



Chapter 2: Local Government

Local Government

Introduction

In Chapter One we learned how different land uses and development patterns can impact water resources. As you read about the effects of land use you may have thought, “Okay, so land use is important, but how do I influence it? Who decides how the land should be used in my community? How can I be involved in those decisions?” In this chapter you will find the answers to these questions.

Land use decisions are influenced by federal, state, and local laws and public comment. Your local elected and appointed officials play a very important role. In Michigan, we are guided by the home rule principle, which means that state planning laws give substantial decision making power to local governments. Because of home rule many important land use decisions are made at the local level. The good news about this is that everyone can participate in local government, and it works best when we are all involved.

The major objectives of this chapter are to explain how land use decision making works at the local level, to present ways for you to get involved in the planning process, and to explain how to use planning documents to protect water. We will begin with an introduction to the structure of local governments in Michigan and in the Huron River Watershed. Next, we will learn about the planning documents used when making land use decisions. Lastly, we will cover the major local government bodies that make land use decisions. Throughout this chapter our approach will be interactive. We will provide follow-up activities that allow you to evaluate your community.

By the end of this chapter you will understand:

- How land use decisions are made in your community
- How your local government can protect water resources and how you can help assure that it is successful
- How you can use your local laws and planning documents to protect water resources

Let’s start with an introduction to the structure of local governments in Michigan and in the Huron River Watershed.

Municipal Boundaries

Our discussion of local land use decision making must begin with an introduction to municipal boundaries. Municipal boundaries have a huge effect on water because many land use decisions that will affect the water cycle are made based on municipal boundaries. Communities in the same watershed often make very different land use decisions. Yet as we discussed in Chapter One, water ignores municipal boundaries and instead moves within watershed boundaries. The Huron River Watershed crosses many municipal boundaries - 64 in fact!

Which local levels of government are making land use decisions?

Figure 21 provides an illustration of the local government structure. In Michigan there are four major units of local government: counties, cities, villages, and townships. Counties are the largest unit—generally covering many hundreds of square miles. Cities vary in size but are larger in population than villages. Townships are almost always 36 square miles. Villages and cities fall within the bounds of townships but have separate land use laws and local government officials.

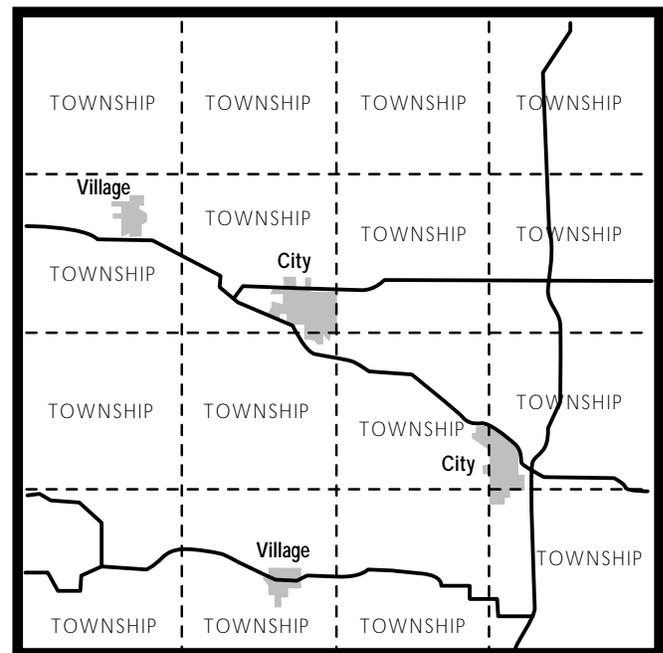


Figure 21: The four levels of local government - county (entire area shown), township, village, and city.



In this workbook, municipality and community will be used interchangeably to indicate cities, villages, and townships.

There are twelve cities, seven villages, and thirty-eight townships within the boundaries of the Huron River Watershed. All of these municipalities are making separate land use decisions that will affect the water quality in the watershed. Each city, village, and township has its own planning documents and land use decision makers. There are seven counties within the watershed that also participate in land use decisions (although their actions and structure will not be covered in this guide.)

Municipalities within the Huron River Watershed

Cities:

City of Ann Arbor
City of Belleville
City of Brighton
City of Flat Rock
City of Gibraltar
City of Orchard Lake Village
City of Rockwood
City of South Lyon
City of South Rockwood
City of Walled Lake
City of Wixom
City of Ypsilanti

Counties:

Ingham County
Jackson County
Livingston County
Monroe County
Oakland County
Washtenaw County
Wayne County

Townships:

Ann Arbor Township
Ash Township
Berlin Township
Brighton Township
Brownstown Township
Commerce Township
Dexter Township
Freedom Township
Genoa Township
Green Oak Township
Hamburg Township
Hartland Township
Highland Township
Huron Township
Lima Township
Lodi Township
Lyndon Township
Lyon Township
Milford Township
Northfield Township
Novi Township
Pittsfield Township
Putnam Township
Salem Township
Scio Township
Sharon Township
Springfield Township
Stockbridge Township
Sumpter Township
Superior Township
Sylvan Township
Unadilla Township
Van Buren Township
Waterford Township
Webster Township
West Bloomfield Township
White Lake Township
Ypsilanti Township

Villages:

Village of Barton Hills
Village of Chelsea
Village of Dexter
Village of Milford
Village of Pinckney
Village of Stockbridge
Wolverine Lake Village



Land Use Planning: Directions & Decisions

The two critical documents that cities, villages, and townships use to control and plan land use are:

- The master plan
- The zoning ordinance

The land use planning decision makers that use these documents are:

- The planning commission
- The township board or village/city council
- The zoning board of appeals

Fortunately, the structure and purposes of these documents and government bodies are fairly consistent across communities in Michigan. Once you understand how they work in your community you will realize that your knowledge is transferable to other communities. Let's begin with a closer look at the planning documents by starting with the zoning ordinance.

The Master Plan: A Community's Comprehensive Guide for All Aspects of Future Development

What is a master plan?

The master plan and the zoning ordinance go hand-in-hand. Aside from consulting a crystal ball, or your zoning ordinance, reading your master plan is the next best way to get an overall sense of what your community will look like in ten to twenty years. Communities refer to master plans by many different names, including "comprehensive plans," "municipal plans," and "general development plans."

A master plan commonly serves three purposes:

- It is a general statement of a community's goals and provides a single, comprehensive view of what a community desires for the future.
- It serves as an aid in day-to-day decision making. The goals, objectives, and strategies outlined in the plan guide local government officials in their decisions. In effect, it forms an agenda for the achievement of goals and objectives.
- It provides a basis upon which zoning decisions are made.

The next section in this chapter provides an introduction to a typical master plan. It includes:

- An overview of the structure and contents of a typical master plan
- A focus on several key parts of a master plan
- Ideas for how to protect water resources with a master plan
- A worksheet to evaluate your community's master plan to see how well it protects water resources.

Did you know?

Unlike the zoning ordinance, the master plan is not a legal document. However, if someone challenges the legality of a zoning ordinance, most courts give deference to local governments if their zoning ordinance is consistent with their master plan. This is likely because Michigan law states that a zoning ordinance should be consistent with "a plan." Although it is not spelled out clearly, most municipalities and courts assume that this statement refers to a master plan.

Before You Begin

It will be useful to have a copy of your master plan to refer to as you read. You can get a copy of your master plan the same way you got a copy of your zoning ordinance: 1) You can request a copy be sent to you (Again, it will be a long document and you should expect to pay copying costs.) or 2) You can make an appointment to visit your township/village/city hall and look over the document while you are there. In either case you will need to contact the receptionist or clerk at the township/village/city hall. She or he will be able to help you with your request or can direct you to someone who can. You can find the number for your township/village/city hall in the government section of your phone book.

Getting to Know Your Master Plan

How is a master plan organized?

Because a master plan is not a legal document, like the zoning ordinance, the format is less technical, and so it



is easier to read. The master plan format usually follows an organizational hierarchy that includes Goals, Objectives, and Policies/Strategies.

Goals

- Each subject area starts with a goal statement that is relatively general in nature. Goals are long-range statements that reflect the community’s underlying values and desires for the future.

Objectives

- Objectives are shorter term, more specific statements. Think of an objective as one step towards meeting a goal.

