any form of security accepted by a community to ensure that: 1) developers complete the installation of on-site improvements as specified by the conditions contained in the development approval; and 2) completed improvements are operationally sound. Performance guarantees are established so that, if improvements are not completed or are not operational, the community can use the guarantee funds to contract to have them done. Michigan's zoning enabling acts specify the improvements subject to performance guarantees. On-site improvements include roadways, lighting, utilities, side walks, driveways, screening/buffering/landscaping and drainage. There is no expressed legal authority granted to local governments to collect a performance guarantee beyond those on-site improvements specified in the acts or for any off-site improvements, but communities could include such provisions in a local ordinance.

Performance guarantees are valuable to local governments because they are an insurance policy to protect the health, safety and welfare of the public. They also protect the community from being left with abandoned or partially completed site improvements or improvements that are not operational.

Planning and Regulatory Considerations! There are several factors to be considered in establishing and administering performance guarantees:

Provisions for administering performance guarantees should be specified in the zoning ordinance, including time limits for completing improvements, consequences of failure to meet completion deadlines and required community approval of improvements before release of guarantee funds to the developer.

Performance guarantees should be based on standards contained in local zoning, subdivision and condominium ordinances. Performance guarantees can be provided by a variety of means: 1) Surety bond - this is the most commonly used. The developer pays a premium to a bonding company to insure the cost of the improvements as required by the community; 2) Escrow account - the developer establishes a bank account backed by cash or a cash equivalent instrument; 3) Bank letter of credit - a bank or financial institution acts as creditor, backing the cost of improvements if the developer defaults; and 4) Certificate of deposit - the developer deposits cash with a financial institution in an interest bearing account. The interest belongs to the developer. - The amount of a performance guarantee for both the installation and maintenance must be equitable so that the developer is not required to provide an excessive amount, yet the public is sufficiently protected to ensure that the improvements are properly installed and operational.

It is important that the estimates on the valued improvements are accurate, because no additional guarantees can be required after the initial guarantee has been secured.

The estimated cost of improvements should include an added cost factor to provide for a margin of error and to cover inflation and other costs if the community is forced to make improvements some years in the future.

As improvements are completed and approved by the community, a rebate in reasonable proportion to the amount of work completed on required improvements should be returned to the developer.

Time periods should be specified for both the installation of improvements and beyond the completion of the improvements to ensure that the improvements are operating properly. These time limits should be contained in the ordinance standards. Some adjustment in time periods could be allowed through action by the local legislative body.

Performance guarantees can be required for each element of the development project to ensure conformance with each provision in the local ordinances. However, if a guarantee has been secured under the subdivision review process, another one for the same improvements cannot be collected under the zoning review procedure.

Performance guarantees should be applied consistently to all developers.

Legal counsel should be obtained in setting up performance guarantees to protect the community's interest.

G. ENVIRONMENTAL PROTECTION COMPLIANCE

Provisions for environmental protection compliance are requirements placed on developers to ensure that natural features, (e.g., wetlands, floodplains, lakes, streams, woodlands, groundwater, etc.) are protected during and upon completion of construction of an approved development project. Included are conditions to obtain site plan approval, measures to be taken during actual construction and remedies in case there is damage done to the natural environment.

Planning and Regulatory Considerations: Many communities have regulations requiring developers to take measures during construction to protect the environment. Such regulations should also include monitoring of compliance by local government officials to ensure that development projects conform to local environmental codes. Further, provisions for remedial action should be in place in cases where damage has been done to the natural environment during construction. To ensure developer compliance with local environmental regulations, a community can incorporate a multi-step environmental protection compliance process - from site plan review through the issuance of a final certificate of occupancy.

Conditions for Site Plan Review Process; Site plan review is a key step in this process for it is at this juncture that the community can include specific conditions that must be met by the developer for site plan approval. The following are some examples of such conditions:

Agree to comply with all environmental ordinances (e.g., wetland, water course, soil erosion and sedimentation control, woodland protection, etc.).

Submittal of a "natural features statement of impact." The statement should include a description and location of natural features on the site to identify those to remain undisturbed, to be moved and to be affected or destroyed.

Submittal of a "natural features protection plan." The plan should include the following measures: 1) protection of wetlands according to local zoning ordinance or wetland ordinances; 2) erection during construction of protective barriers around natural areas or features to be preserved; and 3) erection during construction of barrier fencing around landmark trees.

Submittal of a detailed site plan which includes all natural features, landscaping features, drainage area, direction of flow and estimated run-off from drainage area. - Require the designation of conservation easements around wetlands with the stipulation that no filling, dredging, disruption of natural vegetation or deposition of any material (including structures) is permitted within the conservation easement. These conservation easements may be shown on land surveys that are submitted to the community as part of the site plan review process.

Require that restoration of any environmental degradation will be at the expense of the property owner. - To ensure compliance with federal, state and county requirements, communities could require that copies of all required federal, state and county permits or letters indicating which permits are not required to be submitted.

Conditions for Issuance of Building Permits: A community may wish to place conditions on the issuance of building permits to ensure that all environmental protection devices and requirements of the approved site plan are in place and properly installed during construction.

Installation and initial inspection of soil erosion fencing to protect adjacent streams, wetlands and other water bodies.

Installation and initial inspection of protection fencing, ribbons or other system of delineation for marking those natural areas which are to be preserved.

Multi-phase site tree clearing process for protection of woodlands with the first phase involving the clearing of trees for roads and utilities prior to issuance of building permits. The second phase would be the clearing for the building envelope, which is subject to the provisions of the building permit.

Monitoring and Inspection during the Construction Phase: A community can effectively monitor the environmental protection efforts of the developer through multiple inspections by local inspectors who are vested with enforcement authority. The following issues should be considered in implementing such inspections:

Period visits (e.g., monthly) to the sites by inspectors to monitor site-clearing operations and verify that conditions of all planning approvals and permits are being met. Additional inspections can be made if a violation is cited during the initial site inspection. The developer/contractor must be given a reasonable period of time to perform the remediation prior to the reinspection. A fee can be charged for additional inspections to cover administrative costs. Inspectors need enforcement capability in dealing with environmental degradation. At a minimum, tickets with financial penalties may be issued for incidents of environmental degradation. Often it is up to the court to determine the level of the penalty. For extreme cases of environmental degradation, a stop work order may be issued requiring cessation of all construction activity after a certain period of time (e.g., 24 hours) if the violation is not corrected. Developers of multi-phase development projects generally request building permits at the beginning of each new phase of the project. Thus, building permits and temporary certificates of occupancy may serve as leverage to require remediation of environmental degradation that has occurred in previous phases.

It is recommended that site inspection continue throughout the construction phase until the site has been stabilized. Then, the escrow account that was established during the site plan approval process can be returned to the developer.

Final Inspection of Completed Development Projects: Final inspection to ensure compliance with all environmental provisions of the site plan, landscaping plan, and conditions of all environmental codes and permits should occur prior to issuance of the final certificate of occupancy. If off-site environmental degradation has occurred, it is suggested that restoration take place prior to issuance of the certificate of occupancy. Options for assuring compliance are as follows:

Withhold issuance of certificate of occupancy until code violations are adequately addressed.
Maintain a balance in escrow account to assure remediation of environmental degradation. - Require submittal of a bond to cover the remediation costs.

Beyond the conditions and requirements stipulated during the site plan review process and the issuance of permits, the community may wish to negotiate further design elements than those required in the zoning ordinance. In most cases, a developer will cooperate in an effort to secure timely approval of the site plan.

H. ADMINISTRATIVE FEES **FOR DEVELOPMENT** REVIEWS

Most communities charge fees to developers to cover the administrative cost associated with processing the review of development projects, including subdivision plats, special land use approvals or site plan approval. In most cases, however, development review fees charged by communities rarely cover the total cost of such reviews. It can be difficult and require additional time for the community to determine and monitor the actual cost of development reviews.

Fees can be set so that the full cost of reviewing development projects is borne by the applicant. The basis of such a cost recovery effort is the ability to obtain records of municipal costs or billings from the planning consultants, the engineering consultants and the municipal attorney, broken down project by project. Project reviews must be itemized and not merely covered by the consultant retainer. The municipality may be able to lower the retainer fee if project reviews are billed separately. If the municipality has an engineering department, an effort must be made to track time spent on individual development projects.

An escrow account for each development project will facilitate the monitoring of review costs. By levying an administrative fee in addition to the professional review billings, the municipality is able to cover those expenses involved in coordinating project I reviews.

Planning and Regulatory Considerations: Communities have used various approaches in developing a fee schedule for development reviews. These approaches include:

Flat fee, depending on the type of development. - Fees based on percentage of the cost of installing required public improvements, e.g., roads, sidewalks, sewers. Scaled fee based on project size - number of units, number of acres, etc. Actual cost approach, in which fees are charged based on escrow accounts reflecting actual time spent on each project.

An evaluation of these approaches suggest that the best method to recover most or all of the cost of reviews is the actual cost approach. The total cost could then be passed on to the developer or applicant. A record keeping procedure would need to be put in place to record staff time and/or consultant time on a project-by-project basis. For larger communities with full-time staff and several departments, it would require interdepartmental cooperation and coordination to record the time spent on each project review. Smaller communities could contract for engineering, planning and legal services as needed to process development reviews.

Community development review fee charges based on an actual cost approach should be equitable and defensible from both the legal and public relations standpoints. Fees should reflect the actual cost and any unused escrow funds should be returned after project completion.

The following is a summary of how this method works:

1. Developers are required to deposit an initial amount into an escrow account at the time the plan is submitted, usually a minimum of \$2,000.
2. All township reviews (planning, engineering and legal) are contracted out to consultants. Consultants bill on the time spent on each individual project.
3. Consultant review bills are charged to the project escrow account. The escrow account is maintained above a minimum of 50 percent of initial filing fee submittal. If the escrow account balance drops below 50 percent, reviews and inspections are discontinued until the balance is restored.
4. At the construction stage, the escrow account is increased to cover the projected inspection fees.
5. An adequate escrow account balance is to be maintained at least two years beyond the final approval stage to ensure availability of funds to guarantee performance and to protect the environment.
6. An administrative fee is also charged against the escrow account. This administrative fee ranges from 10 to 25 percent of consultant review billings and covers the cost of in-house staff time to coordinate development reviews and the overhead expenses (fringe benefits, lights, heat, phone, supplies, insurance, etc.) incurred.

I. ACQUIRING AND MAINTAINING PUBLIC OPEN SPACE

Growth and development in the County over two centuries have contributed to the loss of open space. On a regional scale, development extended across jurisdictional boundaries, fragmenting the larger natural system that contains continuous natural water corridors, rivers, lakes and wetlands. On the community level, development consumed individual parcels that by themselves had natural resource and aesthetic values, which could have been protected as public open space for recreational or natural resource purposes.

The existing natural systems that extend across community boundaries are made up of large and small parcels that lie contiguous to one another and together form linkages of unique or special natural features. The protection of these larger scale open space systems is important for parks and recreation use by people and for the conservation of natural resource features as habitat for plants and animals. But it is difficult to maintain these natural systems, particularly as land use policies and practices vary from one jurisdiction to another. Protection of these natural system corridor areas requires preparation of concept plans for interjurisdictional open space corridors through effective intergovernmental cooperation.

Of concern to some communities is discovering that the development pattern established from existing planning and regulatory measures has resulted in little or no valuable open space. Community development can occur without forethought to including provisions for maintaining open space in either the comprehensive plan or within development design requirements. In attempts to resolve this problem after the fact, communities then find themselves left with a poor selection of land suitable for parks and recreation areas, natural resource protection or private on-site open space. Very often the acquisition cost is so high that communities cannot afford to acquire useful parcels, as much as they might need and want them for community enhancement.

