



*Project funded through Minnesota Department of Natural Resources Central Region Community Assistance Program and the Coastal Zone Management Act, by NOAA's Office of Ocean and Coastal Resource Management, in cooperation with Minnesota's Lake Superior Coastal Program*

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**Implementing the**  
**DNR SAMPLE SHORELAND MANAGEMENT ORDINANCE**  
*To meet your community's water quality goals*

Produced for  
Northland Non-point Education for Municipal Officials (NEMO) Program

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## **Shoreland Sample Ordinance –Your Community’s Water Quality**

How communities regulate shorelands has a tremendous effect on water quality of lakes, rivers, streams, and wetlands. In Minnesota land use regulation of all shorelands (with the exception of the North Shore of Lake Superior) must meet the minimum standards of Minnesota Department of Natural Resources (DNR) rules (“Management of Shoreland Areas,” Minnesota Regulations Parts 6120.2500 - 6120.3900). The DNR has created a model ordinance that meets those rules, and which has become the basis for nearly all local government shoreland regulation in the State.

### Background

The Minnesota Shoreland Management statutes were originally effective statewide in 1970 and were last updated in 1989. Most counties and many municipalities in the State were required to adopt shoreland ordinances consistent with the new rules, and many local governments adopted the DNR sample ordinance without substantial modification. Wholesale adoption of the model without tailoring to local circumstance created management and enforcement problems. However, the common foundation of shoreland management language across the State now provides an opportunity to incorporate NEMO water quality concepts.

### Model Ordinance Concept

DNR designed the sample ordinance to allow its adoption as a separate section within a local government’s existing zoning and subdivision regulations. The content and structure of the DNR sample shoreland ordinance is intended to provide the full array of zoning and subdivision regulations for the most complex or all inclusive of shoreland management situations. DNR thus recognized that some provisions or language in its sample may be inconsistent with the best management practices and water quality goals for some communities; regulation that is appropriate for a suburban lake is not necessarily appropriate for protecting water quality for a rural lake, and vice versa. Consequently, the DNR noted the following concerning its sample ordinance:

It is anticipated that a local government’s adopted shoreland ordinance will deviate from this sample ordinance as the situation warrants. The sample ordinance does provide a framework or baseline for DNR’s review of a local government’s adopted shoreland ordinance. If a provision from the sample ordinance is not included, the Department will look for a reason or justification for its exclusion.

The Shoreland Ordinance was an innovative step when first created, and still includes many provisions that reflect best management practices for protecting water quality and shoreland habitat. The ordinance was, however, crafted prior to the recognition of some excellent management practices and technologies. Furthermore, the quality and accessibility of land use, watershed, and water quality data have improved dramatically in recent years, giving local governments many new opportunities to tailor the sample ordinance to local circumstances.

#### NEMO Ordinance Education Goal

This document is designed to assist local governments with understanding how to apply the land use and water quality principles promoted in the NEMO program to their unique circumstances. Building upon DNR's original guidance document and ordinance language, this document provides alternative language and recommendations at key points in DNR's sample ordinance that address differences in landscape, development patterns, watershed size, and type of local government.

#### Applying NEMO Concepts to the Sample Shoreland Ordinance – Summary

The key provisions where NEMO concepts are incorporated into the annotation for the Shoreland Sample Ordinance are as follows:

- Appropriate size and configuration of the shoreland district or overlay
- Lot size and setback standards that recognize lake or river carrying capacity
- Allowed, conditional, and prohibited uses that preserve water quality
- Impervious surface standard
- To PUD or not to PUD (and if so, where and how)
- Protecting community habitat, vegetation, recreation assets

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**SAMPLE SHORELAND MANAGEMENT ORDINANCE**

**SECTION 1.0 – STATUTORY AUTHORIZATION AND POLICY**

**1.1 Statutory Authorization**

This shoreland ordinance is adopted pursuant to the authorization and policies contained in Minnesota Statutes, Chapter 103F, Minnesota Regulations, Parts 6120.2500 - 6120.3900, and the planning and zoning enabling legislation in Minnesota Statutes, Chapter 394 (for counties) or Chapter 462 (for municipalities).

**1.2 Policy**

The uncontrolled use of shorelands of (the Community of) \_\_\_\_\_, Minnesota affects the public health, safety and general welfare not only by contributing to pollution of public waters, but also by impairing the local tax base. Therefore, it is in the best interests of the public health, safety and welfare to provide for the wise subdivision, use and development of shorelands of public waters. The Legislature of Minnesota has delegated responsibility to local governments of the state to regulate the subdivision, use and development of the shorelands of public waters and thus preserve and enhance the quality of surface waters, conserve the economic and natural environmental values of shorelands, and provide for the wise use of waters and related land resources. This responsibility is hereby recognized by (the Community of) \_\_\_\_\_.

The provisions of Sections 1.1 and 1.2 or similar provisions are not mandatory, but should be included in a community's zoning controls. This will establish legislative authority and policies for the ordinance should a later appeal or court action follow. A community may have an existing zoning ordinance section that deals with statutory authorization and policy, where these statutory and rule citations and policies could be included.

SECTION 2.0 – GENERAL PROVISIONS AND DEFINITIONS

2.1 Jurisdiction

The provisions of this ordinance shall apply to the shorelands of the public water bodies as classified in Section 4.0 of this ordinance. Pursuant to Minnesota Regulations, Parts 6120.2500 - 6120.3900, no lake, pond, or flowage less than 10 acres in size in municipalities or 25 acres in size in unincorporated areas need be regulated in a local government’s shoreland regulations. For bodies of water created by a private user where there was no previous shoreland, only those explicitly listed by Model Community shall be regulated under this ordinance.

2.2 Compliance

The use of any shoreland of public waters; the size and shape of lots; the use, size, type and location of structures on lots; the installation and maintenance of water supply and waste treatment systems, the grading and filling of any shoreland area; the cutting of shoreland vegetation; and the subdivision of land shall be in full compliance with the terms of this ordinance and other applicable regulations.

2.3 Enforcement

The \_\_\_\_\_ (local government or designated official) is responsible for the administration and enforcement of this ordinance. Any violation of the provisions of this ordinance or failure to comply with any of its requirements (including violations of conditions and safeguards established in connection with grants of variances or conditional uses) shall constitute a misdemeanor and shall be punishable as defined by law. Violations of this ordinance can occur regardless of whether or not a permit is required for a regulated activity pursuant to Section 3.1 of this ordinance.

2.4 Interpretation

In their interpretation and application, the provisions of this ordinance shall be held to be minimum requirements and shall be liberally construed in favor of the governing body and shall not be deemed a limitation or repeal of any other powers granted by State Statutes.

2.5 Severability

The jurisdiction of the ordinance is consistent with DNR shoreland rules. Local governments can choose to apply shoreland standards to smaller bodies of water and to created bodies of water. Such decisions should be grounded in the local government’s natural resource policies (expressed in a Comprehensive Plan, a Water Plan, a Natural Resource Inventory, or other document). Some bodies of water less than 25 acres may, for instance, be of particular natural resource or recreational value to the community, and can be listed at the community’s discretion.



If any section, clause, provision, or portion of this ordinance is adjudged unconstitutional or invalid by a court of competent jurisdiction, the remainder of this ordinance shall not be affected thereby.

## 2.6 Abrogation and Greater Restrictions

It is not intended by this ordinance to repeal, abrogate, or impair any existing easements, covenants, or deed restrictions. However, where this ordinance imposes greater restrictions, the provisions of this ordinance shall prevail. All other ordinances inconsistent with this ordinance are hereby repealed to the extent of the inconsistency only.

## 2.7 Definitions

Unless specifically defined below, words or phrases used in this ordinance shall be interpreted so as to give them the same meaning as they have in common usage and so as to give this ordinance its most reasonable application. For the purpose of this ordinance, the words “must” and “shall” are mandatory and not permissive. All distances, unless otherwise specified, shall be measured horizontally.

2.711 Accessory structure or facility. “Accessory structure” or “facility” means any building or improvement subordinate to a principal use that, because of the nature of its use, can reasonably be located at or greater than normal structure setbacks.

2.712 Bluff. “Bluff” means a topographic feature such as a hill, cliff, or embankment having the following characteristics (an area with an average slope of less than 18 percent over a distance for 50 feet or more shall not be considered part of the bluff):

- (1) Part or all of the feature is located in a shoreland area;
- (2) The slope rises at least 25 feet above the ordinary high water level of the waterbody;
- (3) The grade of the slope from the toe of the bluff to a point 25 feet or more above the ordinary high water level averages 30 percent or greater; and
- (4) The slope must drain toward the waterbody.