Strategies/Policies

- Strategies and/or policies provide ideas for implementation of the objectives.
- Strategies are specific actions the planning commission and board can take to achieve each objective. They should identify who will perform a task and by what date.
- Policies set forth a particular approach that the planning commission will take when resolving a planning issue.

Master plans vary in makeup from community to community. Figure 22 is an overview of the subject matter covered in a typical master plan. (Topics with a

shaded background will be covered in more detail on the pages to follow.) It is important to note that all parts of the master plan are important and can affect land use and water quality. We are focusing only on the areas that deal directly with land use.

Figure 22: Overview of a Master Plan

TYPICAL TOPICS COVERED IN A MASTER PLAN

Introduction
Commonly includes a statement of purpose along with a description of how the plan was created and how it should be used. If the community conducted surveys of their residents, the results may be summarized here.

The Land Use Plan
Discussed in detail on the following pages

The Community Facilities Plan
Indicates approximate areas where public and private community facilities will be needed and where commercial or industrial complexes are contemplated. Could include:

- Reservation of land for school sites
- Plans for additional recreational areas/facilities
- Provisions for fire and police protection for the entire community

Transportation
Outlines areas for transportation development such as:

- Potential locations of bike and pedestrian paths
- Locations of proposed roads
- Modification of existing road networks to improve circulation patterns

Utilities
Outlines areas for utilities development, such as expansion of sewer and water services.

Design
Examines factors that affect community appearance, such as:

- Building design and location
- Open space
- Signs
- Historic preservation

Maps
Discussed in detail on the following pages

An example from a Huron Watershed township

Goal:
Protection and preservation of the natural resources and features of the township.

Objective:
Restrict development within the Huron River corridor.

Strategies:
Amend the zoning ordinance and zoning map to include an overlay district along the corridor to detail additional, more restrictive regulations (setbacks, open space, tree removal, grading, bluff development, etc.).



The Land Use Plan

A land use plan reveals the basic pattern for land use and shows what types of land uses are situated relative to each other. It includes a discussion of all current zoning districts and may introduce proposals for the creation of new zones. If a community wants to change their zoning they can present ideas for new zones, such as a change from a minimum ten-acre zone to a minimum forty-acre zone, or giving an area prime agricultural designation.

A land use plan serves as a general guide to the community's desired future land use patterns.

A land use plan map is not a zoning map, but a generalized guide to a community's desired land use patterns for the next ten to twenty years.

Descriptions are provided for all current and planned land use categories. These descriptions are not as technical as zoning districts, but describe the intent of the land use categories.

Maps

The maps show existing and future land use (FLU) and may show natural features. They may include the following:

- Soils
- Topography
- Woodlands
- Wetlands
- Groundwater recharge areas
- Watersheds
- Existing land use
- Existing zoning
- Future land use

Future land use map

Instead of "future land use," some communities may use the terms "land use strategy," "land use plan," or "general development plan." The future land use map is very important. It shows where the community envisions development, and it can also reveal which parcels and areas the community wants to protect. It may include components such as capital improvement plans, zoning plans, and other elements.

Natural features maps

A natural features map is a valuable source of information about a community's natural resources. It is important that communities have an adequate inventory of their natural features. An inventory by a qualified expert can add crucial information to the natural features maps. These maps in turn can help a community direct its future land uses.

How is a master plan kept up to date?

Planning experts suggest that municipalities revise their master plan at least every five years. During the revision process, a municipality should gather information to determine historical trends and present conditions in order to project future needs. Municipalities undertake the revision process in a variety of ways. Some communities undertake the process on their own, while others choose to hire a professional planning consultant to revise and update their master plan. A community or its consultant may ask residents to fill out surveys or participate in a vision session where they describe in detail what they would like their community to look like in twenty years.

The master plan revision process provides an invaluable opportunity to document what you have and what you value, and construct a plan of action to protect the things you value. A community can then use the zoning ordinance and other tools to implement the plan.

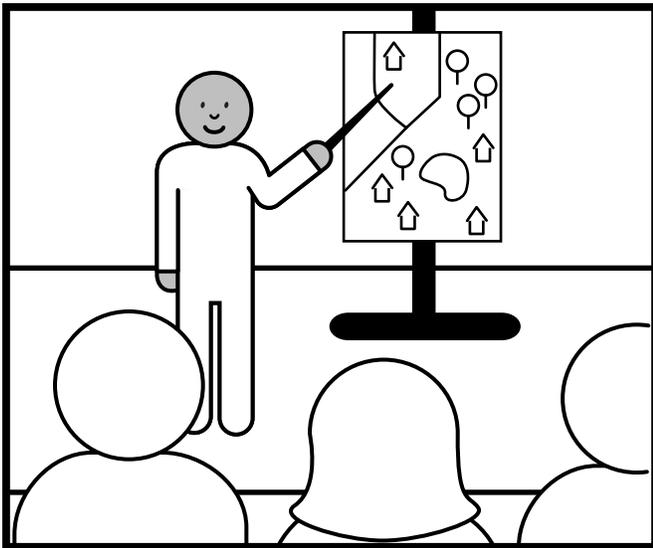
How can a master plan protect water resources?

Communities can begin with these principles of water resource protection:

- A) Protecting natural features
- B) Reducing impervious surfaces

In a master plan, these recommendations can be incorporated in many different ways. However, every community can include each water protection recommendation (or some variation of it) in its goal statement. (Remember these goal statements should be backed up with objectives, strategies, policies, and the zoning ordinance.) Beyond this basic framework, every community will differ. Each community will have different environmental settings and economic and political situations to consider when deciding which tools to use.





Part of the master plan revision process often includes a session in which residents can describe what they would like their community to look like in the future.

The examples in this section come from master plans from approximately twenty municipalities in the Huron River Watershed. It is important to remember that the strategies presented in a master plan are only suggestions; the community must use its zoning ordinance and other tools to implement the master plan strategies.

Include Natural Features Maps

Why do natural features need to be mapped?

Natural features need to be mapped in the master plan for the same reason they need to be mapped in the zoning ordinance. Communities must make decisions about where development will take place. They will use their master plan as a guide to help make these decisions. If communities have not documented the characteristics of their land and water resources, their decisions will be uninformed and they will risk losing these resources.

Here is a sampling of commonly mapped natural features:

- Wetlands
- Prairie remnants
- Prime agricultural lands
- Woodlands
- Steep slopes (greater than 12%)
- Important habitats or breeding areas identified by naturalists
- Groundwater recharge areas

Use of the Future Land Use Map

The future land use map delineates where land uses will go. It can also be used to document many protection measures for water resources. These protection measures include but are not limited to:

- Overlay zones that provide additional protection for water resources, groundwater recharge areas, woodlands, and other natural resources
- Identification of natural lands to be protected through purchase, conservation easement, or other means

Reduce Imperviousness

A master plan can address imperviousness by including a goal that sets a limit for the total amount of impervious surface in the community. Studies have shown that water quality begins to decline in creeks and rivers when the impervious cover in a watershed reaches just 10-15% of the total area. While it would be hard to have a community with a downtown area that had less than 10-15% impervious cover, there are things communities can do to reduce the overall impact. Impervious cover in one area may be high but it could be low in another to attempt to achieve an overall impervious cover of only 15%. For example, communities can group development densely in appealing, livable neighborhoods and leave more of the community in open space. This will allow for development and population growth, but result in lower overall imperviousness. Also, measures like including green roofs (rooftops covered with plants rather than shingles or sheet metal) on buildings can reduce imperviousness. A master plan can set a limit on the total amount of impervious surface for the community.

Is Your Master Plan Doing All It Can?

Just as with your zoning ordinance, now that you have learned some of the ways a master plan can help to protect water quality, the next step is to become familiar with your community's master plan.

Once you are sitting down with the master plan, the checklist on the following page will help you become familiar with the document and whether it provides for water quality protection.



Does Your Master Plan Protect Water Resources?

Your community:

1) Goals

Does your master plan include goals that state a commitment to protect:
(Please circle those that apply.)

Open space

Agricultural lands

Water resources

Natural areas

Others (please list):

2) Strategies/Implementation

Are the goal statements backed up with implementation strategies? Circle protection strategies that are included in your master plan.

Establishment of buffer strips along water bodies

Establishment and protection of river corridors

Identification and protection of natural features and open space

Others (please list):

3) Maps

Does your community have plans to conduct natural features inventories?

yes

no

What was/will be involved in this inventory?