Good sound local land use management practices are needed to balance the demands for new development to accommodate community growth with protection of open space areas that have natural resource, recreation and aesthetic value. The tools and techniques that follow provide some direction and options for creating and/or protecting unique and special open space areas. Among these are: parkland acquisition programs, including community funding; interjurisdictional open space corridor planning, to help ensure that a network of open space is linked together over time; conservation easements on private property; land conservancies; and open space agreements under the Farmland and Open Space Preservation Act.

1. Parkland Acquisition

Parks and recreation play an important role defining community character and in the quality of life in a community. They provide community residents and visitors with a variety of active and passive leisure activities. However, an issue facing many communities is having the financial resources necessary to acquire land, develop parks, maintain parks and recreation facilities and carry out recreation programs.

Financial assistance is available through State and Federal sources to assist communities with acquisition of lands for park and recreation purposes or merely to retain open space and public viewing of a particularly scenic resource. Millages specifically dedicated for the acquisition of land for recreation purposes and for the maintenance and operation of parks and recreation programs can also be considered by communities.

Planning and Regulatory Considerations: State and Federal Grant Programs - There are two primary grant programs available to local governments on an annual basis - the Michigan Natural Resources Trust Fund and the Land and Water Conservation Fund.

Figure 11
Recreation Grant Programs Local
Government Funding Limits

Grant Program	Land Acquisition Grants		Facility Development Grants	
	Minimum	Maximum	Minimum	Maximum
Michigan Natural Resources Trust Fund	None	None	\$15,000	\$375,000
Land and Water Conservation Fund	<i>W.000</i>	\$250,000	<i>W.000</i>	\$250,000

There are several other state programs that offer targeted recreation grant assistance to local communities:

- Coastal Zone Management Program, Michigan Department of Natural Resources (MDNR) Land and Water Management Division, (517) 373-8000.
- Waterways Fund, MDNR, (517) 373-9900.
- Historic Preservation, Michigan Department of State, History Division, (517) 373-0510.
- Inland Fisheries Cooperative Grants, MDNR Fisheries Division, (517) 373-1280.
- Michigan Council for the Arts, (313) 256-3717.

For further information on these programs, call the noted state department.

Source: Adapted from Michigan Department of Natural Resources, Recreation Division. "Recreation Project Funding Sources." *Planning & Zoning News*. July 1990.

The Michigan Natural Resources Trust Fund is a state program to provide a source of funds for public acquisition of land for recreational purposes or for the protection of land deemed to have environmental importance or scenic beauty. These funds are also available for outdoor facility development.

The Land and Water Conservation Fund is a federal program that distributes funds to states on an annual basis for community recreation projects and trailway improvement projects.

To qualify for funds under these state and federal recreation grant programs, communities must have a separately prepared parks and recreation plan or a recreation and open space component in a comprehensive plan that complies with current Michigan Department of Natural Resources requirements. These requirements include the prioritization of needs and inclusion of a capital program for land acquisition, facility development and maintenance schedule.

Figure 11 summarizes local government funding limits for both recreation land acquisition and facility development under the two recreation grant programs.

References:

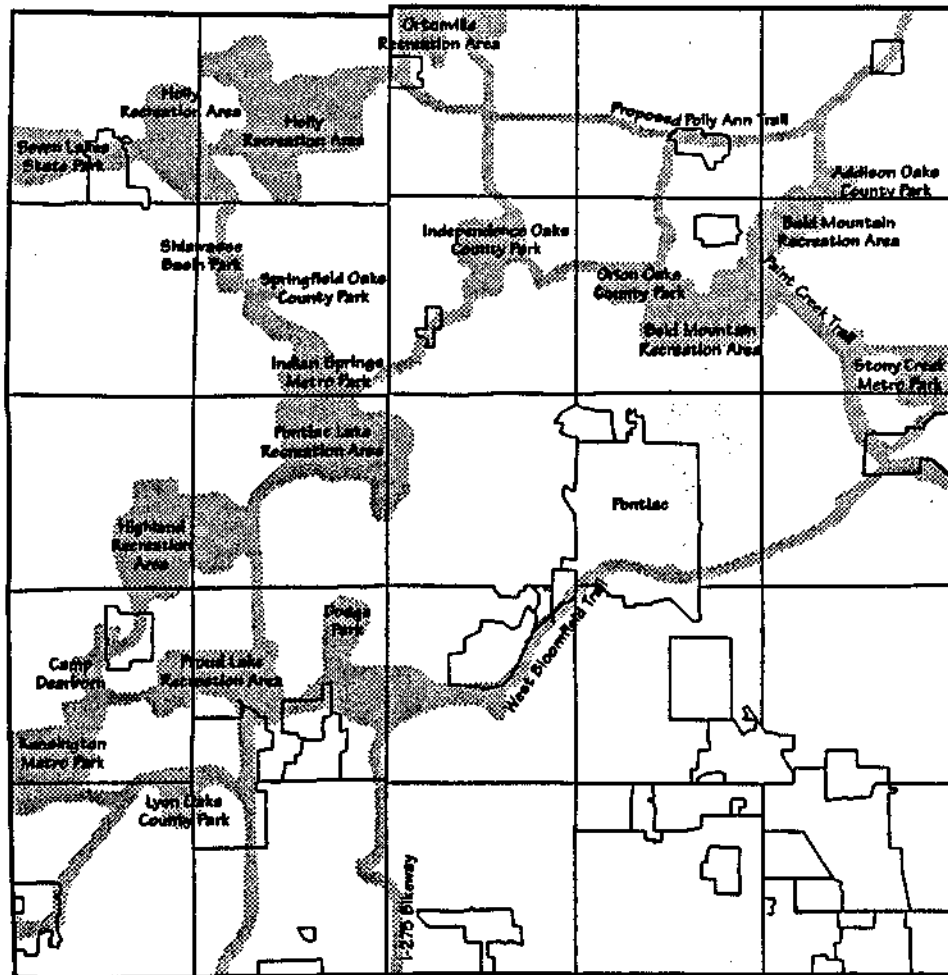
Michigan Department of Natural Resources, Recreation Division. "Recreation Project Funding Sources." Planning & Zoning News, July 1990.

2. Interjurisdictional Open Space Corridors

Open space corridors, commonly referred to as greenways, can serve as linear parks providing multiple benefits, including recreation, wildlife habitat, cultural and economic impacts. Greenways are often defined as corridors of open space that follow streams, ridgetops, rivers and other linear features that are connected for recreation and conservation purposes. Often the corridors are planned to connect a few large open spaces.

A linked recreation trail system provides residents with the opportunity to readily access additional recreation areas and parklands. This concept is based upon the utilization of abandoned railroad rights-of-way, utility easements and river or drainage courses as corridors for recreational hiking, biking, cross-country skiing and equestrian travel. These systems can form a network linking community residential areas and town centers with outlying recreational lands.

Figure 12
 Linked Recreational Trail System Concept, Oakland County



Source: Oakland County Planning Division, 1993.

3. Open Space and Conservation Easements

An easement is a restriction on private property which is legally binding on present and future landowners. Initiation of easements by the landowner is voluntary; however, after signing, the easement is an enforceable document binding both parties. When an owner places a conservation easement on land, certain rights are transferred to another person or organization. When the easement document is properly signed and recorded in the county land records, owners cannot exercise the rights which have been given up.

An open space easement allows for certain limited uses and activities such as farming, grazing or recreational uses. The focus of an open space easement is to maintain open space for human use. Open space easements can be used to provide a guarantee that the open space which is within, for example, a cluster development plan, will not be the future site of more structures.

A conservation easement may provide for the land to be left completely in its natural state or provide for limited access. The conservation easement is an effective tool to protect land which is environmentally sensitive or unique.

Planning and Regulatory Considerations: Under Michigan law, conservation easements may extend for a limited time period (such as 10-20 years) or they may be permanent. However, to benefit from federal income tax and federal estate tax reductions, a permanent conservation easement must be granted. Conservation easements must be donated to a government agency, a university or a non-profit organization to be eligible for tax reductions.

Local officials can take several steps to encourage the use of conservation easements:

1. Identify priority resource areas where conservation easements would be beneficial for the protection of water quality, wildlife habitat, environmentally sensitive lands and resources .
2. Contact landowners in the selected areas, informing them of the option of easements and related financial incentives.
3. Encourage the formation of a local "conservancy" organization to promote the easement concept and receive conservation easements if there is a high degree of citizen interest for the preservation of open space.

Local governments cannot determine where easements will be executed. They can, however, encourage the use of conservation easements as a means of saving taxpayers land acquisition costs associated with purchase of open land.

For a sample conservation easement covenant, see "Creating A Conservation Easement: The Little Traverse Conservancy's Step-by-Step Guide for Landowners," Planning & Zoning News, May 1991. This source provides a list of commonly reserved rights as well as common restrictions included in conservation easements.

Another mechanism to establish an open space easement is under the "open space" provisions of the Farmland and Open Space Preservation Act, Public Act 116 of 1974, MCLA 554.701. Property owners may dedicate a portion of their development rights to either the state or local communities. The Act enables the property owner to enter into a development rights easement in exchange for property tax relief over a 10-year period.

There are two types of open space agreements under the Act - designated and local. Designated lands are areas with unique or sensitive features recognized by the state, such as historic, riverfront, or shoreland areas. Such open space agreements are between the property owner and the state. Local communities do not lose property tax under this agreement.

Local open space lands are those approved by local communities to conserve natural or scenic resources, promote conservation of soils, wetlands or beaches or preserve historic sites and idle potential farmland. It is an agreement between the property owner and the local community. The local community provides a tax break to the property owner based on the difference between the value of the unrestricted land versus the restricted land under the agreement. It is a 10-year agreement that is binding on subsequent owners of the property. No public access to the land has to be provided. (Source: "Open Space Agreements." Community Planning Handbook, pp.IX-7 - IX-18).

4. Land Conservancy

Land conservancies (or land trusts) are local, state or regional nonprofit organizations directly involved in protecting land for its natural, recreational, scenic, historical or productive value. Most land trusts are private nonprofit corporations. Land conservancies are not "trusts" in the legal sense.

Land conservancies are distinguished by first-hand involvement in land transaction or management. Often, land conservancies help to negotiate conservation agreements and work in cooperation with government agencies to determine open space needs and priorities. Some land conservancies manage land owned by others or advise landowners how to protect and preserve the natural character of their land. Land conservancies also purchase or accept donations of land or conservation easements.

Planning and Regulatory Considerations:

- Land conservancies can be established to provide protection to a single property or may pursue a larger land protection agenda.
- Focus of a land trust may be community based, regional or for the protection of a particular resource.
- Land conservancies can manage and hold land as corporations.
- Land conservancies, as private organizations, are afforded more flexibility and can usually act more quickly than a governmental agency.
- The nonprofit status of land conservancies has tax benefits.
- Properly structured land trusts are exempt from federal and state income taxes and sometimes from local property and real estate taxes as well.

J. PROVISIONS FOR ON-SITE OPEN SPACE

Most communities have tools and techniques in place designed to retain some form of on-site open space in new development projects. Setbacks, lot area and width and lot coverage regulations set forth in zoning ordinances for subdivisions are used to limit the amount of development on a parcel, with the remaining area left as open space for use by individual lot inhabitants. Clustering housing takes this concept a step further by creating both private individual yard space and common areas. Similarly, multi-family residential, commercial and industrial developments generally retain in common some open space features in addition to yards.

The amount and type of on-site open space set aside in urban areas is generally less than what is found in suburban and rural areas. While the amount of potential dedicated open space varies from urban to rural areas, there are certainly many opportunities for achieving community goals by applying open space techniques in all type of communities. The cluster development technique, for example, can be applied to communities of vastly differing characteristics.

Cluster housing and planned unit development are particularly well suited for communities with an abundance of natural features on the fringe of the urban area, especially those facing rapid development. Planned unit development - with the mix of residential, commercial, office and other land uses - also provides opportunities for convenient pedestrian and bicycle travel.