2.713 Bluff impact zone. “Bluff impact zone” means a bluff and land located within 20 feet from the top of a bluff.

Communities with existing ordinances will likely have a definitions section. These definitions in Section 2.7 can be included in the zoning ordinance definition section rather than in the Shoreland Ordinance. The community should, however, be sure to eliminate inconsistencies in definitions, and to use the shoreland standard at a minimum in shoreland areas.

If a given feature or land use is not present in the community the definitions can be left out. For example, the definition of “commercial planned unit development” (2.716) would not be needed if the community opts to not distinguish between residential and commercial PUDS, provided the appropriate changes are also made to Section 8 (shoreland PUD standards) of the sample ordinance.

If a community chooses to remove or modify one of these definitions from its ordinance, the community should be able to explain why a given definition in Section 2.7 is modified or not included. Preparing a rationale at the time of the modification or elimination will provide a record of the rationale for future council and in the case of challenge.

The definitions in Section 2.7 are generally

2.714 Boathouse. “Boathouse” means a structure designed and used solely for the storage of boats or boating equipment.

2.715 Building line. “Building line” means a line parallel to a lot line or the ordinary high water level at the required setback beyond which a structure may not extend.

2.716 Commercial planned unit developments. “Commercial planned unit developments” are typically uses that provide transient, short-term lodging spaces, rooms, or parcels and their operations are essentially service-oriented. For example, hotel/motel accommodations, resorts, recreational vehicle and camping parks, and other primarily service-oriented activities are commercial planned unit developments.

2.717 Commercial use. “Commercial use” means the principal use of land or buildings for the sale, lease, rental, or trade of products, goods, and services.

2.718 Commissioner. “Commissioner” means the commissioner of the Department of Natural Resources.

2.719 Conditional use. “Conditional use” means a land use or development as defined by ordinance that would not be appropriate generally but may be allowed with appropriate restrictions as provided by official controls upon a finding that certain conditions as detailed in the zoning ordinance exist, the use or development conforms to the comprehensive land use plan of the community, and the use is compatible with the existing neighborhood.

2.720 Deck. “Deck” means a horizontal, unenclosed platform with or without attached railings, seats, trellises, or other features, attached or functionally related to a principal use or site and at any point extending more than three feet above ground.

2.721 Duplex, triplex, and quad. “Duplex,” “triplex,” and “quad” means a dwelling structure on a single lot, having two, three, and four units, respectively, being attached by common walls and each unit equipped with separate sleeping, cooking, eating, living, and sanitation facilities.

2.722 Dwelling site. “Dwelling site” means a designated location for residential use by one or more persons using temporary or movable shelter, including camping and recreational vehicle sites.

the minimum definitions necessary for a compliant shoreland ordinance. As noted above, communities can change a definition to make it more comprehensive or restrictive. For instance, bluff impact zone (2.713) is defined as land within 20 feet of the top of a bluff. A community could increase the zone to 75 or 100 feet as a means of protecting a wider vegetative buffer or valuable viewsheds.

2.723 Dwelling unit. “Dwelling unit” means any structure or portion of a structure, or other shelter designed as short- or long-term living quarters for one or more persons, including rental or timeshare accommodations such as motel, hotel, and resort rooms and cabins.

2.724 Extractive use. “Extractive use” means the use of land for surface or subsurface removal of sand, gravel, rock, industrial minerals, other nonmetallic minerals, and peat not regulated under Minnesota Statutes, sections 93.44 to 93.51.

2.725 Forest land conversion. “Forest land conversion” means the clear cutting of forested lands to prepare for a new land use other than reestablishment of a subsequent forest stand.

2.726 Guest cottage. “Guest cottage” means a structure used as a dwelling unit that may contain sleeping spaces and kitchen and bathroom facilities in addition to those provided in the primary dwelling unit on a lot.

2.727 Hardship. “Hardship” means the same as that term is defined in Minnesota Statutes, Chapter 394 (for counties) or Chapter 462 (for municipalities).

2.728 Height of building. “Height of building” means the vertical distance between the highest adjoining ground level at the building or ten feet above the lowest ground level, whichever is lower, and the highest point of a flat roof or average height of the highest gable of a pitched or hipped roof.

2.729 Industrial use. “Industrial use” means the use of land or buildings for the production, manufacture, warehousing, storage, or transfer of goods, products, commodities, or other wholesale items.

2.730 Intensive vegetation clearing. “Intensive vegetation clearing” means the complete removal of trees or shrubs in a contiguous patch, strip, row, or block.

2.731 Lot. “Lot” means a parcel of land designated by plat, metes and bounds, registered land survey, auditors plot, or other accepted means and separated from other parcels or portions by said description for the purpose of sale, lease, or separation.

2.732 Lot width. “Lot width” means the shortest distance between lot lines measured at the midpoint of the building line.

One of the key components of protecting water quality is maintaining (or restoring) native shoreline vegetation. Native vegetation is adapted to the local ecosystem and thus is more hardy to local weather and soils, requires less maintenance once it is established, and supports animal and fish habitat. What is considered ‘native’ varies considerably across the state, often changing across relatively short distances; native vegetation can be different at two lakes within a single local governmental jurisdiction. The DNR’s *Restore the Shore* publication and interactive CD provides an excellent reference for identifying native plants. The USEPA and MPCA have a helpful publication *Plants for Stormwater Design* that can provide guidance in creating or maintaining green infrastructure.

Consequently, communities should carefully examine how vegetation is regulated in their shoreland ordinance. Section 2.730, for instance, defines ‘intensive vegetation clearing.’ Communities should make specific reference to vegetation other than trees and shrubs. Maintenance of vegetated buffers in shoreland areas is critical to protecting water quality. A more general definition is “the removal of more than 50% of existing vegetation in a contiguous patch, strip, or block, including trees, shrubs, and grasses.”

2.733 Nonconformity. “Nonconformity” means any legal use, structure or parcel of land already in existence, recorded, or authorized before the adoption of official controls or amendments thereto that would not have been permitted to become established under the terms of the official controls as now written, if the official controls had been in effect prior to the date it was established, recorded or authorized.

2.734 Ordinary high water level. “Ordinary high water level” means the boundary of public waters and wetlands, and shall be an elevation delineating the highest water level which has been maintained for a sufficient period of time to leave evidence upon the landscape, commonly that point where the natural vegetation changes from predominantly aquatic to predominantly terrestrial. For watercourses, the ordinary high water level is the elevation of the top of the bank of the channel. For reservoirs and flowages, the ordinary high water level is the operating elevation of the normal summer pool.

2.735 Planned unit development. “Planned unit development” means a type of development characterized by a unified site design for a number of dwelling units or dwelling sites on a parcel, whether for sale, rent, or lease, and also usually involving clustering of these units or sites to provide areas of common open space, density increases, and a mix of structure types and land uses. These developments may be organized and operated as condominiums, time-share condominiums, cooperatives, full fee ownership, commercial enterprises, or any combination of these, or cluster subdivisions of dwelling units, residential condominiums, townhouses, apartment buildings, campgrounds, recreational vehicle parks, resorts, hotels, motels, and conversions of structures and land uses to these uses.

2.736 Public waters. “Public waters” means any waters as defined in Minnesota Statutes, section 103G.005, Subd. 15, 15a.

2.737 Residential planned unit development. “Residential planned unit development” means a use where the nature of residency is nontransient and the major or primary focus of the development is not service-oriented. For example, residential apartments, manufactured home parks, time-share condominiums, townhouses, cooperatives, and full fee ownership residences would be considered as residential planned unit developments. To qualify as a residential planned unit development, a development must contain at least five dwelling units or sites.

2.738 Semipublic use. “Semipublic use” means the use of land by a private, nonprofit organization to provide a public service that is ordinarily open to some persons outside the regular constituency of the organization.

The definition of Planned Unit Development (PUD) in the sample ordinance (2.735) includes a number of high-density residential and high-intensity commercial land uses. This definition is inappropriate for most rural or remote areas. The community should edit the definition to include only the kinds of development appropriate for that community.

Some communities have PUD ordinances for non-shoreland areas. The community may need to distinguish between PUDs in shoreland areas and PUDs elsewhere in the community so as to clearly be able to ensure that PUDs in shoreland areas address water quality issues.

The sample ordinance includes separate definitions for PUD, residential PUD, and commercial PUD. Rural and remote communities that do not have a separate PUD ordinance should eliminate the PUD references from the shoreland ordinance, including the definitions and the provisions of Section 8. Rural communities that wish to retain shoreland PUDs should consider limiting the kinds of PUDs.