If your community has conducted a natural features inventory, is it included in the master plan?

yes

no

Circle the water resources and natural features that are mapped in your master plan.

Woodlands

Tributaries to the Huron River

Lakes

Wetlands over 5 acres

Wetlands under 5 acres

Steep slopes

Groundwater recharge areas

100 year floodplain

Other natural features (please list):

Does the future land use (FLU) map establish floodplain protection zones?

yes

no

Does the FLU map identify areas to protect through use of conservation easements or purchases?

yes

no



Zoning and the Zoning Ordinance

When asked to comment on the importance of a zoning ordinance, a local official said, “you will not find more information about the future of your community in one place.” The next section in this chapter provides an introduction to zoning. It includes:

- An introduction to some zoning vocabulary and history
- An overview of organization and content
- A focus on several key parts of a zoning ordinance
- Ideas for how to protect water resources with a zoning ordinance
- A worksheet to evaluate your community's zoning ordinance and see how well it protects water resources

What is Zoning?

Zoning is a powerful legal tool that local governments use to control how, and whether, land is developed. Using zoning, local governments designate the land uses that can take place on a piece of property.

Before we developed zoning, people could essentially build anything they wanted anywhere they wanted, if they owned the land. This often resulted in conflicts such as a noisy factory being built next to a residential neighborhood. Zoning was initially established as a means to avoid such conflicts between land uses. Communities used zoning to keep so called “nuisance” land uses, like noisy factories, out of residential areas.

The zoning ordinance is a legal document that largely determines the pattern of development you see in your community. It specifies:

- What types of land uses are allowed: indicated in the list of zoning districts

Did you know?

History of Zoning

In the now famous case *Village of Euclid v. Ambler Realty Co.* (1926), the U.S. Supreme Court ruled that zoning was a valid use of local government power. The decision signaled state legislatures that they could give communities the power to regulate private use of land, i.e. zoning.

- Where different types of development can go: shown on the official zoning map
- Guidelines for how individual sites will be developed: often specified in site plan review or in the provisions described under each zoning district

Think back to our discussion of development trends in Chapter One: paving paradise and losing natural features. Remember we talked about how our land use practices impact the land's ability to perform its water cycle jobs, which in turn impacts our water resources. Well, these development trends are primarily a result of current zoning laws.

At this point you may be wondering why zoning permits some land use practices that negatively impact water quality. Some would argue that this is because many communities have zoning ordinances that are out-dated. Historically, most communities wrote their zoning ordinance with little or no consideration of how the development standards would affect water quality. The bottom line is that a standard zoning ordinance does not automatically include protection for water resources. In most cases, a municipality must build protection measures into their zoning ordinance. Many communities have realized this and are amending their zoning ordinances to provide more protection for water. Some communities are requiring that buffers of vegetation be left along stream and river banks to protect the landscape jobs these buffers provide. Others are requiring that wetlands be protected, and still others are working to reduce impervious surfaces. These communities are enacting local ordinances that protect natural features and landscape jobs.

Getting to Know Your Zoning Ordinance

What is the goal of zoning?

Over time, the role of zoning has expanded greatly. These days, the most commonly cited goal of zoning is “to promote and protect the health, safety, and general welfare of a community.” In addition, the following purposes are often cited as reasons for having zoning:

- Promoting and regulating growth to obtain orderly and beneficial development
- Conserving life, property, and natural resources
- Lessening and avoiding congestion on highways and streets



- Conserving funds for public services
- Providing each property with adequate light, air, and privacy

How does a community use zoning to address these goals?

A community strives to achieve these goals by establishing a set of standards for development. This set of standards is essentially a collection of many detailed rules about zoning that is included in a zoning ordinance.

Did you know?

State Enabling Acts

The State of Michigan gives local governments the power to zone through two acts: The City and Village Zoning Act (1921), and The Township Zoning Act (1943). These acts specify that a municipality must have a zoning ordinance in order to enact and enforce zoning regulations. In Michigan, communities are not required to have zoning ordinances but the majority have them in place.

How is a zoning ordinance organized?

A zoning ordinance can seem intimidating until you know where to look and what to look for. Because it is a legal document the format is standardized. Each subject area is referred to as an article. The articles are further broken down into sections. The text of zoning ordinances varies between communities, but the format is always similar.

Basically, the zoning ordinance has three components: a zoning map (although in some communities, this map may only be in the master plan) that provides the blueprint for community development and two components that are written texts. One part of the text describes the zoning regulation and how it is administered; the other specifies what can be done on the land in each zoning category.

Figure 23 is a list of the most common articles; you should find all of these and more in your municipality's zoning ordinance. They may not be in this particular order. Articles set off with a shaded background indicate topics that we will cover in more detail.

Figure 23: Overview of a Zoning Ordinance

TYPICAL ARTICLES INCLUDED IN A ZONING ORDINANCE

Article 1: Short title, purpose of zoning ordinance

Purpose usually includes a statement about how the zoning will “promote and protect the health, safety, and general welfare of a community.”

Article 2: Definitions

The definitions attempt to provide legal clarity by explaining in detail what is meant by each term used in the text.

Article 3: General provisions

This article includes a list of all the zoning districts and introduces a zoning map as an official map and legal document.

Article 4: Schedule of district regulations

This article describes each zone including the restrictions of each zone.

Article 5: Site plan review

This article, which not every zoning ordinance has, describes the procedure that must be followed by anyone proposing to develop a piece of land.

Article 6: Planned Unit Development (PUD)

A PUD is a type of development that typically provides greater flexibility for development specifications, like density and setbacks, in exchange for other community amenities, such as open space and protection of sensitive environments.

Article 7: Conditional or special land uses

These include land uses that don't fit into any of the zoning districts.

Article 8: Off-street parking and loading requirements

Article 9: Administration and enforcement of the ordinance

Article 10: Nonconforming uses

Things that do not fit the requirements for the zone are given special exception, i.e. “grandfathered in.”

Article 11: Zoning board of appeals

This article describes the makeup of this group and their responsibilities.

Article 12: Amendments

A place for additions to the original text.

Article 13: Effective date

The date when the document became official.

Zoning Districts

A zoning district (Figure 24) is a land use category defined by a particular set of restrictions. For example, one district may allow factories while another permits only residential dwellings. The major types of zoning districts are:

- Residential
- Commercial
- Industrial
- Agricultural
- Public

Each zone is defined by a set of restrictions that specify what is and is not allowed. For example, What type of structure is allowed? How big can it be? How many people can live in it? How far back from the road must it be? The five zoning districts mentioned above are often further subdivided based on differences in restrictions. The list of restrictions can go on for several pages. The best way to get a sense of what the different zoning districts are in your community is to take a look at your zoning ordinance. In most zoning ordinances you will find in Article 3 a list of all zoning districts.

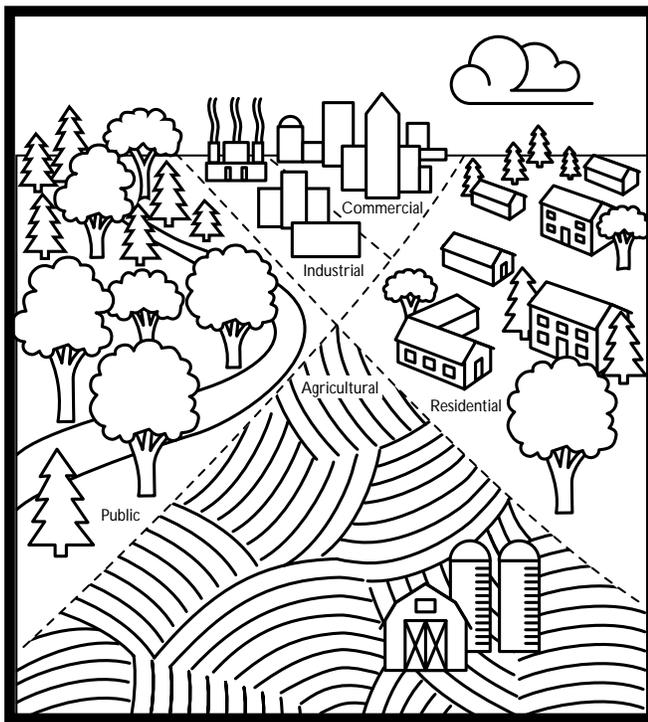


Figure 24: Zoning districts

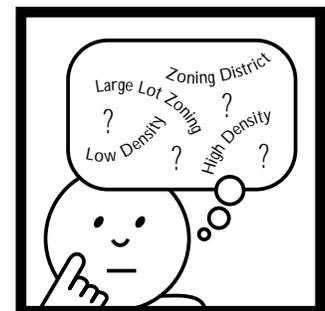
Density Restrictions

Often, the restrictions in a residential zone include rules about density. In a zoning ordinance, density is a term that refers to the number of dwelling units (homes) allowed on a piece of land. High density means the zone allows many houses while low density allows fewer homes on the same amount of land.