The technique of utilizing open space zoning provisions, on the other hand, is more suited to those communities desiring to retain their rural character. This method provides an alternative to building strips of new homes on individual lots along rural county roads. Clustering of the same type of development farther off the road, perhaps tucked in wooded areas or set alongside agricultural fields, would conserve land as well as dramatically reduce the visual impact of development.

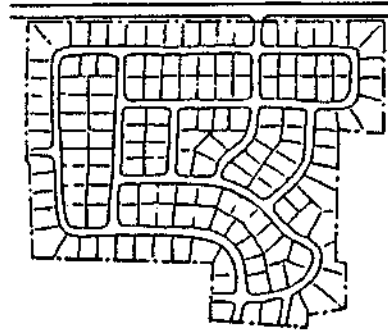
This section describes all three of these development options that can be used for maintaining on-site open space. They offer an alternative to the conventional single-family homesite approach, where open space is confined to individual lots.

1. Cluster Housing and Planned Unit Development

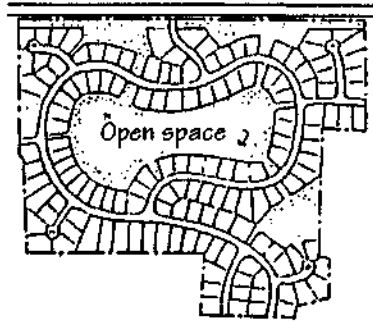
Clustering means grouping housing units or lots on a smaller portion of the site. The term is applied to both single-family detached units as well as to units with shared wall construction. Cluster development provides the opportunity for more flexibility regarding regulatory controls. Through cluster development, environmentally-sensitive areas of the site can be preserved and the development concentrated on the most suitable land.

Figure 13

**A Comparison of Cluster Development to Conventional Subdivision
(153 lots/units for all 3)**

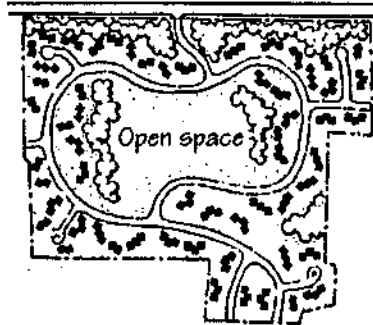


Conventional subdivision



Open space subdivision

- Smaller lots to create open space



Cluster development (single family attached)

- Create open space and buffer along road

Source: Adapted from David Listokin and Carol Walker, *The Subdivision and Site Plan Handbook*.

Figure 13 shows a comparison of a conventional subdivision, an open space subdivision and a cluster development. The amount of open space increases from the subdivision options to the cluster development.

Planning and Regulatory Considerations: Cluster housing and planned unit development are particularly well-suited for communities with an abundance of natural features that are located on the developing fringe. They are also useful design tools for infill development in predominantly built-up areas, particularly on irregularly-shaped vacant parcels that cannot be developed conventionally or vacant parcels that have become available for residential redevelopment.

Provisions for clustering and PUD can either be included in a separate zone or as a special land use in existing residential zones. Overlay zoning could also be applied in select areas of the community.

A provision could be placed in the zoning ordinance to require developers to submit a test sketch site plan of a conventional subdivision plat meeting all of the ordinance requirements for the purpose of determining the maximum number of lots that would be allowed in the cluster option.

In some communities, clustering is an option available to developers if certain conditions exist on the parcel. Such conditions include: presence of natural features, odd configuration of the parcel or parcel is contiguous to two major roads. These conditions should be spelled out in the zoning ordinance.

The open space in cluster developments is typically retained in private ownership by the homeowners or condominium association. To ensure maintenance of such open space, a development agreement between the property owner and the community should be prepared. This agreement should stipulate that if the homeowners or condominium association should default on maintaining the open space, the community may take responsibility and assess homeowners accordingly. Agreement provisions to maintain the open space should then become part of the master deed or subdivision deed restrictions.

2. Open Space Zoning Provisions

Open space zoning provisions are a variation of cluster development and planned unit development that refer to an array of tools and techniques. They are implemented through local zoning for the preservation of open space and natural character in rural areas while allowing for residential development. Sometimes called rural clustering, open space zoning requires that dwelling units be clustered or grouped on a select area of the parcel, leaving a significant portion of the parcel as dedicated open space.

Open space zoning provisions may not work well everywhere. This concept is best suited for the more rural communities, particularly those communities with rolling topography and an abundance of natural features and environmentally sensitive areas. However, it is not as effective in areas where protection of farmlands and agricultural production is a high priority or areas with flat topography with little or no woodlands.

Planning and Regulatory Considerations: Open space zoning uses a variety of land use tools and techniques. Larger setback provisions, buffering and screening and dedicated open space provisions can be used to screen dwelling units from roadways. Restricting the location of rural cluster development projects, establishing minimum and maximum project size, limiting development density and regulating lot area dimensions and clustering of dwelling units ensure that development is consistent with maintaining rural character.

The following are specific issues to be considered in implementing open space zoning provisions:

- The master plan should be updated to recognize open space zoning techniques and identify the circumstances under which they should be applied.
- The community should maintain an inventory of significant natural features and environmentally sensitive areas to be consulted as projects arise.
- Open space zoning may be incorporated into the zoning ordinance, for example, as a special land use in single-family zoning districts.
- The zoning ordinance should specify situations where open space zoning is applicable and should list specific types of environments to be preserved.
- The zoning ordinance could require that a minimum percentage of the site be retained as open space to qualify for the regulatory flexibility of open space zoning.
- Open space zoning does not usually allow for densities greater than those permitted under current zoning with traditional development standards applied.
- Open space should be arranged to buffer the development from major roads and to preserve natural features and/or public recreation.
- The developer may be required to place open space portions of development in areas contiguous to other continuous open space.

- The zoning ordinance should put the responsibility on the applicant to demonstrate the benefit of applying the technique to the parcel.
- The developer could be required to submit a site maintenance agreement.
- The community should require the applicant to supply assurances, such as through a deed restriction or conservation easement, that the designated open space will not be developed in the future.
- The open space zoning alternative provides more flexibility with regard to the traditional zoning requirements, such as setbacks, in exchange for a better overall use of the development site through clustering of development and increased buffers and usable space.
- Overlay zoning could be used in those areas where the community has identified unique and sensitive lands worthy of preservation.

Some of the limitations of open space zoning are:

- The advantages to the community of cluster developments and PUD's are not completely understood by the general public, therefore they often face opposition.
- Increased need for administration with open space zoning.
- Open space zoning can result in overdevelopment if overall density limitations are not maintained.

3. **Site Maintenance Agreements**

Site maintenance refers to the perpetual upkeep which a site requires after development. Site maintenance has become a significant issue, especially with regard to land designated to remain as open space. One approach currently being implemented in some communities is a binding maintenance agreement by the property owner with the city, village or township. This maintenance agreement can be made a condition of final site plan approval for any new development.

Site maintenance agreements allow a city, village or township to set forth standards of continuing maintenance. These agreements can be written to be legally binding upon the owner and his/her successors, heirs and assigns. In the case of rental property, if the owner wishes to pass the responsibility of site maintenance along to the tenant, both parties would be required to sign the document.

Planning and Regulatory Considerations: Maintenance subjects typically covered in site maintenance agreements include:

- Lawn care (including cutting and controlling fertilization and irrigation).
- Natural areas, retention areas, detention areas.
- Drainage systems - maintained fully operational.
- Trees/shrubs - maintained according to standard horticultural practices and individual plants replaced when planted area is more than 50 percent dead.
- Planting beds - maintained weed free and mulched.
- Irrigation systems - maintained operable as designed.
- Litter - removed at least once weekly.
- Dumpster area - enclosed and kept clean and orderly.
- Pavement markings - maintained in accordance with the zoning ordinance.

Administrative considerations for site maintenance agreements:

- Will the agreements be applied to all properties over a given size or will they be limited to certain types of land uses? (i.e., Are individual home owners excluded?)
- How will the maintenance agreements be monitored?
- What tools will be available for enforcement?
- Is there a legal manner in which existing properties could be required to enter a site maintenance agreement?

Site Maintenance Agreement for City of South-field

for (Project Name)

This agreement is entered into this ____ day of _____, 19 ____,
 by _____ (hereinafter referred to as the "Owner").

WHEREAS, on _____ the City of Southfield approved the Owner's site plan for a development located at _____, (hereinafter referred to as the "Property,") and

WHEREAS, as a condition of the above site plan approval the Owner is to provide for the perpetual maintenance of the Property,

NOW, THEREFORE, the Owner hereby agrees to perpetually adhere to the following site maintenance practices on the Property:

1. All lawn areas on the Property will be mowed at least every ten (10) days, during the months of April through October of each year.
2. All lawn areas of the Property will be kept in a vigorous growing condition by regularly scheduled lawn care practices (i.e., fertilization, irrigation and similar measures). Each year, all dead and sparse grass areas will be restored to a dense and healthy condition.
3. The Owner will maintain detention ponds and natural areas on the Property, if any, by keeping said areas free of debris, mud, or other unsightly conditions. Drainage systems will be kept fully operable as designed and built.
4. Trees and shrubs on the Property will be pruned and maintained by standard horticultural practices to keep the plants in a neat and healthy condition. Broken, dead and unsafe branches will be removed as they occur.
5. Trees, shrubs and other plantings on the Property will be replaced with similar material when individual plants are more than fifty percent (50%) dead.
6. All planting beds, mulched tree rings, and similar areas on the Property shall be kept weed free and will have additional shredded bark mulch provided every two (2) years, or sooner if needed.
7. All landscape irrigation systems on the Property will be kept operable as designed and will be utilized as site and weather conditions dictate to ensure healthy, quality lawns and landscape throughout the Property.
8. Litter will be removed from all paved areas, lawns and planting beds on the Property at least on a weekly basis.
9. Dumpsters and trash containers on the Property will be kept within dumpster enclosures and will be serviced as often as necessary to ensure that said dumpsters, trash containers and trash enclosure areas are kept clean and orderly.
10. All paved surfaces, curbs, public and private walks, fencing, signs, lighting and other structures and surfaces on the Property will be maintained in a complete, safe and attractive condition, as they were originally designed and constructed. Needed repairs or replacements will be made which conform to the approved City of Southfield site, building, engineering and landscape plans.
11. All paved areas on the Property that are striped will be re-striped when faded pursuant to applicable City of Southfield Zoning Ordinance specifications.
12. This agreement shall run with the Property and shall be binding upon the Owner and his successors, heirs and assigns.

Project Name		
If Corporate or Partner Ownership:	If Individual Ownership:	*If Tenants Occupy Property:
Name of Corporation or Partnership and Signature	Signature	Signature

* If tenants occupy the property and are responsible for site maintenance, both the owner and tenants must sign and notarize this agreement.

Source: City of Southfield.

K. ROLE OF COMPREHENSIVE PLANNING IN PROTECTING AGRICULTURAL AND ENVIRONMENTAL RESOURCES

The role of comprehensive planning in protecting agricultural and environmental resources involves two key considerations. First is identifying the specific locations of these resources and their significance to the community. Second is the inclusion of environmental resources as an important element in planning for future land use. These considerations usually involve the long-term protection and viability of renewable resource land, such as farmland and woodlands; protecting sensitive lands - shorelands, wetlands, floodplains, slopes and habitat - from unnecessary encroachment by incompatible land uses; and protection of groundwater and surface water from contamination as development occurs.