The definition of a residential PUD uses a 5-unit minimum threshold. Five units is too

2.739 Sensitive resource management. “Sensitive resource management” means the preservation and management of areas unsuitable for development in their natural state due to constraints such as shallow soils over groundwater or bedrock, highly erosive or expansive soils, steep slopes, susceptibility to flooding, or occurrence of flora or fauna in need of special protection.

2.740 Setback. “Setback” means the minimum horizontal distance between a structure, sewage treatment system, or other facility and an ordinary high water level, sewage treatment system, top of a bluff, road, highway, property line, or other facility.

2.741 Sewage treatment system. “Sewage treatment system” means a septic tank and soil absorption system or other individual or cluster type sewage treatment system as described and regulated in Section 5.8 of this ordinance.

2.742 Sewer system. “Sewer system” means pipelines or conduits, pumping stations, and force main, and all other construction, devices, appliances, or appurtenances used for conducting sewage or industrial waste or other wastes to a point of ultimate disposal.

2.743 Shore impact zone. “Shore impact zone” means land located between the ordinary high water level of a public water and a line parallel to it at a setback of 50 percent of the structure setback.

2.744 Shoreland. “Shoreland” means land located within the following distances from public waters: 1,000 feet from the ordinary high water level of a lake, pond, or flowage; and 300 feet from a river or stream, or the landward extent of a floodplain designated by ordinance on a river or stream, whichever is greater. The limits of shorelands may be reduced whenever the waters involved are bounded by topographic divides that extend landward from the waters for lesser distances and when approved by the commissioner.

2.745 Significant historic site. “Significant historic site” means any archaeological site, standing structure, or other property that meets the criteria for eligibility to the National Register of Historic Places or is listed in the State Register of Historic Sites, or is determined to be an unplatted cemetery that falls under the provisions of Minnesota Statutes, section 307.08. A historic site meets these criteria if it is presently listed on either register or if it is determined to meet the qualifications for listing after review by the Minnesota state archaeologist or the director of the Minnesota Historical Society. All unplatted cemeteries are automatically considered to be significant historic sites.

small a threshold for the kind of negotiated provisions and density bonuses allowed under the sample ordinance’s PUD standards. PUDs allow the waiving or negotiation of many zoning or subdivision standards, and should only apply to larger developments. Communities should increase the minimum number of units (at least 10 units and preferably 20 units), and also include a minimum size of the development of 10-15 acres.

For small developments the community should consider a separate cluster ordinance that allows smaller lot sizes on buildable land, permanent protection of non-buildable or sensitive shorelines, and maintains the minimum gross density of the shoreland ordinance (as measured by combining developed and protected areas).

The minimum shore impact zone, according to the setback requirements in Section 5, is 25 feet. Many communities should consider setting a shore impact zone that is not tied to the structure setback, or includes provisions for larger shore impact zones when the carrying capacity of the water body is compromised or the shoreland is highly erodable. Communities with stormwater ordinances should look to the minimum buffer areas around water bodies in the stormwater ordinance to ensure consistency with the size of the impact zone.

The definition of shoreland is consistent with DNR rules, but can be modified provided the state standard is not weakened. Some communities may want to consider using watershed boundaries, particularly where the water body’s subwatershed extends beyond

2.746 Steep slope. “Steep slope” means land where agricultural activity or development is either not recommended or described as poorly suited due to slope steepness and the site’s soil characteristics, as mapped and described in available county soil surveys or other technical reports, unless appropriate design and construction techniques and farming practices are used in accordance with the provisions of this ordinance. Where specific information is not available, steep slopes are lands having average slopes over 12 percent, as measured over horizontal distances of 50 feet or more, which are not bluffs.

2.747 Structure. “Structure” means any building or appurtenance, including decks, except aerial or underground utility lines, such as sewer, electric, telephone, tele graph, gas lines, towers, poles, and other supporting facilities.

2.748 Subdivision. “Subdivision” means land that is divided for the purpose of sale, rent, or lease, including planned unit developments.

2.749 Surface water-oriented commercial use. “Surface water-oriented commercial use” means the use of land for commercial purposes, where access to and use of a surface water feature is an integral part of the normal conductance of business. Marinas, resorts, and restaurants with transient docking facilities are examples of such use.

2.750 Toe of the bluff. “Toe of the bluff” means the lower point of a 50-foot segment with an average slope exceeding 18 percent.

2.751 Top of the bluff. “Top of the bluff” means the higher point of a 50-foot segment with an average slope exceeding 18 percent.

2.752 Variance. “Variance” means the same as that term is defined or described in Minnesota Statutes, Chapter 394 (for counties) or Chapter 462 (for municipalities).

2.753 Water-oriented accessory structure or facility. “Water-oriented accessory structure or facility” means a small, above ground building or other improvement, except stairways, fences, docks, and retaining walls, which, because of the relationship of its use to a surface water feature, reasonably needs to be located closer to public waters than the normal structure setback. Examples of such structures and facilities include boathouses, gazebos, screen houses, fish houses, pump houses, and detached decks.

the 1,000 or 300 foot limit.

Steep slopes are frequently defined exclusively using the 12% standard. Communities should note that the 12% standard is only applicable when specific information about soil characteristics is not available. This is increasingly an unusual situation, and the community needs to recognize that many areas with less than a 12% slope are unsuitable for some kinds of development, or that require specific mitigation and management to protect water quality from erosion. Digital soils maps may be available from the community’s nearest Natural Resource Conservation Service (NRCS) office or the Soil and Water Conservation District (SWCD).

The language in Sections 3.1 - 3.4 must be in a community’s shoreland ordinance or

2.754 Wetland. "Wetland" means a surface water feature classified as a wetland in the United States Fish and Wildlife Service Circular No. 39 (1971 edition).

## SECTION 3.0 – ADMINISTRATION

### 3.1 Permits Required

3.11 A permit is required for the construction of buildings or building additions (and including such related activities as construction of decks and signs), the installation and/or alteration of sewage treatment systems, and those grading and filling activities not exempted by Section 5.3 of this ordinance. Application for a permit shall be made to the (designated official) \_\_\_\_\_ on the forms provided. The application shall include the necessary information so that the \_\_\_\_\_ (designated official) can determine the site's suitability for the intended use and that a compliant sewage treatment system will be provided.

3.12 A permit authorizing an addition to an existing structure shall stipulate that an identified nonconforming sewage treatment system, as defined by Section 5.8, shall be reconstructed or replaced in accordance with the provisions of this ordinance.

### 3.2 Certificate of Zoning Compliance

The \_\_\_\_\_ (designated official) shall issue a certificate of zoning compliance for each activity requiring a permit as specified in Section 3.1 of this ordinance. This certificate will specify that the use of land conforms to the requirements of this ordinance. Any use, arrangement, or construction at variance with that authorized by permit shall be deemed a violation of this ordinance and shall be punishable as provided in Section 2.3 of this ordinance.

### 3.3 Variances

3.31 Variances may only be granted in accordance with Minnesota Statutes, Chapter 394 (for counties) or 462 (for municipalities), as applicable. A variance may not circumvent the general purposes and intent of this ordinance. No variance may be granted that would allow any use that is prohibited in the zoning district in which the subject property is located. Conditions may be imposed in the granting of a variance to ensure compliance and to protect adjacent properties and the public interest. In considering a variance request, the board of adjustment must also consider whether the property owner has reasonable use of the land without the variance, whether the

comparable language must be in a community's existing community-wide land use regulations.

Most communities with land use regulations will likely already require permits (Section 3.11), certificates of zoning compliance (Section 3.2), and include guidance language on the issuance of variances (Section 3.31). Adjustments to existing sections of community-wide regulations will be necessary if specific shoreland issues are not adequately covered.

The DNR, Division of Waters has suggested "forms" for building permit applications, issuance of permits, conditional uses, and variances, and certification of final construction. These forms are available upon request.

Variances are granted by the community's board of adjustment (a zoning ordinance is not legally enforceable unless the community has formally established a board of adjustment). Variances address one of the limitations of regulation, that all circumstances cannot be foreseen. Variances provide the flexibility to address unforeseen events and circumstances, but must not undermine the goals and purpose of the regulation, as clearly stated in Section 3.31. Communities should consider additional language that limits the use of variances except upon clear demonstration that the variance will not compromise the stated goals of the regulation. "The board of adjustment shall not grant variances that expand or restore a non-conforming land use. The board shall impose conditions or order mitigation actions to ensure that any variance granted will not compromise the goals and intent of (the

property is used seasonally or year-round, whether the variance is being requested solely on the basis of economic considerations, and the characteristics of development on adjacent properties.