Here is an example from a Michigan township that shows how the residential district is broken down further by restrictions on density.

Zoning District	Density Restrictions
Rural residential (low density)	1 dwelling unit per acre
Suburban residential (medium density)	2-4 dwelling units per acre
Urban residential (medium density)	5-8 dwelling units per acre
Urban residential (high density)	8-10 dwelling units per acre

Municipalities make different decisions about what constitutes low and high density. Notice in the above example that a requirement of one acre per dwelling unit is considered low density. Some communities require 10 or more acres to establish a low density categorization. (“Low density” development is sometimes referred to as “large lot zoning.” This is because it takes a larger lot size to develop at a lower density. See “Did you know?” box on page 39.)



“How will I ever make sense of this all this new terminology?”

If you read through the list of restrictions for a particular zoning district you may find yourself getting overwhelmed by the detail. However, remember that these restrictions will determine how land is developed and consequently how your community will look, so stick with it!



Look at your zoning ordinance to learn a little more about the zoning districts in your community. (To find out how to obtain a copy of your community's zoning ordinance see the section titled *Is Your Zoning Ordinance Doing All It Can?* on page 44.)

How many residential districts do you have? _____

Does your community have high density zones? _____

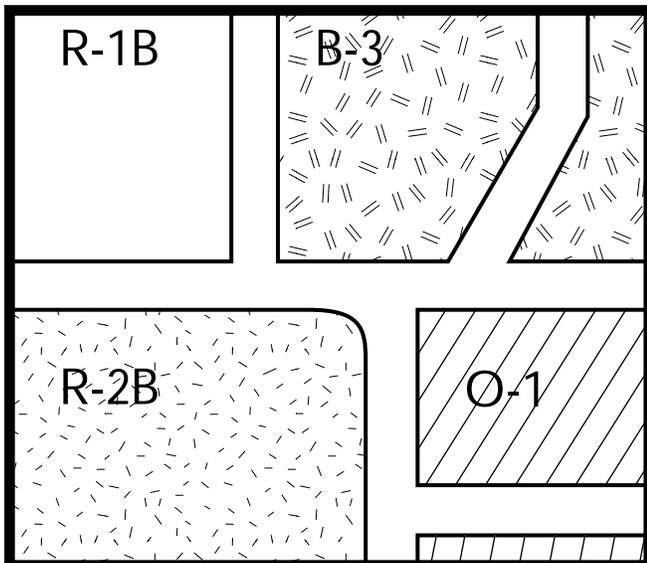
Does your community have agricultural districts? _____

What types of industrial districts do you have?

The Zoning Map

The zoning map is the official map that accompanies the zoning ordinance. Many zoning ordinances consider the zoning map to be the final authority on the current status of land. It is a very important document! The map shows the zoning districts for the entire land area of a municipality.

If you look at the zoning map for your community you will see that it is divided up like a puzzle and every piece of land is assigned a zoning district.



A zoning map may have sections that look something like this.

Can the zoning map be changed?

Absolutely. The map and the text of a zoning ordinance can be changed.

Did you know?

The zoning ordinance is a legal document. Consequently, there is a procedure that must be followed for making changes to it. First a proposal is made. Then a public hearing is held. Next, members of the planning commission vote on the proposal. Then they make a recommendation to the board, who has the ultimate power to change the zoning. (Remember, we will learn more about the planning commission and the board later in this chapter.)

Check your municipality's zoning map

In which zone do you live?

In which zone do you work?

What are the restrictions in the zone you live in?

How many different types of residential zones are shown on the zoning map?

Site Plan Review

Most communities require site plans for all development projects that will be reviewed by local officials. A site plan is a set of drawings that shows the physical layout of a project, including buildings, lot lines, roads, utilities, landscaping, etc. Site plans are reviewed first by the planning commission and then by the community board or council. Officials examine the plans to ensure that development within a community is in accordance with the standards set forth in the zoning ordinance.

Many zoning ordinances have an entire article devoted to site plan review. A typical article specifies which types of developments need to submit site plans, what



the plans should include, who will review the plans, and how the review process will be conducted.

For example, the zoning ordinance may require:

- 25-foot setbacks from all water bodies
- Landscape screening (a “wall” of vegetation) between commercial and residential development

The site plans are supposed to detail how the applicant will fulfill these and other requirements.

How can a zoning ordinance protect water resources?

In Chapter One we introduced the ABCs of water resource protection:

A) Protecting natural features

B) Reducing impervious surfaces

C) Using best management practices

There are many ways that zoning ordinances can be amended so they address the ABCs. Several municipalities in the Huron River Watershed have begun to examine ways to amend their zoning ordinances to increase protection for water resources. On the following pages, we will examine some of the provisions they have developed.

A) We will look at four ways to protect natural features with a zoning ordinance

B) We will introduce ways to reduce impervious surfaces with a zoning ordinance



C) We will look at best management practices that can be included in a zoning ordinance

FOUR WAYS TO PROTECT NATURAL FEATURES WITH A ZONING ORDINANCE

The four ways described below are good steps to take, but none of these is enough alone. The greatest benefit can be seen from applying all of them. Also, while each of these ways is something you can do right away, there are other long-term measures about which you should consider learning including: urban growth boundaries, transfer of development rights, and regional planning efforts.

I) Make Changes to the Zoning Map

There are many ways that communities can amend their zoning map to help increase protection for water resources. Two of the most common and useful ways are:

- Including natural features
- Adding open space zoning

Including Natural Features

What are natural features?

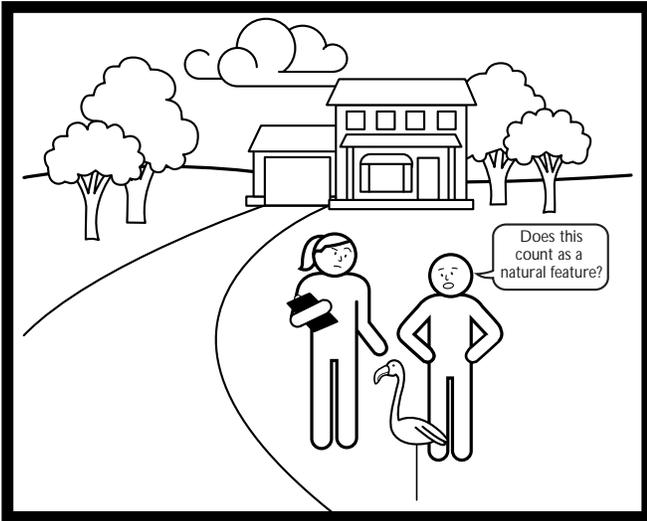
Remember from Chapter One, we defined natural features as features on the land that play important roles in the water cycle. Natural features in the Huron River Watershed include woodlands, surface waters, floodplains, and areas with substantial vegetative cover, such as prairie remnants and meadows. Remember also that the water quality functions they perform include keeping water clean, returning water to the atmosphere, moving water across the land, and storing floodwater.

Why include natural features?

Local decision makers refer to the zoning map routinely to make deci-

If natural features are not mapped it is much harder for officials to determine the impact of development on these features.





A natural features inventory is done by a trained professional who will be able to determine mesic forests from wet meadows (as well as to distinguish lawn art from important natural features).

sions about whether a certain use for a piece of land is acceptable. Part of their decision making process will involve determining whether the proposed land use will impact the health, safety, and welfare of the community. It is critical that water resources and natural features are mapped, so that health, safety, and property values will be protected from flooding, water borne disease, and resource degradation.

How can natural features be included in the zoning map?

A community can start to map natural features by looking at existing map resources including your county, ~~Michigan Resource Information System (MIRIS)~~, and Southeast Michigan Council of Governments (SEM-COG) maps. (Contact your county planning department to make an appointment to look at their maps.

Did you know?