The role of the comprehensive plan begins with identifying where these important resources are located and what they mean to the future of the community. Soils maps have been prepared for the County identifying those soils which have significance for profitable agricultural production. This information can help a community understand both the natural resource and economic values of farmland, allowing informed choices in designing measures to protect the long-term economic viability of these lands. Likewise, by mapping sensitive lands as a part of the comprehensive plan, a community can incorporate them into the land use decision-making process. Identifying potential threats to these areas from adjacent uses helps in designing appropriate measures. Policies to protect water quality in the comprehensive plan should provide the basis for regulatory standards for soil erosion, groundwater protection and stormwater runoff.

Any regulatory techniques employed to protect renewable resources or sensitive environmental resources need a strong foundation in the local comprehensive plan. The comprehensive plan needs to show not only where these important resources are and how development should be guided away from sensitive lands, but also how future land use activity could compromise the integrity of these resources if adequate public policies and regulations are not put into place.

It is important to include explicit policies in the comprehensive plan to help build a solid legal foundation against any future challenges to sensitive land regulations. Although there is usually strong local support for policies to protect sensitive lands, these policies will alert developers and educate citizens about the importance of these lands and how they can best protect sensitive lands in their own development efforts.

1. Protecting Agricultural Lands

Many parts of the rural countryside have historically contributed to both the state's and the region's agricultural economies. However, the presence of farming in the region has been diminishing over the years. Of the many reasons for

this decline, the most significant are the direct and indirect effects of urban encroachment. Much farmland has been converted to urban uses, often fragmenting the former agricultural land through lot splits. The resulting parcels are frequently too small to economically be used for farming and lie vacant. In spite of this decline, the region continues to be a significant contributor to major crop production in the state and, in some cases, the nation.

The concern of those communities in the region that still have extensive farming operations is how best to sustain a continued strong agricultural production system while at the same time addressing the demand for development to accommodate a growing population.

Protection of a community's agricultural lands must focus on limiting development in predominantly agricultural areas and guiding development away from prime agricultural lands. The degree of success in addressing this dilemma is largely dependent on having the appropriate planning options that will result in a balanced and responsive development pattern.

This section describes some tools and techniques that provide choices for communities who wish to preserve agriculture, including mapping of prime agricultural soils, use of various zoning techniques and participation in the state's farmland and open space preservation program.

a. Mapping of Prime Agricultural Lands

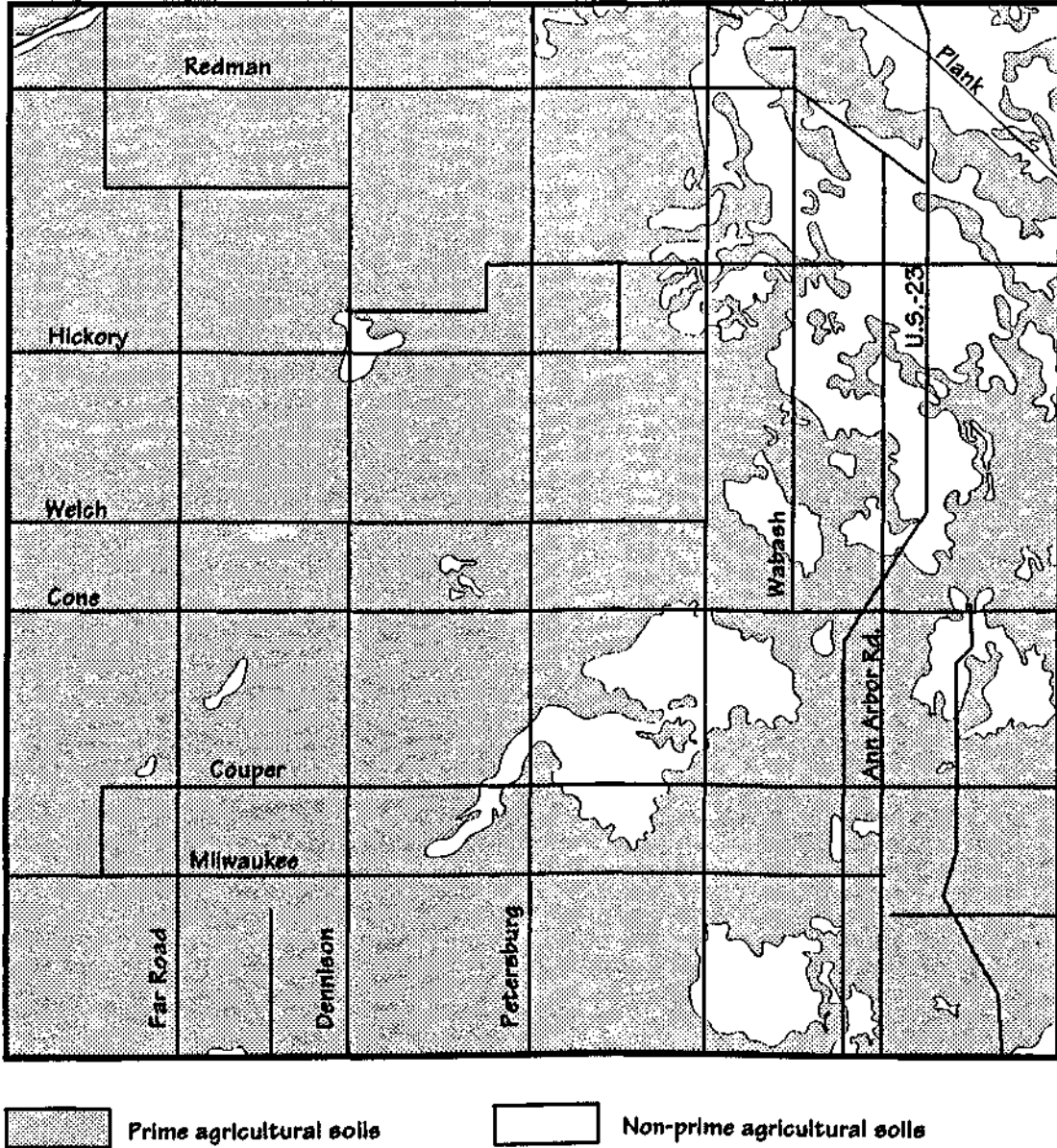
Agricultural protection efforts are typically targeted toward prime and unique agricultural lands. Prime farmland, because of characteristics such as level topography and soil characteristics (fertility, moisture levels, depth and texture), is the land most suitable for row crops. Unique farmlands are lands other than prime lands that have a special combination of characteristics (e.g., soil qualities, location, topography and growing season) that make them ideally suited for specialty crops like vineyards, orchards and vegetables. The Soil Conservation Service identifies prime and unique agricultural lands by county. (Source: "Farmland Zoning," Community Planning Handbook, p.IX-24.)

Figure 15 is a map showing the extent of prime agricultural land in Milan Township. The township uses this information in regulating development in the township.

Prime soils are also usually erosion resistant, allowing intensive cultivation with minimal adverse environmental impacts, such as soil erosion and other agricultural runoff. The conversion of prime farmland to other land uses - such as commercial, industrial or residential - increases pressure to farm less productive, ecologically

Figure 15

Prime Agricultural Soils
Milan Township, Monroe County



Source: Monroe County Planning Department.

Unfortunately, many of the same characteristics that make land ideal for farming also make it prime for urban development (good drainage, relatively flat topography). Often the motivation for protecting prime agricultural areas that are in the path of urban growth is preserving rural character as much as protecting the resource. Therefore, agricultural protection must be done in combination with other innovative growth management techniques to guide urban growth to other areas.

Planning and Regulatory Considerations: Farmland protection efforts must be included as a part of the community's comprehensive plan or of a functional plan, such as the Environmental Quality and Natural Resources Plan. Public involvement is a vital component to successful protection programs: farmers, residents and realtors all need to be included in the process.

Farmland Protection planning should include:

- A map of all prime and unique farmland in need of protection and lands currently protected under the Farmland and Open Space Preservation Act.
- Community goals for protecting farmland and prioritizing existing farmland for future protection efforts.
- A farmland protection program incorporated in the community comprehensive plan.

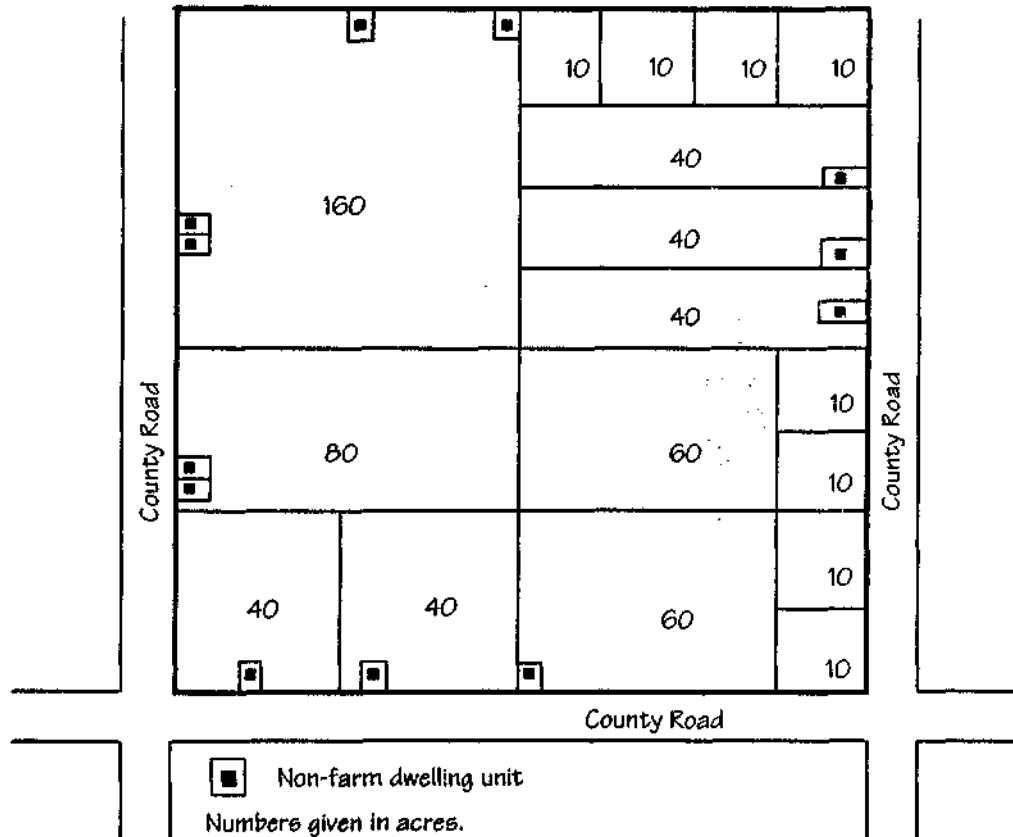
Benefits of prime and unique farmland protection:

- Maintains the most productive agricultural land for food production today and for future generations.
- Alleviates unnecessary development pressures on protected farmlands.
- Prevents fragmentation of farmland for other land uses.
- Can protect rural character, depending on techniques employed.

b. Alternative Agricultural Zoning Techniques

Various zoning techniques should be considered for the protection of farmland from encroachment by development. These techniques include: sliding scale zoning, quarter/quarter zoning, large lot zoning, exclusive use zoning and agricultural buffer zoning.

Figure 16
 Quarter/Quarter Agricultural Zoning



Large lot zoning is one of the most widely used zoning techniques for promoting agricultural protection. The approach is simple. Zoning regulations establish large minimum lot sizes to discourage non-farm residences because purchase prices are higher than smaller lots. Unfortunately, the technique usually does not work because the lot size is still too small and/or the relative cost difference is not great enough compared to sewerred lots in suburban communities. Thus, if the goal is farmland protection, choose another technique, as this one is not very effective unless the minimum lot size is very large (40 acres or more).

Exclusive agricultural zoning prohibits all nonfarm dwellings. Agriculturally-related activities such as grain elevators, farm equipment repair facilities, etc. are permitted by special permit. If extensive areas are prime agricultural land, the best way to protect them is by prohibiting nonfarm uses, including residences. Communities usually permit residences for family or workers employed on a farm.