3.32 The board of adjustment shall hear and decide requests for variances in accordance with the rules that it has adopted for the conduct of business. When a variance is approved after the Department of Natural Resources has formally recommended denial in the hearing record, the notification of the approved variance required in Section 3.42 below shall also include the board of adjustment's summary of the public record/testimony and the findings of facts and conclusions which supported the issuance of the variance.

3.33 For existing developments, the application for variance must clearly demonstrate whether a conforming sewage treatment system is present for the intended use of the property. The variance, if issued, must require reconstruction of a nonconforming sewage treatment system.

#### 3.4 Notifications to the Department of Natural Resources

3.41 Copies of all notices of any public hearings to consider variances, amendments, or conditional uses under local shoreland management controls must be sent to the commissioner or the commissioner's designated representative and postmarked at least ten days before the hearings. Notices of hearings to consider proposed subdivisions/plats must include copies of the subdivision/plat.

3.42 A copy of approved amendments and subdivisions/plats, and final decisions granting variances or conditional uses under local shoreland management controls must be sent to the commissioner or the commissioner's designated representative and postmarked within ten days of final action.

community's) shoreland ordinance.”

In considering the characteristics of development on adjacent properties (Section 3.31), the community should not grant one property owner a variance because an adjacent or nearby property owner has a similar non-conforming land use, setback, or other element of the building or landscape. Existing non-compliant land uses or the fact that a nearby land owner was previously granted a variance does not trump the need to protect the water body's water quality. Furthermore, water quality and shoreland protection goals demand that as water quality is compromised, the standard for granting variances goes higher, and mitigating conditions more stringent.

In the past, local governments could not easily apply a water quality performance standard in evaluating variances and determining the appropriate level of regulation. Water quality data are now readily available for many lakes and rivers. For instance, the Minnesota Pollution Control Agency (MPCA) has made water quality data for lakes, rivers and streams available through its Environmental Data Access (EDA) web site

([www.pca.state.mn.us/data/eda/index.html](http://www.pca.state.mn.us/data/eda/index.html)). Examples of data that can be accessed include water chemistry data, biological monitoring data and summaries of discharge monitoring reports from facilities that hold MPCA water quality permits. Data also include assessments of lake and stream surface water conditions, required under the federal Clean Water Act, to determine whether water bodies are suitable for their intended uses, such as fishing or swimming. Searches can be done using an interactive map-based viewer or by word search for station ID number, county, water



4.0 – SHORELAND CLASSIFICATION SYSTEM AND LAND USE DISTRICTS

4.1 Shoreland Classification System

The public waters of \_\_\_\_\_ (local government name) have been classified below consistent with the criteria found in Minnesota Regulations, Part 6120.3300, and the Protected Waters Inventory Map for \_\_\_\_\_ County, Minnesota.

4.11 The shoreland area for the waterbodies listed in sections 4.12 and 4.13 shall be as defined in section 2.744 and as shown on the Official Zoning Map.

4.12 Lakes

A. Natural Environment Lakes

(list here and designate on official zoning map)

Protected Waters  
Inventory I.D.#

B. Recreational Development Lakes

(list here and designate on official zoning map)

Protected Waters  
Inventory I.D.#

C. General Development Lakes

(list here and designate on official zoning map)

Protected Waters  
Inventory I.D.#

4.13 Rivers and Streams

A. Remote Rivers

(list river names here and show boundaries of district on official zoning map)

Legal Description

body name, watershed, station type, name of organization that collected the data and by project name.

When a community grants a variance that the DNR recommended be denied in the hearing record, the community is strongly encouraged to include the optional language in Section 3.32, which states:

“When a variance is approved after the Department of Natural Resources has formally recommended denial in the hearing record, the notification of the approved variance required in Section 3.42 below shall also include the board of adjustment’s summary of the public record/testimony and the findings of facts and conclusions which supported the issuance of the variance.”

This enables the DNR to provide a more timely decision to the permittee as to whether the DNR will appeal the decision of the community.

Section 4.1 A shoreland ordinance must list the qualifying public waterbodies and the corresponding shoreland management classification scheme for these public waters. Communities need to: 1) list the public waterbodies meeting the size criterion of Minnesota Regulations, Part 6120.2500, Subp. 13, in the text of the ordinance; and 2) specify the appropriate lake or river classification for these waterbodies and the (legal) description of the upper and lower boundary of each river classification.

DNR strongly encourages communities to identify shoreland classifications on their official zoning map and to delineate the

- |    |   |                   |
|----|---|-------------------|
| B. | Forested Rivers<br><br>(list river names here and show boundaries of district on official zoning map)     | Legal Description |
| C. | Transition Rivers<br><br>(list river names here and show boundaries of district on official zoning map)   | Legal Description |
| D. | Agricultural Rivers<br><br>(list river names here and show boundaries of district on official zoning map) | Legal Description |
| E. | Urban Rivers<br><br>(list river names here and show boundaries of district on official zoning map)        | Legal Description |
| F. | Tributary System<br><br>(list river names here and show boundaries of district on official zoning map)    | *                 |
- \*All protected watercourses in the \_\_\_\_\_ (local government) shown on the Protected Waters Inventory Map for \_\_\_\_\_ County, a copy of which is hereby adopted by reference, not given a classification in Items A-E above shall be considered "Tributary."

landward extent of the shoreland district as accurately as possible (Section 4.21). If a community uses the sample ordinance language regarding delineation, it must actually delineate the shoreland districts on its official zoning map.

The DNR's area hydrologists have listings and/or maps for each community showing lake and river classifications. For outstanding recreational rivers, area hydrologists have preliminary classification maps and tables for the 5 specific river classifications ("Remote" through "Urban") that identify the legal descriptions of the river classification boundaries. Protected waters inventory (PWI) maps for the respective county are available from the area hydrologist and can be used to identify the remaining "Tributary" river and stream reaches in the community. Local governments may consider adopting these additional documents by reference into their shoreland ordinance if these documents are properly dated, labeled, and signed.

Section 4.2 designates the specific shoreland districts in the communities. Communities are not required to use the state-designated shoreland districts. The community can rely on its own base zoning districts or overlays that meet particular community goals for development or water quality, if the community ensures that the categories of land use districts in the zoning ordinance meet minimum state shoreland standards. Rural areas in particular sometimes have base zoning districts that are more restrictive (in terms of lot size and allowed uses) than the Sample Ordinance districts. Communities can, for instance, change their ordinance to apply the Sample Ordinance standards only to

#### 4.2 Land Use District Descriptions

4.21 Criteria For Designation. The land use districts in Section 4.22, and the delineation of a land use district's boundaries on the Official Zoning Map, must be consistent with the goals, policies, and objectives of the comprehensive land use plan (when available) and the following criteria, considerations, and objectives:

A. General Considerations and Criteria for All Land Uses:

- (1) preservation of natural areas;
- (2) present ownership and development of shoreland areas;
- (3) shoreland soil types and their engineering capabilities;
- (4) topographic characteristics;
- (5) vegetative cover;
- (6) in-water physical characteristics, values, and constraints;
- (7) recreational use of the surface water;
- (8) road and service center accessibility;
- (9) socioeconomic development needs and plans as they involve water and related land resources;
- (10) the land requirements of industry which, by its nature, requires location in shoreland areas; and
- (11) the necessity to preserve and restore certain areas having significant historical or ecological value.

B. Factors and Criteria for Planned Unit Developments

- (1) existing recreational use of the surface waters and likely increases in use associated with planned unit developments;
- (2) physical and aesthetic impacts of increased density;
- (3) suitability of lands for the planned unit development approach;

the first shoreland tier, or to apply the shore-specific criteria (shore and bluff impacts zones, etc.) while leaving the lot size consistent with the existing base zoning district. For communities using the shoreland districts as overlays, language should be added to Section 4.2 stating “the more restrictive provisions between the base zoning district and the shoreland overlay, shall take precedence.”

The community can configure its land use districts in any manner it wants provided its regulation is at least as restrictive as the sample ordinance language. The shoreland areas can, with DNR approval, even be smaller than the 300 foot and 1000 foot limits typically used, as noted in Section 2.744.

Communities can create additional lake classifications (other than the GD, RD, and NE classes in the sample ordinance). Remote lakes without existing infrastructure or road access may, for instance, deserve a separate, more restrictive classification than the NE classification. If a community uses classifications or provisions different than the state standards, the following provisions of Minnesota Regulations, Part 6120.3100, must be satisfied:

1. The management of areas unsuitable for development due to wet soils, steep slopes, flooding, inadequate drainage, severe erosion potential, presence of significant historic sites, or any other feature likely to be harmful to the health, safety, or welfare of the residents of the community.
2. The reservation of areas suitable for residential development from encroachment by commercial and

- (4) level of current development in the area; and
- (5) amounts and types of ownership of undeveloped lands.