Open Space vs. Large Lot Zoning

Many people think large lot zoning preserves natural features and open space. You may think you will get what you want, however, given the way traditional development takes place, i.e. with the clearing of vegetation and leveling of land, this is not the case. Open space zoning (clustering) actually does what many think large lot zoning does.

You can contact ~~MIRIS at 517/373-2534~~ and SEM-COG at 313/961-4266 to find out what maps they may have available for your community.)

Many communities also conduct a natural features inventory. This process involves conducting a systematic scientific survey of all the land in the community. The goal is to identify and catalogue all the natural features deemed important by the community.

Add Open Space Zoning (Open space zoning is also often referred to as recreation or conservation zoning.)

What is open space zoning?

Historically, if you asked a local government official to list the most common zoning districts, they might list residential, commercial, industrial, agricultural, and public. Recently, some communities have added open space zoning or recreation/conservation zoning to their list of zoning districts. Open spaces are land and water areas that are retained in an essentially undeveloped state on a permanent or semi-permanent basis. An open space or recreation/conservation zone is a zoning district that has a set of restrictions designed to protect natural features.

How can open space zoning protect water resources?

Open space or recreation/conservation districts can play an important role in protecting water resources because they provide protection for important natural areas that perform the vital services of infiltration, interception, storage, and transport described on pages 6-13.

2) Allow for Open Space and Conservation Subdivisions

What are open space subdivisions?

Communities use the term “cluster development” synonymously with “open space subdivisions.” Open space subdivisions differ from conventional subdivisions in a number of ways. Figure 25 illustrates the differences between these two types of subdivisions.

While traditional development (diagram A) typically clears land of all vegetation and spreads houses out evenly across a parcel, open space development



(diagram B) guides construction to one portion of a site while leaving the remaining portions open.

What is a conservation subdivision?

Conservation subdivisions have a maximum permitted lot size. This is very unusual in zoning ordinances. Usually the regulation specifies a minimum lot size. In a conservation subdivision, there is a permitted density, but the maximum lot size is smaller than the permitted density. For example, the density may be one dwelling unit per five acres, but the maximum lot size is only two acres. This is a huge advantage in creating open space. However, one burden for the developer is that often a standard plot plan is also required so the planning commission can make a comparison between the conservation subdivision and a traditional development.

How do open space and conservation subdivisions help to protect water resources?

Because development is limited to a small portion of the land, a large portion of land is left undisturbed and its ability to perform water cycle jobs is protected.

- Open space subdivisions can reduce imperviousness by providing a more compact way of siting develop-

ment, which reduces the amount of roads needed.

- Open space subdivisions can maximize preservation of the natural features on the site (minimize clearing of vegetation, maximize open space).
- Open space subdivisions can provide an effective tool to protect natural landscape features, while still permitting development of the site.

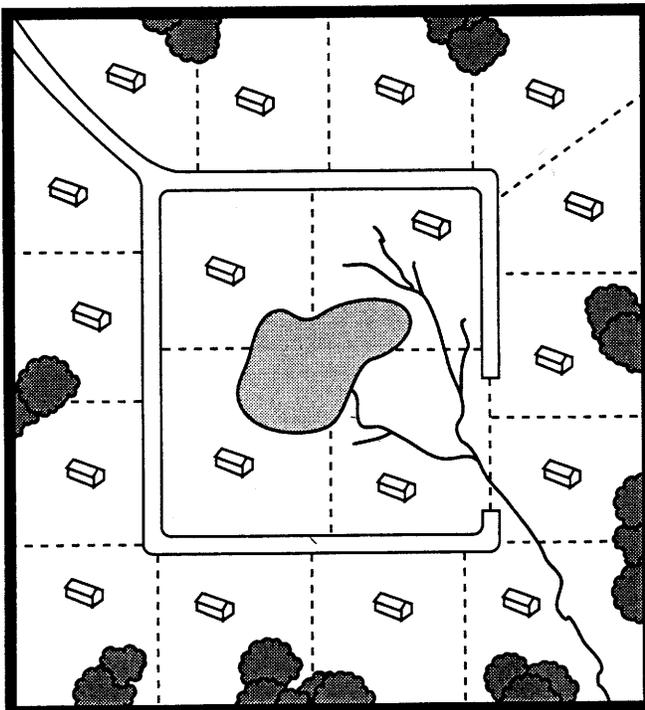
How can communities create the opportunity for open space subdivisions?

Communities can amend their zoning ordinances in a number of different ways to allow for an open space development option.

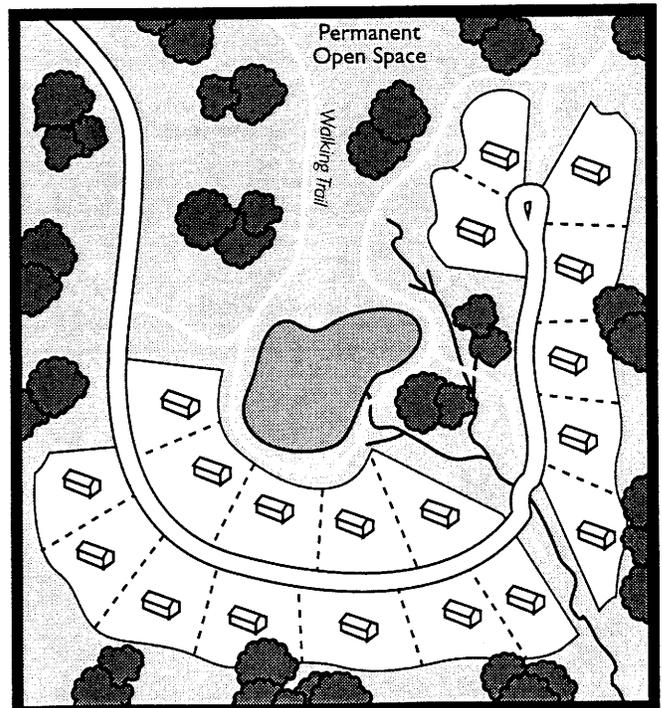
- Some communities include provisions for clustering in a Planned Unit Development (PUD) Article.
- Other communities have developed special ordinances that specify requirements for open space development, including a requirement for a percentage of land to remain as open space within each development.

Developers also find that people enjoy these homes more and will pay more for them. An added bonus for developers is that these homes do not need to cost more to build.

Figure 25: A) Diagram of conventional subdivision



B) Diagram of open space development



3) Use Setbacks

What is a setback?

A setback is the distance between a front, side, or rear lot line and any other object. This object could be, for example, a building or a lake. Figure 26 shows two examples of setbacks communities might require.

How can a setback help protect water resources?

Historically, many zoning ordinances have required little or no setbacks (an average of 0 - 25 feet), allowing people to build practically to the edge of bodies of water. Often this results in clearing of important vegetation. In Chapter One we discussed the importance of vegetative cover for preserving water quality. Vegetation intercepts rainfall and reduces its power to erode. The roots of vegetation help hold soils in place. Vegetation along the edges of bodies of water is often called “buffer vegetation.” Preservation of this vegetation helps to protect water resources because:

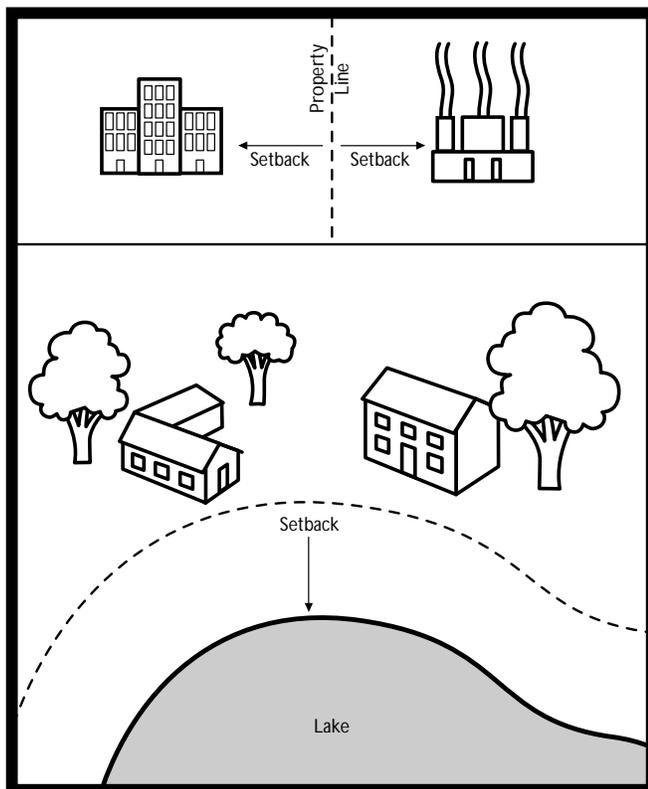
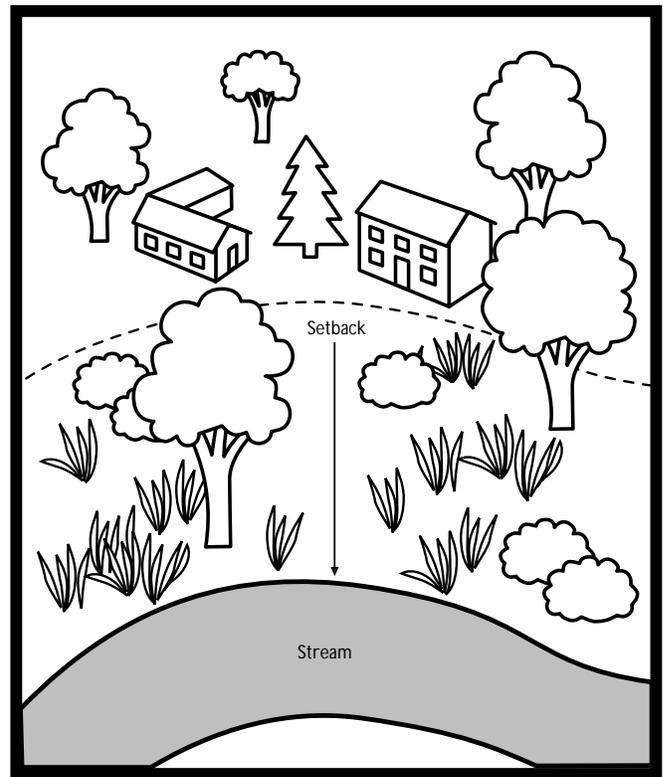


Figure 26: In the top illustration you see a setback between the property and the buildings. In the bottom illustration you see a setback between the houses and the edge of the lake.



Larger setbacks from water bodies provide more protection for water quality.

- Buffer vegetation helps filter sediments and nutrients from runoff before the runoff enters bodies of water
- Vegetation helps stabilize banks and prevent erosion
- Buffer areas are often part of a floodplain and store floodwater

In summary, setbacks can protect water by protecting buffer vegetation which cleans, slows, and stores water before it enters a body of water.

How can communities use setbacks to protect buffer vegetation?

In general, larger setbacks near water bodies allow for preservation of buffer vegetation. Setback distances, to protect water, vary across communities but to achieve water quality benefits, a 25-foot buffer is a good place to start. And, in some situations greater water quality benefits can be seen by increasing the width of buffer vegetation beyond 25 feet.



4) Create Overlay Zones

What is an overlay zone?

Overlay zoning allows a separate zone to be applied “on top of” an area of pre-existing zones, thereby imposing an additional set of requirements without altering the requirements imposed by the underlying zoning district. For example, a community can create an overlay zone that extends 50 feet from the edge of any body of water that requires restrictions on the use of certain lawn care chemicals that may be harmful to fish, frogs and other animals that live in the nearby bodies of water. This restriction would apply whether the underlying zoning is commercial, residential, public, or anything else (Figure 27).

How can an overlay zone protect water resources?

Overlay zones can provide added protection to an area of concern. Some common areas where overlay zones have been used to protect water resources include:

- Buffers along bodies of water
- Important aquifers either for drinking water or maintaining surface water quality
- Areas with steep slopes

Possible restrictions within overlay zones

The type of restrictions a community develops will depend on their protection goals. Restrictions for two types of overlay zones are listed below.

Buffer overlay zone restrictions

- Clearing vegetation
- Applying lawn care chemicals
- Salting driveways, roads, and sidewalks
- Creating impervious surfaces

Aquifer overlay zone restrictions

- Storing hazardous chemicals
- Storage tanks

Ways to Protect Natural Features with other Ordinances

Many communities have additional ordinances to supplement their zoning ordinance. These provide an extra layer of

protection for areas of special concern. The following are examples of some of the most common ordinances.

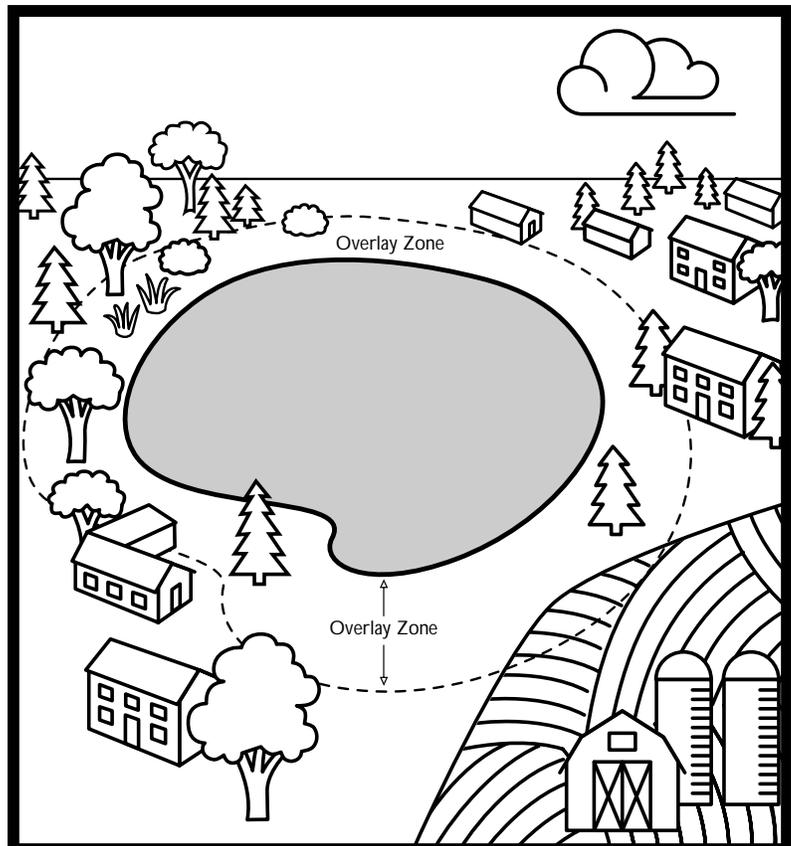
What ordinances are Huron River Watershed communities using?

- Wetlands ordinance
- Natural features setback ordinance
- Groundwater protection ordinance
- Soil erosion control ordinance
- Lot split ordinance
- Stormwater ordinance
- Woodlands ordinance
- Pesticide/fertilizer use ordinance

WAYS TO REDUCE IMPERVIOUS SURFACES WITH A ZONING ORDINANCE

A community’s zoning ordinance includes many details about impervious surfaces, particularly those surfaces

Figure 27: In this overlay zone illustrated here, a community could require restrictions on the use of certain lawn and agricultural pesticides and fertilizers.



that are vehicle oriented, such as roads, parking lots, and driveways. Often, standards and requirements for these surfaces are developed before there is an awareness of the impact of impervious surfaces on the water cycle. Consequently, in many cases we end up with more impervious surfaces than we really need and the landscape jobs we discussed in Chapter One are compromised.

Did you know?

1600% more stormwater runoff is created by a one-acre parking lot than a one-acre meadow.

Communities can take steps toward reducing impervious surfaces by modifying some of the requirements in their zoning ordinances. The following suggestions were taken from communities around the country. They represent only a small subset of ways to reduce imperviousness. Remember that each community will have its own unique set of circumstances and must determine which changes will work for them.

Almost all impervious surfaces (parking spaces, parking lots, roads, and driveways) are affected by the standards in your zoning ordinance. There are two basic approaches to reducing the impervious surfaces in your community:

- Decrease the area covered by impervious surface
- Change the material to something pervious

Let's look at specific suggestions for reducing imperviousness in your community.

Parking Lots

1) Size of parking spaces

Reduce the size requirement or add flexibility.