Agricultural buffer zoning is a transition zoning technique that can be used to help protect the long-term integrity of prime or unique agricultural lands. A residential/agricultural zone is created in appropriate areas of the community between more intensive development and large tracts of agricultural land. This transitional area, or buffer zone, allows for rural residential lifestyle opportunities and isolates agricultural operations from higher intensity uses. The buffer district should be placed in areas not considered prime or unique for agriculture. (Source: "Open Space and Farmland Preservation," Community Planning Handbook.

c. Farmland and Open Space Preservation Act

Another tool for the protection of farmland is the State of Michigan Farmland and Open Space Preservation Act, P.A. 116 of 1974. This Act provides either an income tax credit or single business tax credit for farmers of eligible property (or owners of open space). The farmer must agree to forfeit the development rights to the property (or portion thereof) for a specified period of time (10 year minimum). The Act defines "agricultural use" as substantially undeveloped land devoted to the production of plants and animals useful to humans.

2. Protecting Sensitive Lands

The County has abundant natural resources - inland lakes and ponds, rivers and streams, wetlands and woodlands. Each of these features plays a vital role in the region's natural resource system and contributes to the overall quality of life. Some of these sensitive lands are regulated by several regulatory agencies. Wetlands preservation is a statewide priority regulated by state law. Other sensitive lands are not regulated by the state and must rely on local governments for their protection.

There has been an increasing awareness by both the public and private sectors about the importance of protecting sensitive lands. Several communities have taken steps to adopt regulatory ordinances protecting sensitive lands within their jurisdiction. Several communities have adopted wetland protection ordinances and tree preservation and woodland ordinances.

The development community also recognizes the value and benefit of preserving sensitive lands in its projects. Preserving these features enhances development project attractiveness by providing aesthetic views and physical separation from other land uses. Clustering of buildings in such projects to preserve sensitive lands also helps reduce development costs.

The spread of development into the region's outlying communities continues to put pressure on these resources, especially in those communities that have not adopted provisions for protecting sensitive lands.

a. Shoreland Management of Lakes and Streams

The shoreland is the strip of land immediately adjacent to a waterbody. The management of the shoreland along lakes and streams is critical to the health of these waterbodies. Development along the shoreland has seriously compromised the natural character of our lakes and streams and has reduced water quality. Through proper management of shoreland development, it is possible to maintain natural biological functions of the area as well as provide for human cultural needs.

Shoreland management should establish shoreland regulations to protect natural character and water quality. Partnerships of local governments with input from concerned citizens and waterfront property owners should establish regulations for the protection of our water resources.

Planning and Regulatory Considerations: The most effective way to protect shorelands of lakes and streams from development is through public acquisition. There are various land acquisition tools and techniques available to local governments.

Two important regulatory tools for protecting shorelands of lakes and streams from private development are setback of the principal structure from the shoreline and preservation or establishment of

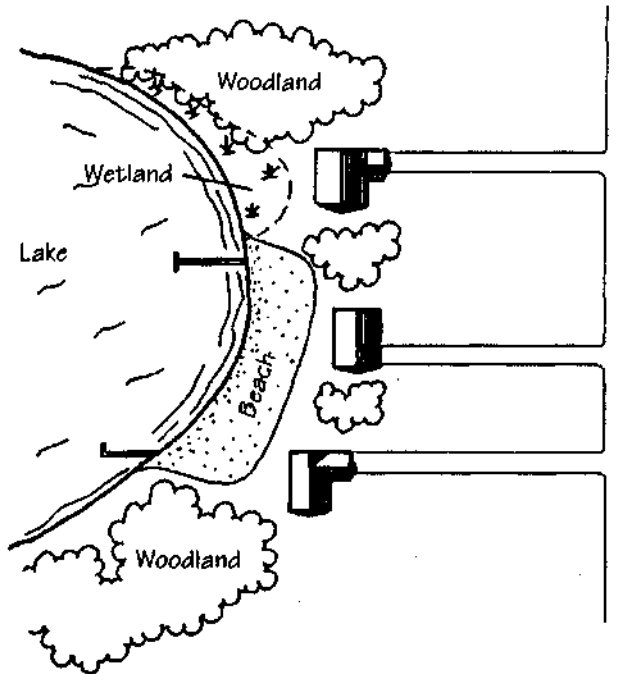
a natural vegetative buffer along the shoreline. The buffer helps to minimize erosion and maintain stability of the banks. Figure 17 illustrates the use of both of these tools in a comparison between a traditional lakeshore development and a preferred development design which reduces potential pollution or contamination.

Establishment of shoreline regulations for effective protection of natural character and water quality should consider the following:

- Establish a minimum setback for a vegetative buffer along a lakeshore or stream.
- Provide ample setbacks for septic tanks and drainfields along shoreland areas.
- Reduce erosion and sedimentation potential.
- Minimize tree cutting or thinning of trees in areas adjacent to waterbodies.
- Establish structural setbacks from shoreline.
- Regulate road placement adjacent to shoreline.
- Zone areas for low intensity development. Establish minimum lot sizes, frontage and width requirements.
- Limit accessory structures in the corridor (boat houses, docks, etc.).
- Include reference to floodplain, soil and sedimentation control administered by other agencies in shoreline regulations.
- Screen new structures with natural vegetation through the use of a viewshed ordinance.
- Limit height of buildings so they do not intrude on the natural bluff or treelines.
- Direct animal grazing landward of the vegetative buffer strip.
- Limit commercial or industrial uses and regulate through special use permits, subject to adopted standards.
- Reclaim old development sites (industrial and utility uses) along rivers and streams to create a mix of residential development and parkland and public open space.

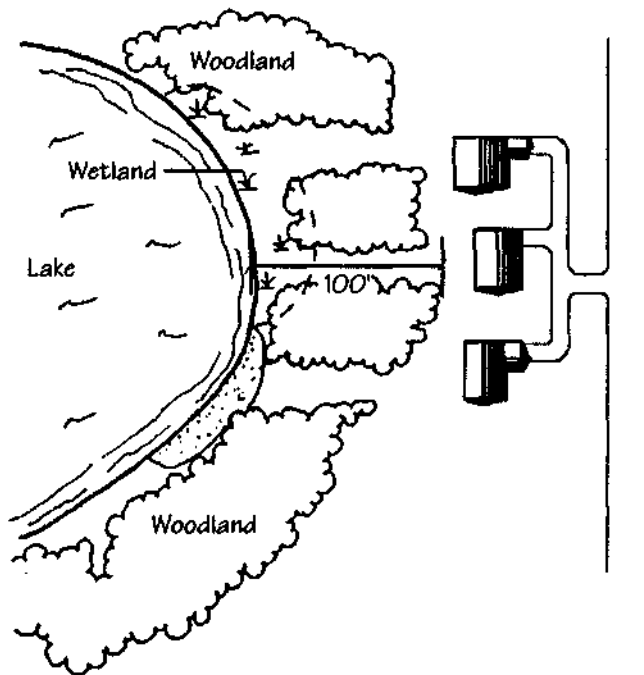
Figure 17
Shoreland Management of Lakes and Streams
Traditional vs. Preferred Development

Traditional lakeshore development



- Most of vegetation removed – results in soil erosion
- Limited wetland area preserved
- Houses too close to lake – lawn fertilizers pollute lake
- Beach area developed
- Long driveways increase impact and create runoff

Preferred lakeshore development



- Houses setback minimum 100' from lake
- Existing vegetation preserved with filtered views provided.
- Houses clustered with shared access to minimize impact.

- Control visual impacts from public access sites (e.g., set parking areas back from the lake or river and disperse access sites along the shoreline).
- Limit the number and size of signs visible from the stream or lake.
- Promote intergovernmental coordination of regulations among communities along lake shoreline and river corridors.
- Use conservation easement to protect shorelands along lakes and streams and land adjacent.

b. Wetlands Protection and Regulation

A wetland is an area where water is a controlling factor in the development of plant and animal communities. It may be standing water above the ground or groundwater that is close to the surface. The water may be present during the entire year or only during part of the year. Wetlands are often transitional areas between upland habitats and aquatic habitats. Wetlands are also referred to as bogs, swamps or marsh.

The function and value of wetlands vary depending on their location. Wetlands may:

- Serve as a stormwater holding area which reduces local flooding.
- Provide for the settling of sediment and pollutants from road surface runoff.
- Reduce streambank erosion caused by stormwater runoff.
- Serve as reservoirs, slowly releasing runoff to nearby streams and lakes.
- Provide habitat for fish and wildlife.

Planning and Regulatory Considerations: State Protection of Wetlands - The Goemaere-Anderson Wetland Protection Act, Act 203 of 1979 (MCLA 281.701), is the primary law that governs wetlands in the state. The Act:

- Establishes a state policy to protect the public against the loss of wetlands and makes explicit findings about the benefits wetlands provide.
- Establishes a permit program regulating some activities in wetlands which are above the ordinary high water marks of lakes and streams.

- Authorizes more stringent and broader regulation of wetlands by local governments.

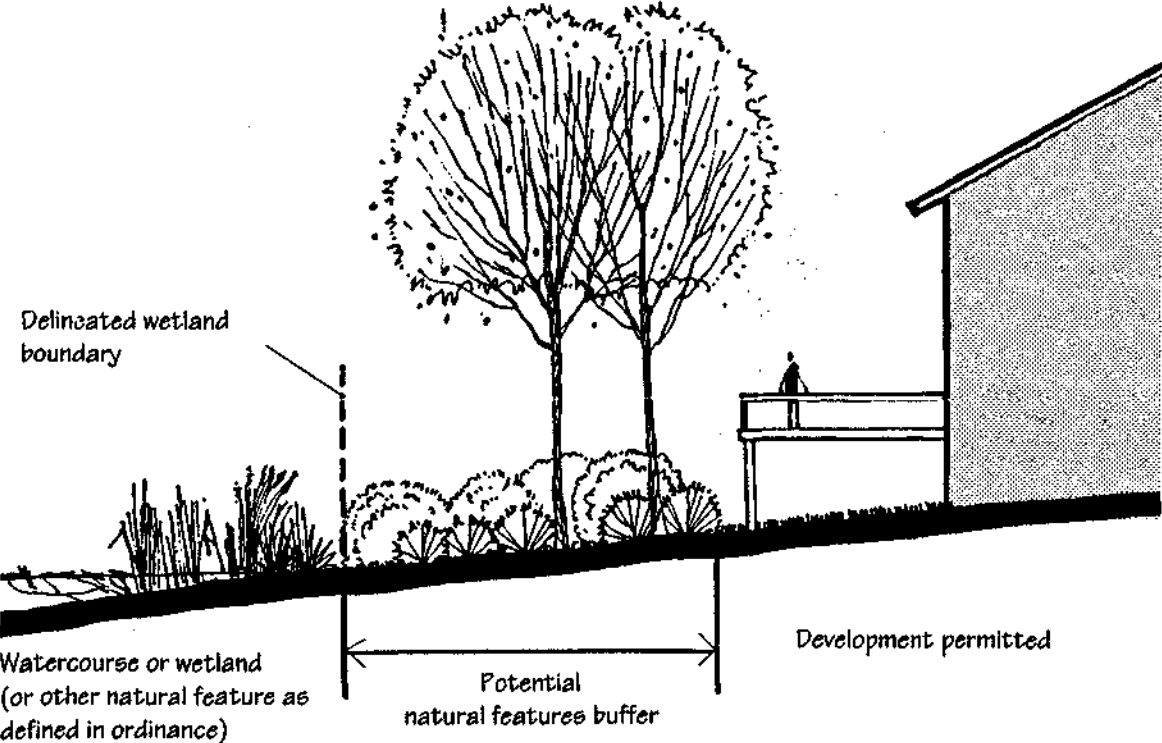
Act 203 defines regulated wetlands as:

- Wetlands that are contiguous to an inland lake or pond, or a river or stream.
- Non-contiguous wetlands of more than five acres in size located in counties of 100,000 or greater population.
- Non-contiguous wetlands of less than five acres in size, provided that it is within 500 feet of a lake, stream, drain or pond or contains one or more acres of open water or is essential to the preservation of the natural resources of the state and the MDNR has notified the owner.