4.22 Land Use District Descriptions. The land use districts provided below, and the allowable land uses therein for the given classifications of waterbodies, shall be properly delineated on the Official Zoning Map for the shorelands of this community. These land use districts are in conformance with the criteria specified in Minnesota Regulation, Part 6120.3200, Subp. 3:

A. Land Use Districts For Lakes

	General Development Environment Lakes	Recreational Development Lakes	Natural Lakes
(1) Special Protection District – Uses			
- Forest management	P	P	P
- Sensitive resource management	P	P	P
- Agricultural: cropland and pasture	P	P	P
- Agricultural feedlots	C	C	C
- Parks and historic sites	C	C	C
- Extractive use	C	C	C
- Single residential	C	C	C
- Mining of metallic minerals and peat	P	P	P
(2) Residential District – Uses			
- Single residential	P	P	P
- Semipublic	C	C	C
- Parks & historic sites	C	C	C
- Extractive use	C	C	C

industrial uses.

3. The centralization of service facilities for residential areas and enhancement of economic growth for those areas suitable for limited commercial development.
4. The management of areas for commercial or industrial uses which, by their nature, requires location in shoreland areas.
5. The protection of valuable agricultural lands from conversion to other uses.
6. The preservation and enhancement of the quality of water-based recreational use of public waters including provisions for public accesses.

Generally, the DNR will accept existing or proposed land use district designations in the zoning ordinance text and on the official zoning map as “substantially compliant” if the local unit of government demonstrates the following compliance findings:

- The Community has an up-to-date comprehensive land use plan with a water resource element and/or a separate local water plan;
- The community, via an official resolution of the government body, makes a specific finding that the goals, policies, and objectives of the comprehensive plan/local water plan and the 6 provisions noted above have been satisfied; and
- A public hearing(s) has been held and adequate investigations conducted to insure against incompatibility of land uses, both within existing land use districts or by land uses in adjacent land use districts.

The DNR will request a community to justify land use districts that are not substantially

- Duplex, triplex, quad residential	P	P	C
- Forest management	P	P	P
- Mining of metallic minerals and peat	P	P	P
 (3) High Density Residential District – Uses			
- Residential planned unit developments	C	C	C
- Single residential	P	P	P
- Surface water oriented commercial*	C	C	C
- Semipublic	C	C	C
- Parks & historic sites	C	C	C
- Duplex, triplex, quad residential	P	P	P
- Forest management	P	P	P
 (4) Water Oriented Commercial District - Uses			
- Surface water-oriented commercial	P	P	C
- Commercial planned unit development**	C	C	C
- Public, semipublic	C	C	C
- Parks & historic sites	C	C	C
- Forest management	P	P	P
 (5) General Use District - Uses			
- Commercial	P	P	C
- Commercial planned unit			

\*As accessory to a residential planned unit development

\*\*Limited expansion of a commercial planned unit development involving up to six additional dwelling units or sites may be allowed as a permitted use provided the provisions of Section 8.0 of this ordinance are satisfied.

compatible with state standards via the “implementation flexibility” language in Minnesota Regulations, Part 6120.2800, Subp. 3. While “substantial noncompliance” is judgmental, the DNR would question the following types of land use district regulations:

- There is a mixture of land uses within a given land use district that are incompatible with each other (e.g., commercial use in a single residential district, commercial use in a special protection district, etc.);
- Not requiring a conditional use permit for a given land use where this is required by state standards and is necessary to properly review and approve the development;
- Allowing a land use inconsistent with a waterbody’s classification; or
- Having the intensity of a land use – and not the land use type itself – be inconsistent with the land use district (e.g., mixing “single residential” and “high density residential” in the same district).

Section 4.22 of the sample ordinance provides a list of the allowed uses, by lake classification, under DNR rules. Communities should add language similar to the following: “Any use not formally listed on in the tables under Section 4.22 shall be considered prohibited.” Communities should carefully review this list of allowed uses for consistency with the community’s own Comprehensive Plan and Water Plan. Some of the uses listed as permitted (P) should be changed to conditional (C) in many communities. An example is the duplex/triplex/quad use for NE

development**	C		C		C
- Industrial	C		C		N
- Public, semipublic	P		P		C
- Extractive use	C		C		C
- Parks & historic sites	C		C		C
- Forest management	P		P		P
- Mining of metallic minerals and peat	P		P		P

B. Land Use Districts for Rivers and Streams

	Re- mote	For- ested	Trans- ition	Agri- cultural	Urban	Tribu- tary
(1) Special Protection District – Uses						
- Forest management	P	P	P	P	P	P
- Sensitive resource management	P	P	P	P	P	P
- Agricultural: cropland and pasture	P	P	P	P	P	P
- Agricultural feedlots	C	C	C	C	C	C
- Parks and historic sites	C	C	C	C	C	C
- Extractive use	C	C	C	C	C	C
- Single residential	C	C	C	C	C	C
- Mining of metallic minerals and peat	P	P	P	P	P	P
(2) Residential District – Uses						
- Single residential	P	P	P	P	P	P
- Semipublic	C	C	C	C	C	P
- Parks and historic sites	C	C	C	C	C	P
- Extractive use	C	C	C	C	C	C
- Duplex, triplex, quad						

lakes or remote/protected rivers. These water bodies have high natural resource value and may have lower capacity to bear the runoff from development. NE lakes and Remote and Forested rivers should not, in nearly all cases, have anything other than single unit residential housing (except perhaps under a PUD or cluster ordinance). In addition to the sentence on prohibited used noted above, communities should consider including another designation, Prohibited (X) to clarify that high density or high intensity land uses are not allowed without a rezoning.

Communities should consider eliminating the high density residential district for NE lakes, remote and forested rivers, and for selected RD lakes. Similarly, communities should consider whether agricultural and forest management uses should be permitted (P), or whether these potentially intensive land uses should be made conditional upon the use of best management practices.

The allowed and conditional land uses might also be modified for particular lakes rather than changing the ordinance for an entire classification. For instance, the community may have RD lakes that are already at or exceeding the lake's carrying capacity (as measured by water clarity, phosphorus flows, or other verifiable measurements). The community should, in response to measurable water quality indicators (such as those noted in the annotation for Section 3.3) make more intensive land uses conditional upon stormwater mitigation efforts, including larger protected buffer areas, restoration of native shoreline vegetation, and use of community wastewater systems with a designated responsible management entity.

residential	C	C	C	C	P	C
- Forest management	P	P	P	P	P	P
- Mining of metallic minerals and peat	P	P	P	P	P	P

\*As accessory to a residential planned unit development

\*\*Limited expansion of a commercial planned unit development involving up to six additional dwelling units or sites may be allowed as a permitted use provided the provisions of Section 8.0 of this ordinance are satisfied.

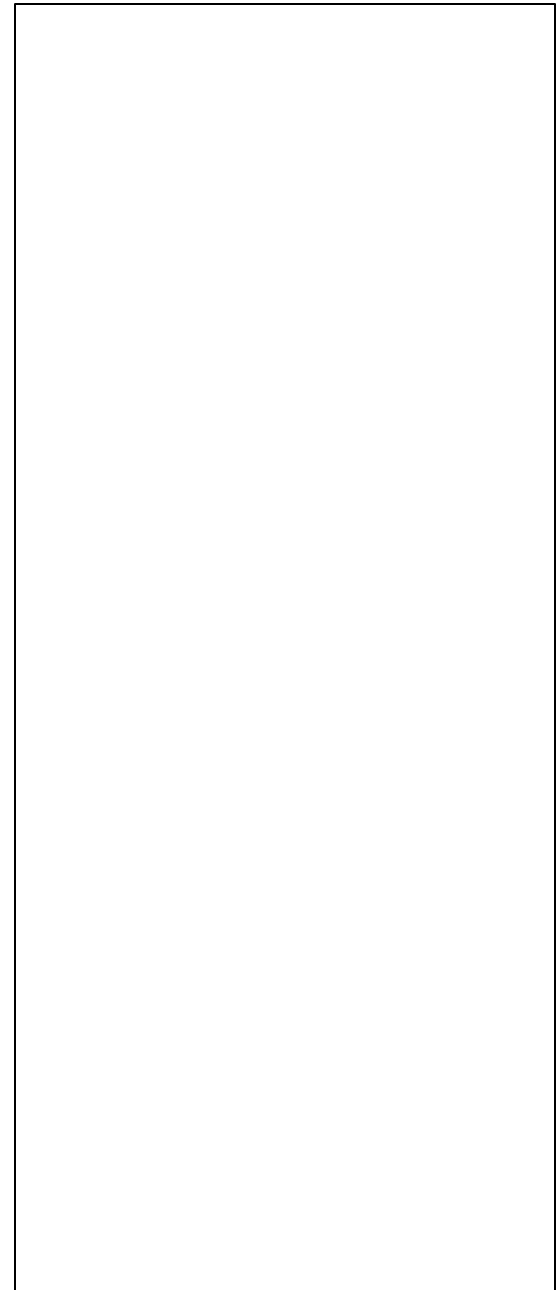
(3) High Density Residential – Uses

- Residential planned unit developments	C	C	C	C	C	C
- Single residential	P	P	P	P	P	P
- Surface water oriented commercial*	C	C	C	C	C	C
- Semipublic	C	C	C	C	C	C
- Parks and historic sites	C	C	C	C	C	C
- Duplex, triplex, quad residential	P	P	P	P	P	P
- Forest management	P	P	P	P	P	P