An example: Reduce dimension requirements for straight-in parking (as opposed to diagonal) to 9 by 18 feet. You can also add small car parking dimensions of 8 by 16 feet and reduce aisle widths from 22 feet to 20 feet. This would result in an overall decrease in the amount of space taken up by parking lots and would therefore be an important way to lessen imper-

viousness. An important aspect of lessening the amount of imperviousness taken up by parking spaces is to allow for flexibility (rather than strict guidelines) in determining the size of parking spaces. Or require at least 30% of spaces at larger commercial developments to have smaller dimensions for compact cars.

2) Number of parking spaces required

Consider making the formula flexible.

An example: Require fewer permanent spaces for a building. If a building may need extra spaces on an infrequent basis, make overflow spaces available that are not impervious. These spaces could be constructed out of pervious materials or simply left unpaved.

3) Parking lot and driveway materials

Where possible, try to allow for use of pervious surfaces (surfaces that allow water to soak into the ground).

An example: For a parking lot, use pavers (concrete grid and modular pavement that has spaces filled with pervious materials, such as sod, sand, or gravel) for overflow parking. Or for a driveway, consider using a pervious surface such as gravel.

Roads

4) Street width

In Michigan, county roads have set standards for width; the dimensions are specified and cannot be changed. However, if a road is a private road, there is the option for more flexibility.

An example: A private road ordinance can be enacted that can be used to permit narrower roads.

BEST MANAGEMENT PRACTICES THAT CAN BE INCLUDED IN A ZONING ORDINANCE

What is a best management practice?

A best management practice (BMP) is a practical design, construction operation, or maintenance method that, when installed or implemented, will help prevent, reduce, or correct water pollution. A BMP is a devel-



opment practice that is designed to provide additional environmental protection beyond what would be provided by traditional development customs.

Below, we will introduce two avenues for including BMPs that address stormwater management. Specifically, we will look at the question: How can we manage stormwater so that the water washing off a piece of developed land is of the same quality and quantity and leaves at the same rate as the water that ran off the land before it was developed (or at least of a much better quality than typically runs off developed land)? This can be addressed in many ways, but we will look at two ways a zoning ordinance can be used.

- Site plan requirements
- Stormwater management ordinance

Site Plan Requirements

What is a site plan?

Site plans are important documents because they detail how a developer will go about developing the land. It is the final chance to ensure that a proposal adequately addresses the environmental effects of the development. Once the site plans are approved, a developer can go to work to develop the property. Site plan requirements that keep water cycle jobs in mind (and intact to the extent possible) can go a long way toward protecting water quality.

The site plan review process can be complex to learn and understand, but it is well worth the effort. Try to find someone in your community who can help you learn about the process. Once you do, you can become an even more effective advocate for water resources.

While site plan review is the final chance to address concerns in a development proposal, a community can also ensure that the plan is carried out as proposed during site inspection as the project is being built. Site inspectors (some communities use citizen volunteers to help with this job) regularly make developers fix mistakes while the project is under construction.

Stormwater Management Ordinance

What is a stormwater management ordinance?

A stormwater management ordinance details some requirements for how stormwater will be handled by a development.

How can a stormwater management ordinance protect water resources?

In an undeveloped watershed, if there's a storm, all parts of the landscape work to handle the excess water. The altered landscape no longer has the same capacity to perform the landscape jobs we discussed in Chapter One. The result is a need to create a system to manage the stormwater and replace as best we can the function of the natural water cycle. Historically, stormwater management systems were not designed with water quality in mind. In recent years, many improvements have been made, with the goal of minimizing change to the water cycle on a site. A stormwater ordinance can require that stormwater systems be built with water quality in mind and that a maintenance plan be developed.

Is Your Zoning Ordinance Doing All It Can?

Now that you have learned some of the ways a zoning ordinance can help protect water quality, the next step is to become familiar with your community's zoning ordinance and stand alone ordinances.

There are two ways to gain access to your community's zoning ordinance: 1) You can request that a copy be sent to you (It will be a long document and you should expect to pay copying costs.) or 2) You can make an appointment to visit your township/village/city hall and look over the document while you are there. In either case you will need to contact the receptionist or clerk at the township/village/city hall. You can find the number in the government section of your phone book. He or she will be able to help you with your request or can direct you to someone who can.

Once you are sitting down with the zoning ordinance, the checklist on the following page will help you become familiar with the document and determine whether it provides for water quality protection.



Checklist: Does Your Zoning Ordinance Protect Water Resources?

A zoning ordinance can help to protect water quality depending on what it includes. Is your community doing all it can? Take the time to fill out this checklist and find out.

Your community:

1) The zoning map

Look at the zoning map for your community. Circle below the water resources and other natural features it illustrates.

Tributaries to the Huron River Woodlands
Lakes Wetlands under 5 acres Steep slopes

Groundwater recharge areas Wetlands over 5 acres

Other natural features (please list):

To see which water resources your community's zoning maps have omitted, look at a United States Geological Survey (USGS) topographical map of your area. The Huron River Watershed Council has copies of topographical maps for the entire Huron River Watershed at our offices. Please feel free to call (734/769-5123) to set up an appointment to stop by and view them.

Does your community have open space zoning districts (they may also be called recreational, greenbelt, or conservation zoning districts)?

yes no

2) Allowances for cluster/open space/conservation subdivisions

Does your community encourage open space or natural feature preservation in new developments?

yes no

Does your zoning ordinance allow cluster development (also known as, open space subdivisions, rural cluster subdivisions or conservation subdivisions)? These may be found in the planned unit development (PUD) section.

yes no

Are flexible site design criteria available for developers that utilize open space or cluster design options?

yes no

3) Setbacks

Setbacks are covered either in the article: Schedule of district regulation in your zoning ordinance or in stand alone ordinances.

Are any additional setbacks or buffer strips required for development adjacent to the bodies of water?

yes no

If yes, what is the minimum buffer width?

4) Overlay zones

Does your zoning ordinance include overlay zones that provide additional protection along bodies of water?

yes no

Does your zoning ordinance include overlay zones that provide additional protection for groundwater, aquifers, or wellhead protection areas?

yes no



How can I get involved?

What did you find out from your survey? Is your community doing all it can to protect water? Now that you understand the importance of the zoning ordinance and master plan in shaping current and future land use, you may be anxious to begin working with your community to assure that your zoning ordinance and master plan protect water.

The next step is to learn about the local government officials who administer the zoning ordinance and hold responsibility for the master plan. Three elected and appointed local government bodies are the major players:

- The planning commission
- The township board or the village/city council
- The zoning board of appeals

All of their meetings are open to the public. Providing opportunity for public comment at these meetings is not just encouraged, it is required by state law. If you want to become involved in land use decision making in your community, you should begin by attending these meetings. In the following section we will provide a brief overview of these three local government bodies, all of which make decisions that will shape the future of your community and determine how well protected your water resources are.

The Planning Commission: Appointed Local Land Use Decision Makers

What is the planning commission?

The planning commission is a group of appointed citizens whose primary responsibilities are to administer the zoning ordinance and to create/update the master plan. In Michigan, members of a planning commission are appointed by the township board or the city/village council. Each township, city, and village has a planning commission. In general, the planning commission is composed of five to nine citizens who serve for three-year terms. It is an advisory body without regulatory powers. Any citizen can serve on the planning commission as long as she or he is a resident of the community. (Between cities, villages, and townships, there are some differences in the number of members, time served, and responsibilities of planning

commissions. We'll talk in general terms; you'll discover your community may be slightly different.)

For what land use decisions is the planning commission responsible?

Many of the planning commission's decisions have a direct impact on land and water in a community. Common duties of the planning commission that affect water resources include:

- Developing and revising the master plan
- Developing and amending the zoning ordinance
The planning commission reviews and makes recommendations to the township board or the city/village council on all zoning ordinances and zoning changes.
- Proposing new ordinances
The planning commission may propose new ordinances like those described earlier.
- Reviewing site plans for development proposals
The planning commission reviews all site plans to determine whether they meet all specifications in the zoning ordinance. When they complete their review, they make a recommendation to the township board or city/village Council, who makes the final decision on a development proposal.

How can I help my planning commission protect water resources?

One of the most effective ways for you to help protect water resources is to become involved in the decision making that takes place at planning commission meetings. Decisions that will shape the future of your community are made at these meetings such as:

- How should the master plan be changed to improve protection for groundwater recharge areas?
- Should the farmland in the northeast corner be rezoned from agricultural to commercial?

Planning commission meetings are open to the public and the public is invited to participate. Comment opportunities are twofold: You can prepare written comments and submit them prior to a meeting and/or you can comment in person during the meeting.