In December 1992, the Governor signed two laws which amended Act 203. The essence of these amendments was to reduce local governments' options in regulating wetlands to achieve greater consistency in local regulations. In summary, these amendments provide that:

- Local governments with wetland regulations have until June 1994 to comply with the new state requirements.
- Local ordinances shall not provide a different definition of wetland than is provided in the statute. However, a local wetland ordinance may regulate wetlands less than five acres in size.
- Prior to enactment of a wetland ordinance, the local government must create a map showing all wetlands in the community. Such a map must be made available to the public at a reasonable cost.
- Local governments shall use the same permit application form used by the Michigan Department of Natural Resources.
- Applications for a wetlands permit must go directly to the local government. The local government must in turn forward a copy of the permit application to the MDNR.
- Local government review of permit applications must be in accordance with the local ordinance. Local action must be taken within 90 days following receipt of the permit application. Denial of a permit must include written reasons.
- Noncontiguous wetlands of less than two acres can also be regulated, provided that local government determines that the wetland is essential to protection of natural resources of the community. Such determination is made by meeting one or more of the specific criteria.

Figure 18
Wetland Protection and Regulations
Natural Features Buffer



Source: Planning and Zoning Center, Inc.

In July 1993, there was another amendment to Act 203. With this amendment, the Michigan Department of Natural Resources is now required to send notice to local governments when a wetlands permit is issued.

Local Government Protection of Wetlands - The principal objectives of local wetland regulations are to:

- Prevent filling, dredging, alteration or removal of material from a wetland area.
- Prevent alteration to drainage patterns that may affect a wetlands system.
- Provide a protective, natural greenbelt around wetlands.
- Prohibit deposition of any material - including hazardous chemicals, non-biodegradable aquatic pesticides, herbicides and fertilizers - into, within or upon the wetland or the greenbelt buffer area adjacent to a waterbody or wetland area.

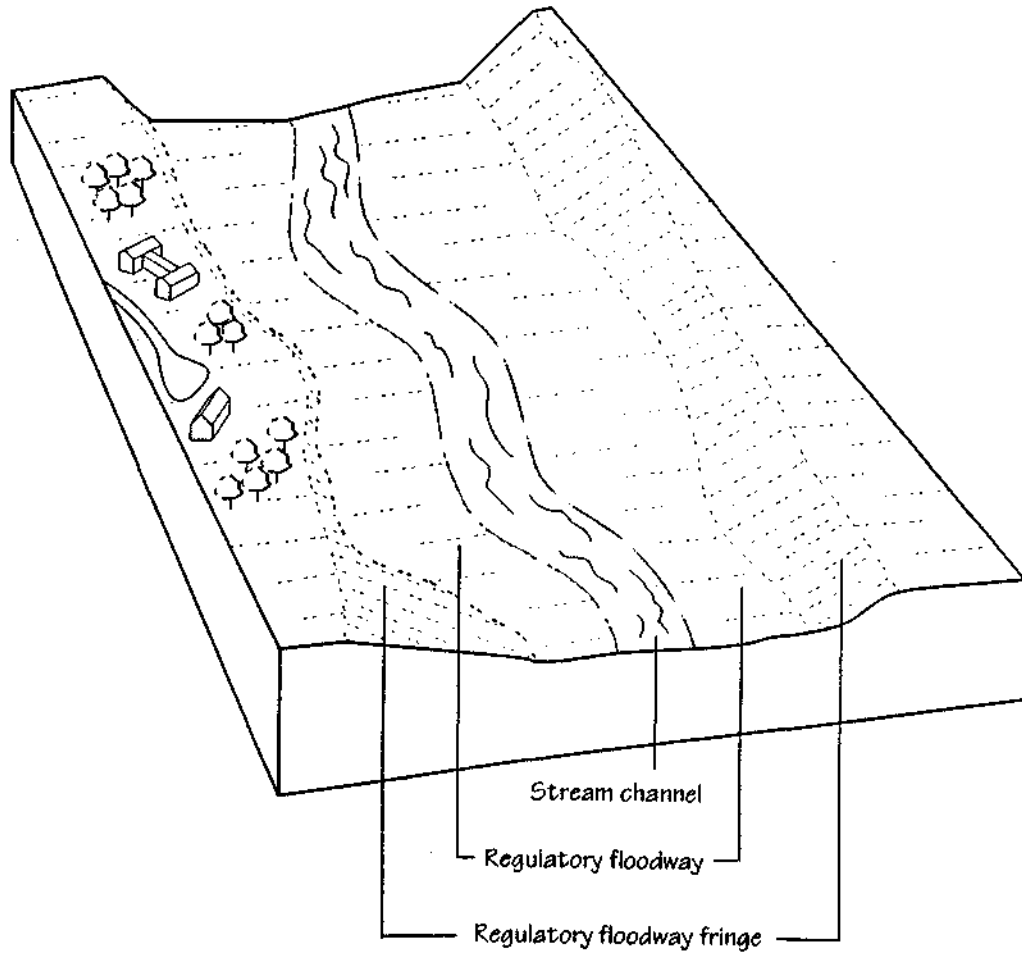
Local governments have various options to protect wetlands.

1. **Wetland Permit Process Information:** Local governments provide information to property owners about wetlands and the state's permitting process.
2. **Protecting Wetlands Through Site Plan Review:** Local governments identify wetlands and, through site plan review, require land owners to obtain a state permit and protect wetlands in the development plan. Two zoning ordinance provisions provide for the implementation of this method: a) site plan review standards for environmental protection, and b) subdivision or lot split regulation to prevent the creation of unbuildable lots that are predominately wetlands.
3. **Local Wetlands Protection Ordinance:** Local community adopts a comprehensive local wetland regulatory ordinance that provides more stringent regulation than the state act as amended.

Other local wetland protection provisions for consideration are:

- Performance standards for developments adjacent to wetlands.
- Provisions for clustering development to mitigate impacts on wetlands.
- Requirements for deed restrictions to be attached to developments near wetlands to protect against future encroachment.

Figure 19
River Floodplain Components



When a floodplain is altered by grading, filling or the erection of structures, its flood-dissipating functions are reduced. Frequently, changes to the natural system aggravate flooding and damages. Factors that increase flooding problems include.

- Removing vegetation that stabilizes banks of streams and rivers and slows flood waters.
- Erecting structures that deflect or inhibit flow of floodwater can modify flow paths, spreading flooding problems and increasing erosion.
- Constructing bridges, culverts, buildings, or other structures that encroach on the floodplain reduces the storage area available for floodwaters and increases flood elevations.
- Building drainage systems that quickly feed stormwater in the receiving body.
- Channelizing streams (straightening meandering watercourses to expedite drainage) which transfers flooding problems downstream and alters wildlife habitat.
- Filling and dumping in floodplains. Even something as seemingly innocent as dumping lawn clippings and leaves in these "waste areas" can cause a considerable amount of damage as floodwaters rise and transport debris that can interfere with the movement of floodwater.

Planning and Regulatory considerations: Federal, state and local governments all have roles in floodplain management. The federal government runs the National Flood Insurance Program. This program offers flood insurance coverage to property owners within those communities participating in the program. It is the only source of flood insurance. To participate, communities must adopt and enforce development regulations in flood-prone areas. The state, through the Michigan Department of Natural Resources, has established rules that govern alteration and construction within the 100-year floodplain.

Local governments have a critical role in floodplain management. First of all, floodplain management should be an integral part of the local comprehensive plan. Local land policies should address the need to protect floodplains from encroachment and to specify the types of uses permitted in such areas. The plan should also recommend that some floodplain areas be acquired for use as recreation or maintained in open space or habitat preserve.

Floodplain areas should be mapped to show the extent of the 100-year limit. There are various sources to help determine floodplain boundaries, including the Federal Emergency Management Agency flood insurance studies and maps. There are also county soil inventories prepared by the Soil Conservation Service.

Floodplain property should be controlled by local ordinance and subject to local site plan review procedures. Local regulation of floodplains can be made part of the zoning ordinance and subdivision regulations or be a separate floodplain protection ordinance. Provisions should include:

- Prohibit construction of buildings and facilities subject to water damage in the 100-year floodplain.
- Require floodproofing measures on buildings presently in the floodplain.
- Remove flood-prone structures from the floodway portion of the floodplain.
- Establish construction standards for development in the floodplain.
- Adopt provisions to protect natural vegetative cover in floodplains.
- Require tree and shrub planting in floodplains to prevent erosion.
- Restrict dredging, filling, dumping or backfilling of floodplain areas.
- Avoid land divisions within floodplain areas that will create parcels or lots that cannot be used.
- Require that flood insurance be obtained for all facilities existing in the floodplain under the National Flood Insurance Program.

Other regulatory considerations are:

- Require that proposed new structures or modifications to existing structures be subject to special land use approval by the local planning commission.
- Create an overlay zone within a prescribed setback from the river, stream or creek that regulates development and use of the floodplain based on the severity of flooding hazard.
- Require that before local approval can be granted, a permit must be secured from the Michigan Department of Natural Resources.

Two nationally recognized building codes, BOCA (Building Officials & Code Administrators) and UBC (Uniform Building Code), have regulations concerning construction in the floodplain and are commonly used by local governments.

An important element in a floodplain management strategy is the need to establish intergovernmental cooperation. Cooperation among communities along the floodplain is vital to ensure consistent application of regulations and to avoid one government transporting flooding problems to another. Review by the county drain commission office will help ensure that upstream and downstream areas are not adversely affected. Working with the federal and state agencies, local officials will ensure that proposed development and use in floodplains meets all requirements of federal and state laws and regulations.

d. Woodland Ordinances and Regulations

Woodlands are an important natural resource providing an enriched environment for people, animals and plants. Besides the recreational and aesthetic benefits woodlands provide, they also moderate local temperature fluctuations, provide protection from flooding and high winds, stabilize slopes and river banks, reduce erosion and sedimentation and filter water percolating through the ground. Forests also filter air through the absorption of some pollutants and act as a barrier to reduce noise. A woodland protection ordinance serves to protect woodland areas and associated environments.

The purposes of local woodland protection should be clearly identified as the first step in the planning process. Typical purposes include:

- Woodland (and wooded wetland) preservation
- Open space protection
- Aesthetic/community character preservation
- Replacement of dead or diseased trees
- Maintenance of natural green landscape
- Protection of wildlife habitat
- Noise buffering.

Planning and Regulatory Considerations: Woodland regulations generally require a permit from the local unit of government for any activities that involve:

- Removal or impact to any woody vegetation exceeding a specified trunk diameter (size varies, depending on the ordinance).
- Removal of woody vegetation in a designated floodplain.

Development regulations related to woodland protection that involve permitting or site plan review process may require:

- A site inventory of trees greater than six inches in diameter.
- A specific percentage of trees greater than a specified size in diameter be left intact on a parcel when development occurs (e.g., 50-90 percent). The portion of trees to be preserved is applied outside the building envelope.
- Minimum spacing or density requirements for on-site vegetation.
- Replacement guidelines to mitigate unavoidable loss of trees.
- Tree replacement list should include native species of trees.
- Require natural planting plans where appropriate.
- Guidelines to encourage structures to blend with the natural setting of a woodlot.
- More stringent tree protection standards on sites with severe design limitations, such as steep slopes and highly erodible soils.
- Tree preservation areas (e.g., 35 feet in width) be established along front and side lot lines.
- Standards for specimen trees and/or landmark trees that are not allowed to be moved or transplanted. Landmark trees are those trees of significant size, depending on species, that stand out from other trees in the woodlot in form and size.
- Measures on construction sites to protect trees that are designated for preservation (e.g., protecting root systems from compaction or grading too close).
- Placement of guard fences prior to construction to protect remaining trees.
- The root zone of trees be protected from stockpiling of soil, building supplies or paints and other chemicals.
- Controlling placement of parking to protect tree root systems from inadequate water due to paved surfaces.
- Prohibiting changes in soil elevation within the dripline of trees that are not permitted to be moved.