(4) Water-oriented Commercial - Uses

- Surface water-oriented commercial	C	C	C	C	C	C
- Commercial planned unit development*	C	C	C	C	C	C
- Public, semipublic	C	C	C	P	P	P
- Parks and historic sites	C	C	C	C	C	C
- Forest management	P	P	P	P	P	P

(5) General Use District – Uses



- Commercial	C	C	C	C	P	C
- Commercial planned unit development**	C	C	C	C	C	C
- Industrial	N	C	N	N	C	C
- Public, semipublic	C	C	C	C	P	C
- Extractive use	C	C	C	C	C	C
- Parks and historic sites	C	C	C	C	C	C
- Forest management	P	P	P	P	P	P
- Mining of metallic minerals and peat	P	P	P	P	P	P

\*As accessory to a residential planned unit development

\*\*Limited expansion of a commercial planned unit development involving up to six additional dwelling units or sites may be allowed as a permitted use provided the provisions of Section 8.0 of this ordinance are satisfied.

#### 4.23 Use and Upgrading of Inconsistent Land Use Districts.

A The land use districts adopted in Ordinance Number \_\_\_\_\_, Section \_\_\_\_\_, as they apply to shoreland areas, and their delineated boundaries on the Official Zoning Map, are not consistent with the land use district designation criteria specified in Section 4.22 herein. These inconsistent land use district designations may continue until revisions are proposed to change either the land use district designation within an existing land use district boundary shown on the Official Zoning Map or to modify the boundary of an existing land use district shown on the Official Zoning Map.

B. When a revision is proposed to an inconsistent land use district provision, the following additional criteria and procedures shall apply:

(1) For Lakes. When a revision to a land use district designation on a lake is considered, the land use district boundaries and use provisions therein for all the shoreland areas within the jurisdiction of this ordinance on said lake must be revised to make them substantially compatible with the framework in Sections 4.21 and 4.22 of this ordinance.

(2) For Rivers and Streams. When a revision to a land use district designation on a river or stream is proposed, the land use district boundaries and the use provisions therein for all

For most communities Section 4.23 can be eliminated. The section is intended for communities that do not, in the initial adoption of a shoreland ordinance, demonstrate compliance of their existing land use districts with the shoreland rules. Most communities have, at this time, already adopted a shoreland ordinance that has been demonstrated to be consistent with the statewide minimum standards.



shoreland on both sides of the river or stream within the same classification within the jurisdiction of this ordinance must be revised to make them substantially compatible with the framework in Sections 4.21 and 4.22 of this ordinance. If the same river classification is contiguous for more than a five-mile segment, only the shoreland for a distance of 2.5 miles upstream and downstream, or to the class boundary if closer, need be evaluated and revised.

C. When an interpretation question arises about whether a specific land use fits within a given “use” category, the interpretation shall be made by the Board of Adjustment. When a question arises as to whether a land use district’s boundaries are properly delineated on the Official Zoning Map, this decision shall be made by the \_\_\_\_\_ (governing body).

D. When a revision is proposed to an inconsistent land use district provision by an individual party or landowner, this individual party or landowner will only be responsible to provide the supporting and/or substantiating information for the specific parcel in question. The \_\_\_\_\_ (governing body) will direct the \_\_\_\_\_ (designated official) to provide such additional information for this waterbody as is necessary to satisfy Items A and B.

E. The \_\_\_\_\_ (governing body) must make a detailed finding of fact and conclusion when taking final action that this revision, and the upgrading of any inconsistent land use district designations on said waterbody, are consistent with the enumerated criteria and use provisions of Section 4.2.

For those communities who have not made such a demonstration, their ordinance must include Section 4.23 of this sample ordinance. Communities can continue to enforce their inconsistent land use districts, but the community must include a section similar to Section 4.2 of the sample ordinance with compliant land uses that will be used for the long-term upgrading of these inconsistent land use district regulations.

## 5.0 – ZONING AND WATER SUPPLY/SANITARY PROVISIONS

### 5.1 Lot Area and Width Standards.

The lot area (in square feet) and lot width standards (in feet) for single, duplex, triplex and quad residential lots created after the date of enactment of this ordinance for the lake and river/stream classifications are the following:

(See tables on following pages)

Sections 5.1 - 5.5 contain the setback, design, and other performance standards generic to most shoreland development. Some communities can directly adopt the categories of provisions in Sections 5.1 - 5.5. Certain provisions can be deleted if they do not apply to a community (e.g., certain lake or river classifications not present, no unsewered areas, etc.). Further, certain provisions are optional and need not be included (e.g., Sections 5.14, c. and d.) if a development option is not included.

The lot area and width standards presented in the sample ordinance do not take into consideration the community's specific water quality priorities or the existing water quality conditions of the community's lakes and rivers. Water bodies that bear heavy impacts from existing development will be very sensitive to additional development, regardless of the water body's classification. A eutrophic general development lake may need more aggressive regulation than a lightly developed and healthy RD or NE lake. Similarly, the community might identify a pristine RD lake or trout stream to be a high priority for protection, regardless of its capacity to bear the impacts of development. Community must use the state minimum standards with great care, and should identify where carrying capacity or community priorities demand stronger regulation or larger incentives than set in the sample ordinance.

Sections 5.11 and 5.12 set the size and width for unsewered and sewer lakes,

## 5.11 Unsewered Lakes

### A. Natural Environment:

	Riparian Lots		Nonriparian Lots	
	Area	Width	Area	Width
Single	80,000	200	80,000	200
Duplex	120,000	300	160,000	400
Triplex	160,000	400	240,000	600
Quad	200,000	500	320,000	800

### B. Recreational Development:

	Riparian Lots		Nonriparian Lots	
	Area	Width	Area	Width
Single	40,000	150	40,000	150
Duplex	80,000	225	80,000	265
Triplex	120,000	300	120,000	375
Quad	160,000	375	160,000	490

### C. General Development

	Riparian Lots		Nonriparian Lots	
	Area	Width	Area	Width
Single	20,000	100	40,000	150
Duplex	40,000	180	80,000	265
Triplex	60,000	260	120,000	375
Quad	80,000	340	160,000	490

respectively. The distinction between sewered and unsewered is, of course, due to the need for on-site wastewater treatment in unsewered areas, and the consequent need for adequate area for septic drainfields.

Today's understanding of nutrient loading and non-point pollution risks demands that the lot size requirements to ensure adequate wastewater treatment depends on soil types, depth, and a host of site specific factors. The minimum lot sizes for unsewered lakes will, in some situations, need to be increased on General Development and Recreational Development lakes. Less than half an acre (20,000 sq. ft.) is likely to be insufficient space to meet the requirements of both the Shoreland ordinance setback requirements and the performance standards of local governmental ISTS ordinances. The 40,000 sq. ft. minimum lot size (GD and RD lots) will sometimes be inadequate, when soil type or soil depth is marginal. Under ideal conditions of soil, slope, and vegetative cover, and the site allows the required space for a backup drainfield, the sample ordinance lot size will be adequate. The standards also assume properly designed and maintained ISTS systems, consistent with PCA rules. Ensuring regular maintenance of ISTS systems continues to be a challenge, and increasing lot sizes and ISTS setback requirements may add additional margin of error and protect water quality.