Address your written comments to the chairperson of the planning commission and submit them before the meeting. Planning commission meetings include a period for general comments on any community business as well as a chance to respond to specific agenda items.

What role can I play?

Here are some possible roles an individual could play at a planning commission meeting:

- *Call your clerk to find out when planning commission meetings are held. Be sure to get an agenda for the meeting you will attend and ask general questions/raise concerns about water quality.*
- *Get involved in the master plan revision process.*
If the master plan is to be updated, your community may ask for public participation and/or public comment. Many communities hold a community visioning session prior to master plan revisions. This is your opportunity to describe what you would like your community to look like in the future. These sessions greatly influence the kinds of changes that are made to a master plan. Also, there are often opportunities to respond to a draft of a master plan. Be proactive, as you may not be asked. If not, be sure to be respectful in making your opinions known.
- *Comment on possible zoning ordinance amendments.*
During zoning ordinance amendments, there is also time for public participation and comment. While it is less likely, you may be able to actually suggest and introduce amendments to the zoning ordinance.
- *Comment on specific developments during a site plan review session.*
Site plan review is the time when best management practices can be added to a proposed building or development. Become involved early in this process to be a voice for water resources.
- *Apply to become a member of the planning commission.*
Call your community to find out how to apply to become a member of the planning commission.

The Township Board of Trustees and the Village/City Council: Elected Local Land Use Decision Makers

What is the township board or city/village council?

The township board is the chief governing body of the township. It consists of the supervisor, clerk, treasurer, and several trustees. All board members are elected by citizens from their community for four-year terms. Village and city councils are the equivalent elected bodies in villages and cities. Their responsibilities are similar to the planning commission, but because they are elected rather than appointed, they have much more decision making power.

The township board or the village/city council (henceforth referred to as the board/council) appoints the planning commission and the zoning board of appeals.

What land use decisions are they responsible for?

Many of the board/council's decisions have a direct impact on land use and water quality in a community. Common duties of the board/council that affect water resources include:

- *Enacting or amending and approving the zoning ordinance*
The board/council reviews the recommendations of the planning commission and makes the final decision on any revisions to the zoning ordinance.
- *Reviewing development proposals*
The board/council reviews the recommendations of the planning commission and makes the final decision on development proposals.
- *Participating in appointment of planning commissioners and special committees*
- *Allocating funds for water quality studies and professional planning*
- *Approving all site plans and special land use requests, as well as rezoning requests, zoning text amendments, and subdivision plats*



How can I help my township board/city or village council protect water resources?

You can work with the board/council in the same way you work with the planning commission. The board/council has the final decision making power within a community. They have legislative power, whereas the planning commission has only an advisory capacity. The board/council is elected by you, so you should feel free to share your concerns and ideas with them. You can also run to become a member of your board/council.

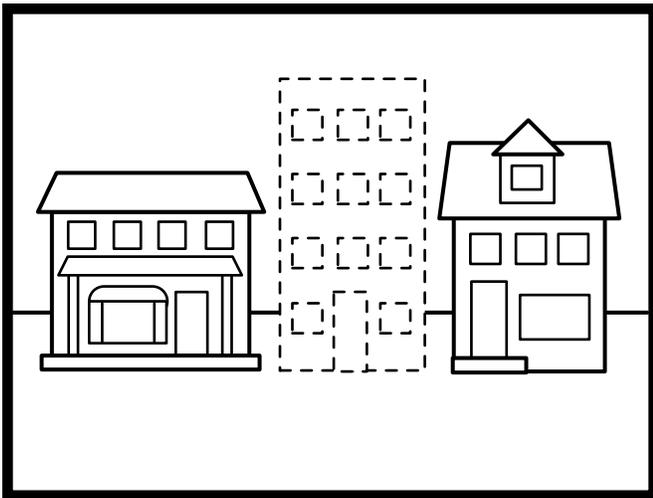
The Zoning Board of Appeals

What is the zoning board of appeals?

In townships, members are appointed to the zoning board of appeals (ZBA) by the township board and serve three-year staggered terms. One member must be a member of the township board and one other member must be a member of the planning commission.

What land use decisions are they responsible for?

The ZBA is an interpretive committee. The ZBA members interpret provisions of the zoning ordinance. When requested, they also determine whether



If you wanted to build a three story apartment building in a zoning district with a two story height restriction and the planning commission turned down your request to rezone you could apply to the zoning board of appeals for a variance.

variances should be granted when peculiar difficulties with property make it impossible to meet the strict provisions of the zoning ordinance. (A variance is a formal petition to the local government to officially exempt the petitioner from the designated zoning. In townships you cannot request a use variance.) For example, if your land was zoned low density residential (assume a height restriction of two stories) and you wanted to build a three story apartment on the land, you would ask the planning commission to change the zoning. If the planning commission turned down your request, you could apply to the ZBA for a variance.

Common duties of the ZBA include:

- Hearing and deciding appeals from someone who thinks there has been an error in enforcement of the zoning ordinance
- Hearing and deciding requirements for special exceptions (variances) from the zoning requirements

Review

Use the questions on the next two pages to review some of the concepts presented in Chapter Two.



Test Your Understanding of the Concepts Presented in Chapter Two

1) A large clothing retailer wants to build a shopping center along the banks of Clear Water Creek in your community. What should his/her first step be?

- a) Hire a bulldozer and start digging
- b) Draw up plans and go to the next planning commission meeting
- c) Look at the community's zoning ordinance

Answer: c

The retailer's first step should be to go to the community hall and look at the zoning ordinance. They need to find out what the zoning is for the property and whether there are any special restrictions. The shopping center that the retailer would like to build is considered a commercial use. If she/he finds that the desired area is zoned for anything other than commercial, she/he will not be able to build their desired shopping center unless she/he requests a zoning variance.

2) The retailer wants to ensure that the area in which he/she has chosen to build will be suitable for business in the future (that is, will there be support for a commercial district in this location in the future?). How can he/she find out?

- a) Survey all the surrounding land owners
- b) Look in the zoning ordinance
- c) Check the master plan

Answer: c

The master plan is the place to look. The retailer may find that the land surrounding his or her potential site is agricultural at present, but the master plan can suggest that it be re-zoned for commercial use. Given this information, the retailer may have more confidence in his or her present investment. 3) The retailer hired an architectural firm to draw preliminary site plans. How does the firm know what to include in the site plans?

- a) It doesn't matter as long as the drawings are pretty
- b) Site plan requirements are specified in the zoning ordinance
- c) Look around the community and draw something similar

Answer: b

The firm must consult the zoning ordinance to find out what it should include in the site plans.

4) The retailer must now go before the planning commission for a preliminary review of the site plans. At the planning commission meeting citizens can comment and ask questions about the retailer's proposal.

True or False?

Answer: True

For example, during the comment period a group of residents may raise concerns about how the proposed parking lot's runoff might impact the water quality of Clear Water Creek.

At the request of the planning commission, the retailer could revise her or his site plans to protect the water quality of the local creek. The new design could include stormwater detention basins that hold runoff and allow sediment to settle out before the water enters the creek. At the second meeting the planning commission could approve the revised site design.

5) Can the retailer begin to build?

yes no

Answer: No

In the next step, the township board or the city/village council would receive the planning commissions' recommendations and vote to approve or reject the project. There may also be many other public agencies that would review, approve, and issue permits. These include the Michigan Department of Environmental Quality, the County Drain Commissioner's Office, the County Road



Commission, the County Health Department, and/or the County Soil Erosion Officer.

YOUR PLANNING COMMISSION

1) When does your planning commission meet for regular and working group meetings?

2) Does your municipality provide a way to get a copy of the agenda for the upcoming meeting and the minutes from the last meeting ahead of time?

yes no

3) Has your planning commission hired: (circle those that apply)

a planning consultant? *an engineer?* *an attorney?*

3a) Do they attend the planning commission meeting?

Planning Consultant? yes no

Engineer? yes no

Attorney? yes no

YOUR TOWNSHIP BOARD OR VILLAGE/CITY COUNCIL

1) When does your board/council meet?

2) Does your board/council provide a way to get a copy of the agenda for the upcoming meeting and the minutes from the last meeting ahead of time?

yes no

Congratulations! By learning about the water cycle jobs, how development can impact them, and your local land use decision making process you are well on your way to becoming an effective advocate for water resources.