A woodland protection ordinance should have the statutory authority to protect stands of large trees (6 inches in diameter or greater). The developer may be compensated with density credits.

A woodland protection ordinance should be accompanied by a community woodlands map which identifies all large stands of trees of six inches or more diameter.

e. Slope Protection Regulations

Slopes in land surfaces offer attractive areas for development, but steeper slopes may require protection. The stability of slope depends on its unique combination of vegetation, climate, soil and underlying geology. In general, the steeper the slope, the more sensitive it is to change. Some steep slopes are relatively stable and can remain so with the proper regulation of the extent and character of development. Others, however, are geologically unstable or environmentally valuable and therefore should be retained in their natural state. Steep slopes can be a danger to public health and safety if developed without proper safeguards to protect their physical characteristics. The results may be:

- The loss of slope and soil stability as well as increased erosion and sedimentation.
- The alteration of the natural drainage pattern and increased runoff.
- The destruction of community character.

Planning and Regulatory Considerations

The following planning and zoning techniques should be considered in preparing local slope protection regulations:

- Use local topographic maps produced by the United States Geological Survey and soil inventories prepared by the Soil Conservation Service to identify existing slopes and prepare a local map showing these areas and their characteristics.
- Include specific policies in the comprehensive plan regarding protection/uses of steep slopes.
- Adopt a slope overlay zone and apply certain flexible development/protection standards based on the degree of slope.
- Include slope protection/use provisions through special land use, planned unit development or site plan review regulations.
- Include slope retention/protection requirements in the subdivision control ordinance to address slope concerns when land is divided.

An overlay zone can be used to address development density and protect natural features. This technique could mandate lower density of development on steeper slopes through a "slope-density" approach.

Variations of this approach are:

- Slope-lot size - lot size increases as the slope increases.
- Slope-natural area - increased portion of site which must be kept in natural state with increased slope.
- Slope-dwelling units - number of dwelling units decreases as slope increases.

Slopes that are deemed environmentally unsuitable for development or have community value could be preserved through acquisition, purchase or conservation easement. (Source: "Hillsides," Performance Controls for Sensitive Lands, pp. 67-85).

f. Habitat Protection

Habitat is the combination of the four basic requirements necessary to sustain a particular species (food, cover, water and space). Habitat requirements vary significantly for different wildlife species. While many species live primarily in one type of habitat, most species require a diversity of habitats for different portions of their lifecycle.

Typically, the natural environment and the urban environment were (and often still are) considered mutually exclusive. Consequently, many of the benefits of "nature," such as wildlife, have been largely ignored, neglected or undervalued in urban planning. A significant number of plant and animal species exist in older urban areas and developing areas - many more than most people realize. These species exist because they either are adapted to the urban environment or they have found refuge in pockets of open space. The variety of plant communities determines the diversity and stability of the wildlife populations within the area. The best way to maintain wildlife and ecosystem values is to minimize habitat fragmentation and to increase habitat diversity. The smaller the habitat and the more homogeneous it is, the greater the chances are that several plant and animal species will be unable to survive. In developing areas, fragmentation is inevitable. However, preserving habitat corridors and natural linkages provides a means of mitigating the effects of habitat fragmentation. Corridors provide for a relatively easy means of wildlife and plant dispersal across areas where it would otherwise be difficult. Habitat diversity can be encouraged through public education and habitat management practices.

Planning and Regulatory Considerations: Local land use decision making is a vital element in protecting and maintaining wildlife habitat. Local comprehensive planning should include provisions for wildlife management, including site-specific, large-scale area and corridor habitats.

Figure 21
Wildlife Habitat, No Effective Habitat
(Single-family subdivision)

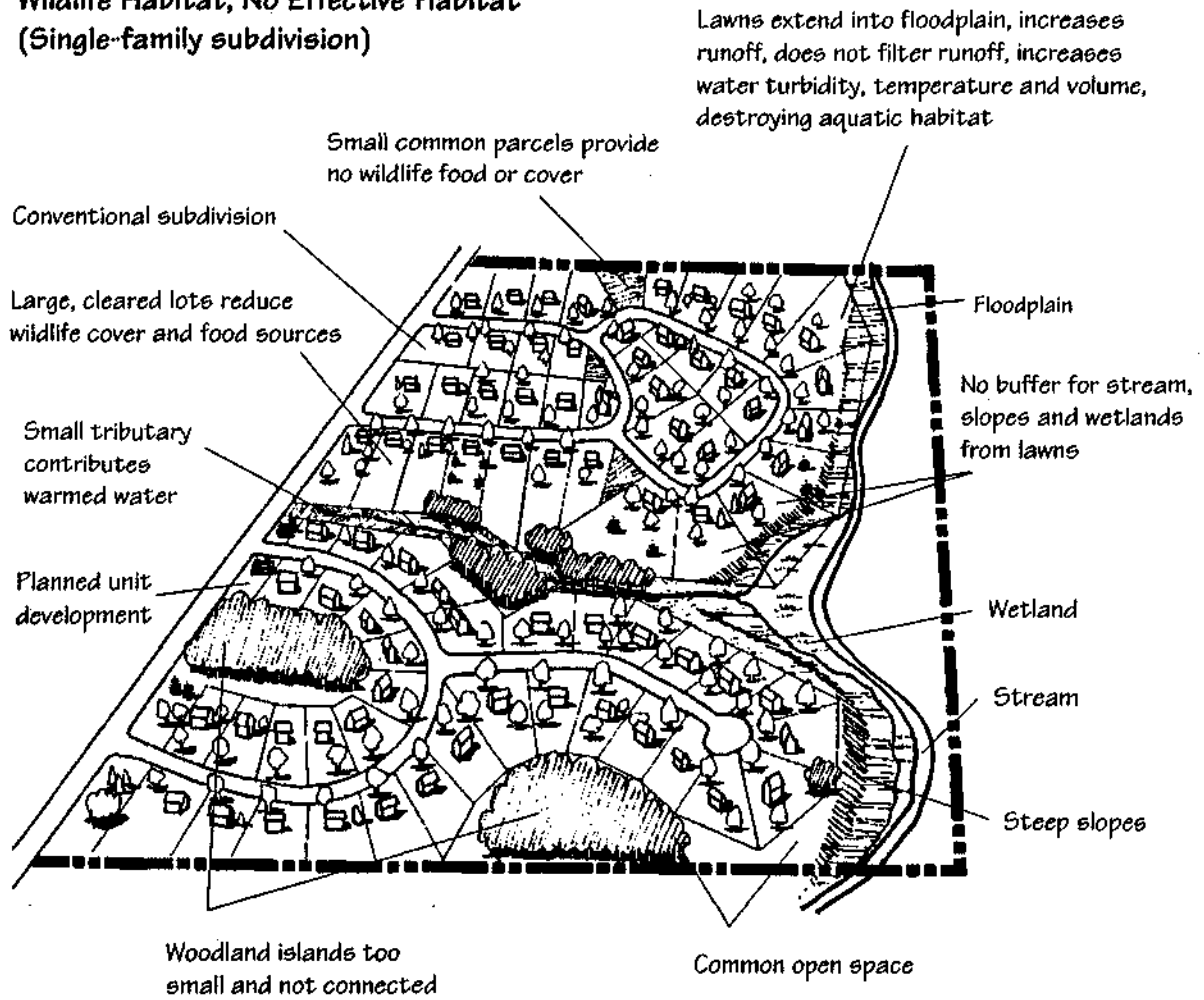
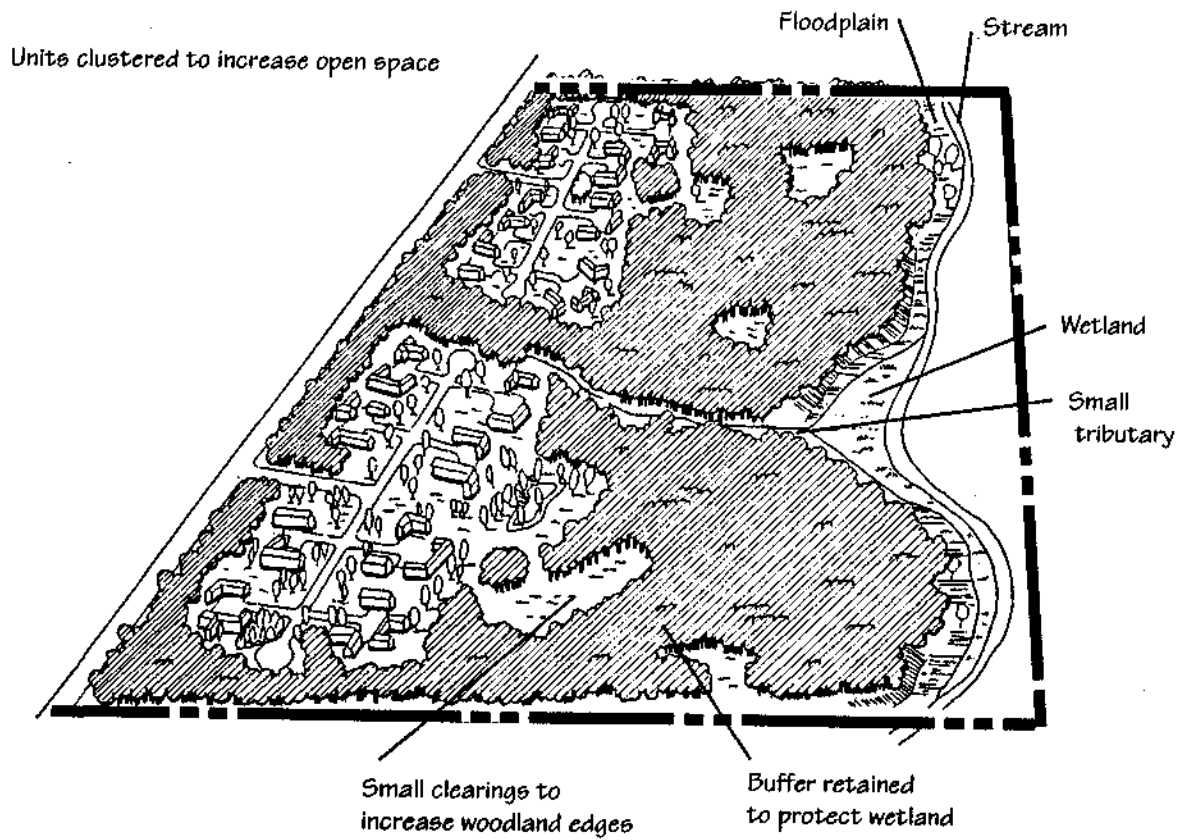


Figure 22
Wildlife Habitat, More Effective Habitat
(Multiple family cluster development)



3. Protecting Water Quality

Water is an essential natural resource for sustaining life. To ensure its long-term availability and quality, all levels of government have an obligation to take measures protecting water quality for both present and future generations. This responsibility extends beyond that which is being accomplished by existing state and federal authorities. It also has a local dimension, because threats to water quality arise from the land use activities generally governed by local regulations. Such threats include erosion caused by the clearing of surface vegetation and land grading activities. Increased stormwater runoff threatens surface water bodies by depositing pollutants in lakes and streams. Groundwater is threatened by toxic surface spills, leaking underground storage tanks and malfunctioning septic systems.