Perhaps more important, however, these minimum lot sizes are not adequate mitigation, without other buffering or vegetative management requirements, for storm water runoff. These lakeshore areas can, in theory, be developed as densely as

5.12 Sewered Lakes:

A. Natural Environment:

	Riparian Lots		Nonriparian Lots	
	Area	Width	Area	Width
Single	40,000	125	20,000	125
Duplex	70,000	225	35,000	220
Triplex	100,000	325	52,000	315
Quad	130,000	425	65,000	410

B. Recreational Development:

	Riparian Lots		Nonriparian Lots	
	Area	Width	Area	Width
Single	20,000	75	15,000	75
Duplex	35,000	135	26,000	135
Triplex	50,000	195	38,000	190
Quad	65,000	255	49,000	245

C. General Development:

	Riparian Lots		Nonriparian Lots	
	Area	Width	Area	Width
Single	15,000	75	10,000	75
Duplex	26,000	135	17,500	135
Triplex	38,000	195	25,000	190
Quad	49,000	255	32,500	245

5.13 River/Stream Lot Width Standards. There are no minimum lot size requirements for rivers and streams. The lot width standards for single, duplex, triplex and quad residential developments for the six-river/stream classifications are:

indicated in sample ordinance minimum standards, but only assuming substantial attention to the creation and maintenance of buffer areas and diligent maintenance of ISTS systems over time. Many communities will be hard pressed to meet water quality goals allowing lakeshore development at the sample ordinance minimum lot size standards.

Communities should consider a minimum of one acre and a 200-foot width for unsewered lakes, and should allow one acre only if a shoreland buffer is retained or restored. Additional requirements, such as community ISTS systems that will increase the likelihood of appropriate maintenance, should also be considered for unsewered lakes. Finally, communities should probably eliminate standards for duplex/triplex /quad homes in unsewered areas except under PUD requirements.

For sewered lakes, the minimum lot size thresholds are considerably smaller than for unsewered lakes and are also likely to be inadequate for meeting water quality goals. First, the statewide minimum standards for all three categories of lakes do not adequately protect water quality from stormwater runoff. The density allowed around sewered lakes under the minimum standards will virtually guarantee moving the subwatershed into the 'degraded' NEMO category for impervious surfaces. Any lot size smaller than one acre will probably justify additional buffering and buffer maintenance requirements.

Second, and related to the first issue, lot size minimum thresholds need to consistent with the impervious surface standards in Section 5.52 A. Allowing quarter-acre lots but

	Re- mote	For- ested	Trans- ition	Agri- cultural	Urban & Tributary	
					No sewer	Sewer
Single	300	200	250	150	100	75
Duplex	450	300	375	225	150	115
Triplex	600	400	500	300	200	150
Quad	750	500	625	375	250	190

5.14 Additional Special Provisions.

A. Residential subdivisions with dwelling unit densities exceeding those in the tables in Sections 5.11 and 5.12 can only be allowed if designed and approved as residential planned unit developments under Section 8.0 of this ordinance. Only land above the ordinary high water level of public waters can be used to meet lot area standards, and lot width standards must be met at both the ordinary high water level and at the building line. The sewer lot area dimensions in Section 5.12 can only be used if publicly owned sewer system service is available to the property.

B. Subdivisions of duplexes, triplexes, and quads on Natural Environment Lakes must also meet the following standards:

- (1) each building must be set back at least 200 feet from the ordinary high water level;
- (2) each building must have common sewage treatment and water systems in one location and serve all dwelling units in the building;
- (3) watercraft docking facilities for each lot must be centralized in one location and serve all dwelling units in the building; and
- (4) no more than 25 percent of a lake's shoreline can be in duplex, triplex, or quad developments.

C. One guest cottage may be allowed on lots meeting or exceeding the duplex lot area and width dimensions presented in Section 5.11-5.13, provided the following standards are met:

restricting impervious surface to 25% of the lot is creating an environment for regulatory conflict. The 25% impervious surface standard is already insufficient to maintain water quality, and allowing small lots increases the likelihood that the homeowner ultimately violates the 25% impervious surface regulation. A regulation that is likely to result in violations is not a sustainable regulation.

Finally, as with the unsewered lakes, communities should simplify the table by eliminating provisions for non-single family development on RD and NE lakes. Greater densities should be addressed in the PUD or cluster ordinance.

The statewide minimum standards for lots along rivers and streams do not include lot size minimums (Section 5.13). Since the shoreland zone is only 300 feet, a minimum lot size might, for the first three river categories, extend beyond the shoreland zone. Communities should consider language that regulates the lot size of the first tier of development along Remote, Forested, or Transition rivers. For Urban rivers the community should consider setting appropriate minimum lot sizes that protect water quality, rather than relying only on base zoning districts.

Section 5.14 A. specifically allows higher densities for residential PUDs, consistent with Section 8 of the sample. As discussed in Section 8 annotation, communities should consider whether density bonuses are appropriate for all lakes. Possible alternative language would allow density bonuses for

- (1) for lots exceeding the minimum lot dimensions of duplex lots, the guest cottage must be located within the smallest duplex-sized lot that could be created including the principal dwelling unit;
- (2) a guest cottage must not cover more than 700 square feet of land surface and must not exceed 15 feet in height; and
- (3) a guest cottage must be located or designed to reduce its visibility as viewed from public waters and adjacent shorelands by vegetation, topography, increased setbacks or color, assuming summer leaf-on conditions.

D. Lots intended as controlled accesses to public waters or as recreation areas for use by owners of nonriparian lots within subdivisions are permissible and must meet or exceed the following standards:

- (1) they must meet the width and size requirements for residential lots, and be suitable for the intended uses of controlled access lots.
- (2) If docking, mooring, or over-water storage of more than six (6) watercraft is to be allowed at a controlled access lot, then the width of the lot (keeping the same lot depth) must be increased by the percent of the requirements for riparian residential lots for each watercraft beyond six, consistent with the following table:

Controlled Access Lot Frontage Requirements

Ratio of lake size to shore length (acres/mile)	Required increase in frontage (percent)
Less than 100	25
100-200	20
201-300	15
301-400	10
Greater than 400	5

PUDs, but increase the base densities allowed in Sections 5.11 and 5.12.

Subsection A. also regulates what can be counted as part of the lot, in calculating lot size. Communities should consider, for degraded lakes or high-priority natural resource areas, to allow inclusion of the shore impact zone only if it is fully functional (if there is a healthy growth of native vegetation). Doing so will emphasize the restrictions on removing vegetation in the zone, and encourage permanent protection of this vital buffer.

Subsection B. should be eliminated and incorporated into the PUD or cluster requirements.

The provisions for guest cottages in Subsection C. should generally not apply to NE lakes, and should be restricted to lots that exceed (not just meet) minimum size requirements. Commensurate changes should be made to the land use tables in 5.11.

Communities should consider their preferences regarding the use of motorized watercraft in setting the number of docks allowed at controlled access lots (Section D.). To discourage use of motorized watercraft, the provisions of D.(2) could be simplified to say “no more than six (6) watercraft are allowed at a controlled access lot.” Communities can also forbid boathouses or watercraft storage facilities on controlled access lots. The controlled access lot should have, at a minimum, a boat access ramp or canoe launching.

(3) they must be jointly owned by all purchasers of lots in the subdivision or by all purchasers of nonriparian lots in the subdivision who are provided riparian access rights on the access lot; and

(4) covenants or other equally effective legal instruments must be developed that specify which lot owners have authority to use the access lot and what activities are allowed. The activities may include watercraft launching, loading, storage, beaching, mooring, or docking. They must also include other outdoor recreational activities that do not significantly conflict with general public use of the public water or the enjoyment of normal property rights by adjacent property owners. Examples of the non-significant conflict activities include swimming, sunbathing, or picnicking. The covenants must limit the total number of vehicles allowed to be parked and the total number of watercraft allowed to be continuously moored, docked, or stored over water, and must require centralization of all common facilities and activities in the most suitable locations on the lot to minimize topographic and vegetation alterations. They must also require all parking areas, storage buildings, and other facilities to be screened by vegetation or topography as much as practical from view from the public water, assuming summer, leaf-on conditions.

DNR no longer regulates docks through permitting as was done at the time the sample ordinance was written. Communities should consider provisions regulating docks, particularly on heavily-used lakes.

5.2 Placement, Design, and Height of Structures.

5.21 Placement of Structures on Lots. When more than one setback applies to a site, structures and facilities must be located to meet all setbacks. Where structures exist on the adjoining lots on both sides of a proposed building site, structure setbacks may be altered without a variance to conform to the adjoining setbacks from the ordinary high water level, provided the proposed building site is not located in a shore impact zone or in a bluff impact zone. Structures shall be located as follows.

A. Structure and On-site Sewage System Setbacks (in feet) from Ordinary High Water Level\*.

Classes of Public Waters	Setbacks*		
	Structures Unsewered	Sewered	Sewage Treatment System
Lakes			
Natural Environment	150	150	150
Recreational Development	100	75	75
General Development	75	50	50
Rivers			
Remote Forested and Transition	200	200	150
Agriculture, Urban, and Tributary	150	150	100
	100	50	75

\*One water-oriented accessory structure designed in accordance with Section 5.22 of this ordinance may be set back a minimum distance of ten (10) feet from the ordinary high water level.