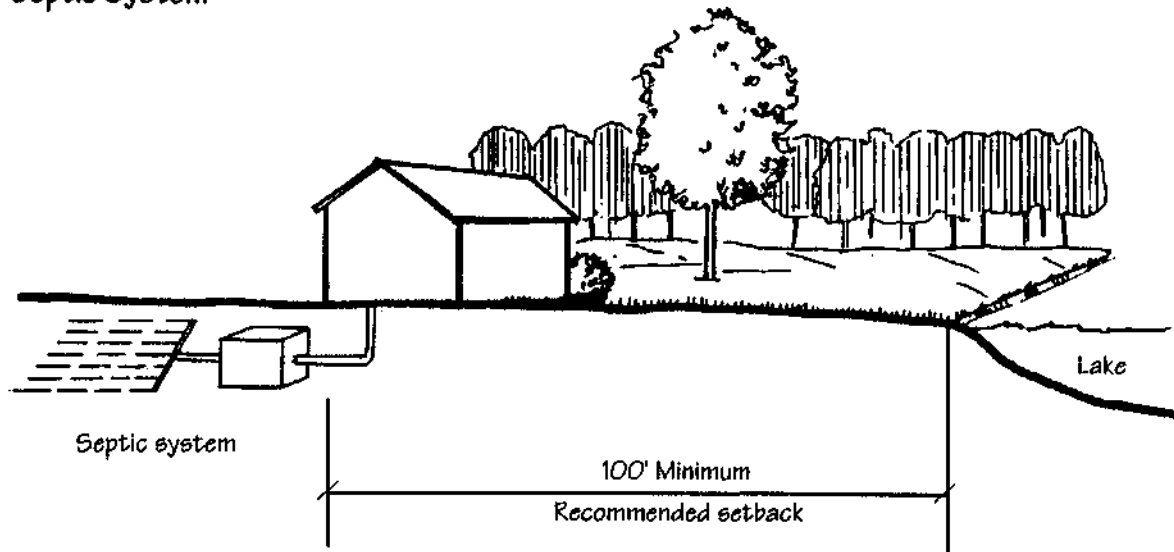
Communities which fail to take appropriate steps to protect water quality will eventually have to implement costly measures to correct mistakes. Contamination of the water not only results in an extreme burden on the community in question, but also has an impact on adjacent landowners in the area and on communities downstream. The most prudent approach in protecting water quality is through preventive measures implemented by local communities.

This section of the handbook provides some techniques that can be effective in protecting water quality. These involve sewage disposal management procedures implemented by local communities to complement county and state regulations, zoning and other techniques that focus on protecting groundwater quality and techniques to minimize surface water contamination resulting from stormwater runoff.

a. On-site Sewage Disposal Management

Septic systems are the usual type of wastewater treatment systems used in rural and semi-rural areas. They are self-contained systems comprised of an underground tank that holds waste and a drainfield which disperses wastewater through tiles into the soil. Figure 2 3 shows the components of a septic tank system. When properly designed, located, installed, operated and maintained, they can offer an alternative to sewers and municipal wastewater treatment plants. However, use of septic systems significantly limits the amount and pattern of development in rural areas and can affect groundwater and surface water quality. Another on-site wastewater disposal system is the lagoon where effluent is discharged into a shallow pond containing water. Periodically, effluent from the lagoon, is pumped out.

Figure 23
On-Site Sewage Disposal System
Septic System



Land Use Planning and Zoning - Local governments can direct development to areas which are likely to have suitable soils and groundwater conditions for septic systems.

- Soil suitability for septic systems can be determined through the use of soil data and maps available through the soil conservation district in the county.
- Establishment of zoning district density regulations (number of dwelling units/acre). Density of development (and septic systems) can affect the function of systems. The use of overlay zoning could be used to regulate density based on soil suitability.
- Septic system setback requirements from lakes, rivers and streams that exceed county sanitary code requirements could be established in the zoning ordinance to further water quality protection. Figure 23 shows a septic system and a recommended minimum setback from a waterbody.

Site Plan Review - Review for potential septic system problems should become a part of local communities' site plan review processes to ensure compliance with community standards and policies. The following questions should be addressed in the review process:

- What types of soils and groundwater conditions are found on the site? Are natural conditions suitable for septic tanks?
- Will steep slopes create problems for septic systems?
- Will septic systems be located within 100 feet of any lake, stream or river?
- Will septic systems be located uphill from water supply wells, posing threats to drinking water supplies?
- Will septic systems be located in stormwater runoff pathways? Could overbank flooding from nearby streams create septic system problems?
- Is there room on the development site for a replacement drainfield?
- Is a vehicle access corridor available on the site for septic system maintenance purposes?
- Is there convenient access to the tank cover for regular inspection and maintenance?

To avoid potential problems later, local governments can require county health department approval of plans before approving preliminary plats or site plans.

Permit Issuance - Local government permit issuance should be coordinated with the permit issuance process of the county health departments.

- County septic system installation permits should be obtained before the issuance of building permits (as required by the State Construction Code).
- County final septic system inspection and approval should be completed before an occupancy permit is issued by the local government.

Monitoring and Surveillance - Local governments can assist and support county enforcement efforts by helping to identify the location of septic system problems in the community and notifying county health officials.

Operation and Maintenance - Local governments, in cooperation with county health departments, could sponsor workshops and prepare brochures to make residents aware of the importance of septic system maintenance. Local governments and county health departments together could establish septic system maintenance districts that call for regular maintenance and repair and creation of homeowner maintenance education programs. Property owners in a district would pay a fee to the responsible government agency for inspection and maintenance services. Service may also include contracting to pump out or repair the septic system.

Lagoon systems, like septic systems, are the responsibility of property owners. They are regulated by the state through a permitting process as well as approval by local communities. Such a system has been known to create water quality problems. The Department of Natural Resources requires that if such a system fails, the host community is responsible to take over the system and maintain it. As a result, many communities have chosen not to allow such systems.

b. Groundwater Management and Regulation

The development of a local groundwater protection program is an important planning tool for the development of land use policies and best management practices (BMPs) to regulate the land uses which store or generate hazardous materials which may contaminate the groundwater. An effective groundwater protection program has a number of benefits, including the protection of drinking water sources, protection of surface waters and wetlands and enhancing the community's land values.

Groundwater protection standards can be applied to the following regulatory tools:

- Site plan review process.
- Special use permit.
- Overlay zoning.

Planning and Regulatory Considerations: A local groundwater protection comprehensive planning process should consider the following:

- A review of available data on groundwater vulnerability and use.
- Mapping of all land uses which generate or store hazardous materials, Act 307 sites, and underground storage tanks that pose a threat.
- Identify community groundwater protection goals based on above information.
- Use expertise of state, regional and county officials concerning best management practices, state and county regulations and potential land use threats to the groundwater .
- Adopt protection policies and standards.

Figure 24 describes some of the major contributors to groundwater contamination.

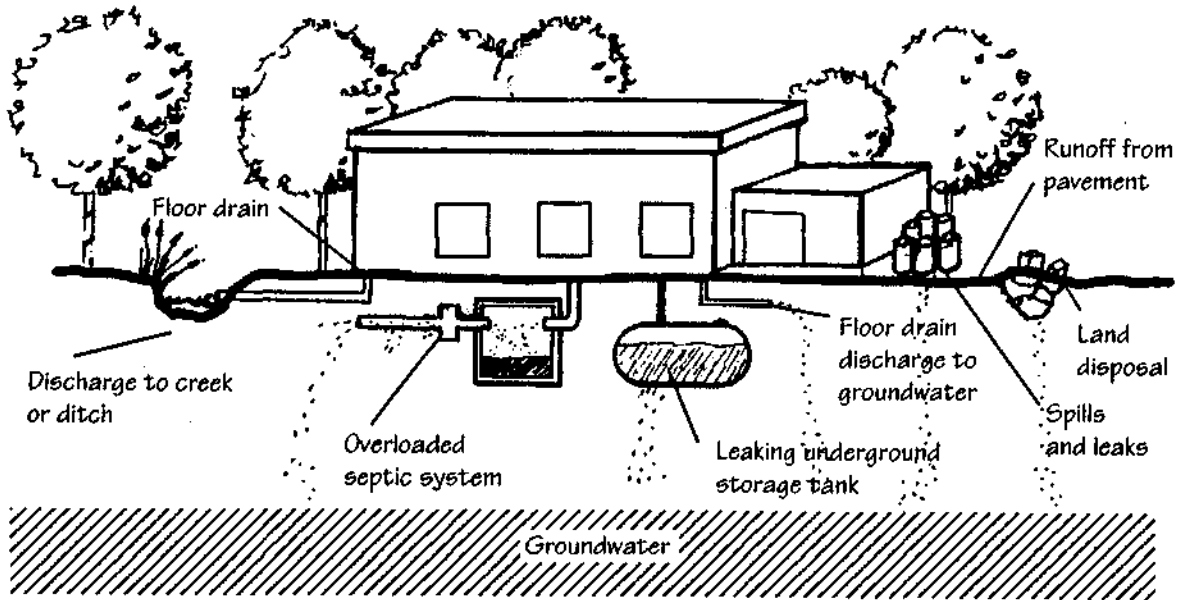
Following are important groundwater best management practices (BMPs) to minimize contamination:

- Secondary containment of above-ground storage areas. These include dikes, berms, sheds and fabricated metal structures designed to trap leaks or spills.
- Interior floor drains should be connected to a closed holding tank, never to a storm drain or dry well; or a groundwater discharge permit should be obtained from the Michigan Department of Natural Resources.
- Closed holding tanks may be used to collect wash water from vehicle maintenance operations or used chemicals.
- 300 to 500 foot isolation distances between underground storage tanks and wells should be used.

Site plan review standards for groundwater protection should include the following:

Figure 24
Groundwater Protection: Contributors to Contamination

Pathways by which contaminants from
business facilities can reach groundwater



Source: Adapted from Waste Systems Institute of Michigan, Inc.

5

Recommendations
for
Implementation

RECOMMENDATIONS FOR IMPLEMENTATION

COMMUNITY LAND USE PLANNING

All land in Branch County is also in a township, village or city. Consequently, the goals and objectives of this plan as related to land use are also subject to community planning policy and zoning regulations. Branch County government should encourage township, village and city planning and zoning as a means of implementing the Master Plan.

MODEL ZONING

In 1974 Branch County government authorized the production of a model zoning ordinance to serve as a guide to township zoning. Through a contract between the Branch County Planning Commission and the Southcentral Michigan Planning Council (smcpc) seven townships have used the model to develop township zoning regulations. However, due to significant changes over two decades a new model ordinance should be developed to more properly guide the development and updates to township zoning ordinances.

CAPITAL IMPROVEMENTS PROGRAM

A multi-year capital improvements program should be developed as a guide to future county government capital improvements. Such a program can aid in maximizing return on capital investments through proper planning and timing of such improvements .

RECREATION PLANNING

Branch County's Five Year Recreation Plan should be maintained to assure appropriate planning and to maintain eligibility for state/federal grant funding.

HOUSING PLANNING

Planning for and assessment of housing needs should continue to address the shelter needs of county residents and to maintain eligibility for state/federal grant funding.

SOLID WASTE MANAGEMENT PLANNING

Planning should continue under the Solid Waste Management Act (Act 641) to properly plan for future solid waste recycling, reuse and disposal.

**6. TRANSPORTATION NEEDS
PRIORITIES**

Cooperative efforts among the county and municipalities should continue to develop and maintain a transportation (capital) improvements program to assure maximum efficiency and effectiveness of county transportation investments.

H. SPECIAL STUDIES

As needed the county government should support special studies to assure that relevant information is brought to bear on decision-making related to the county residents and resources. Collaborative efforts should be encouraged to maximize participation among potentially impacted parties.