Section 5.21 addresses the minimum statewide setback requirements from the Ordinary High Water Level (OHWL) as determined by DNR. This section allows setbacks that do not conform to state standards if adjacent lots do not conform. Communities should consider eliminating this provision particularly when the carrying capacity of the water body is degraded.

The statewide minimum setbacks for classes of public waters are shown in Subsection A. Communities should, for several reasons, consider using larger setbacks than the minimum state standard in order to maintain water quality. First, setting different building setbacks for sewer and unsewered development is not consistent with state-of-the-art water quality management. Stormwater runoff is the primary non-wastewater consideration for maintaining water quality and should be managed equivalently regardless of the type of wastewater system. Communities should eliminate the second column of setbacks (sewered) and rely solely on the first column



B. Additional Structure Setbacks. The following additional structure setbacks apply, regardless of the classification of the waterbody:

	Setback From:	Setback (in feet)
(1)	top of bluff;	30
(2)	unplatted cemetery;	50
(3)	right-of-way line of federal, state, or county highway; and	50
(4)	right-of-way line of town road, public street, or other roads or streets not classified.	20

C. Bluff Impact Zones. Structures and accessory facilities, except stairways and landings, must not be placed within bluff impact zones.

D. Uses Without Water-oriented Needs. Uses without water-oriented needs must be located on lots or parcels without public waters frontage, or, if located on lots or parcels with public waters frontage, must either be set back double the normal ordinary high water level setback or be substantially screened from view from the water by vegetation or topography, assuming summer, leaf-on conditions.

#### 5.22 Design Criteria For Structures.

A. High Water Elevations. Structures must be placed in accordance with any floodplain regulations applicable to the site. Where these controls do not exist, the elevation to which the lowest floor, including basement, is placed or flood-proofed must be determined as follows:

- (1) for lakes, by placing the lowest floor at a level at least three feet above the highest known water level, or three feet above the ordinary high water level, whichever is higher;

of building setbacks (currently labeled unsewered). Second, setbacks are of little use in managing water quality if the native vegetative buffer is eliminated in favor of lawns, boat access, or other shoreline modifications. Communities should increase setback or make the state minimum setbacks conditional upon vegetative restoration of the shore impact zone (defined as half the setback requirement) or creation of buffers between structures and OHWL.

Communities may have a number of additional reasons for increasing the setbacks noted in the sample ordinance. Preservation of viewsheds, fish and wildlife habitat, and shoreline tree canopy are specific goals for some lakes and rivers that would require larger setbacks. The existence of highly erodable shorelines would similarly call for increased regulation.

(2) for rivers and streams, by placing the lowest floor at least three feet above the flood of record, if data are available. If data are not available, by placing the lowest floor at least three feet above the ordinary high water level, or by conducting a technical evaluation to determine effects of proposed construction upon flood stages and flood flows and to establish a flood protection elevation. Under all three approaches, technical evaluations must be done by a qualified engineer or hydrologist consistent with parts 6120.5000 to 6120.6200 governing the management of flood plain areas. If more than one approach is used, the highest flood protection elevation determined must be used for placing structures and other facilities; and

(3) water-oriented accessory structures may have the lowest floor placed lower than the elevation determined in this item if the structure is constructed of flood-resistant materials to the elevation, electrical and mechanical equipment is placed above the elevation and, if long duration flooding is anticipated, the structure is built to withstand ice action and wind-driven waves and debris.

B. Water-oriented Accessory Structures. Each lot may have one water-oriented accessory structure not meeting the normal structure setback in Section 5.21 of this ordinance if this water-oriented accessory structure complies with the following provisions:

(1) the structure or facility must not exceed ten feet in height, exclusive of safety rails, and cannot occupy an area greater than 250 square feet. Detached decks must not exceed eight feet above grade at any point;

(2) the setback of the structure or facility from the ordinary high water level must be at least ten feet;

(3) the structure or facility must be treated to reduce visibility as viewed from public waters and adjacent shorelands by vegetation, topography, increased setbacks or color, assuming summer, leaf-on conditions;

(4) the roof may be used as a deck with safety rails, but must not be enclosed or used as a storage area;

(5) the structure or facility must not be designed or used for human habitation and must not contain water supply or sewage treatment facilities; and

(6) as an alternative for general development and recreational development waterbodies, water-oriented accessory structures used solely for watercraft storage, and including storage of related boating and water-oriented sporting equipment, may occupy an area up to 400 square feet provided the maximum width of the structure is 20 feet as measured parallel to the configuration of the shoreline.

C. Stairways, Lifts, and Landings. Stairways and lifts are the preferred alternative to major topographic alterations for achieving access up and down bluffs and steep slopes to shore areas. Stairways and lifts must meet the following design requirements:

- (1) stairways and lifts must not exceed four feet in width on residential lots. Wider stairways may be used for commercial properties, public open-space recreational properties, and planned unit developments;
- (2) landings for stairways and lifts on residential lots must not exceed 32 square feet in area. Landings larger than 32 square feet may be used for commercial properties, public open-space recreational properties, and planned unit developments;
- (3) canopies or roofs are not allowed on stairways, lifts, or landings;
- (4) stairways, lifts, and landings may be either constructed above the ground on posts or pilings, or placed into the ground, provided they are designed and built in a manner that ensures control of soil erosion;
- (5) stairways, lifts, and landings must be located in the most visually inconspicuous portions of lots, as viewed from the surface of the public water assuming summer, leaf-on conditions, whenever practical; and
- (6) facilities such as ramps, lifts, or mobility paths for physically handicapped persons are also allowed for achieving access to shore areas, provided that the dimensional and performance standards of subitems (1) to (5) are complied with in addition to the requirements of Minnesota Regulations, Chapter 1340.

D. Significant Historic Sites. No structure may be placed on a significant historic site in a manner that affects the values of the site unless adequate information about the site has been removed and documented in a public repository.

E. Steep Slopes. The \_\_\_\_\_ (designated official) must evaluate possible soil erosion impacts and development visibility from public waters before issuing a permit for construction of sewage treatment systems, roads, driveways, structures, or other improvements on steep slopes. When determined necessary, conditions must be attached to issued permits to prevent erosion and to preserve existing vegetation screening of structures, vehicles, and other facilities as viewed from the surface of public waters, assuming summer, leaf-on vegetation.

5.23 Height of Structures. All structures in residential districts, except churches and nonresidential agricultural structures, must not exceed 25 feet in height.

### 5.3 Shoreland Alterations

Alterations of vegetation and topography will be regulated to prevent erosion into public waters, fix nutrients, preserve shoreland aesthetics, preserve historic values, prevent bank slumping, and protect fish and wildlife habitat.

#### 5.31 Vegetation Alterations.

A. Vegetation alteration necessary for the construction of structures and sewage treatment systems and the construction of roads and parking areas regulated by Section 5.4 of this ordinance are exempt from the vegetation alteration standards that follow.

B. Removal or alteration of vegetation, except for agricultural and forest management uses as regulated in Sections 5.62 and 5.63, respectfully, is allowed subject to the following standards:

(1) Intensive vegetation clearing within the shore and bluff impact zones and on steep slopes is not allowed. Intensive vegetation clearing for forest land conversion to another use outside of these areas is allowable as a conditional use if an erosion control and sedimentation plan is developed and approved by the soil and water conservation district in which the property is located.

(2) In shore and bluff impact zones and on steep slopes, limited clearing of trees and shrubs and cutting, pruning, and trimming of trees is allowed to provide a view to the water from the principal dwelling site and to accommodate the placement of stairways and landings, picnic areas, access paths, livestock watering areas, beach and watercraft

The provisions for “height of structures” in Section 5.23 are, in the sample ordinance, applicable only to residential areas in incorporated cities. County and township ordinances can, however, include a height provision, and are often justified in doing so in order to preserve viewsheds.

Shorelines where the native vegetative buffer has been removed or significantly altered degrade water quality problems through erosion, stormwater pollutants, and excessive nutrients entering the water body. Maintaining (or restoring) the topography and vegetative in its natural state is a critical goal of the community’s shoreland regulation. As noted elsewhere in the annotation, preservation and restoration of shoreline buffers and topography should be part of conditional use permits, rezonings, and variances. Protecting existing shoreline vegetation and topography is the primary goal of Section 5.3.

The community should make any vegetative clearing in the shore and bluff impact zones conditional upon the standards of (2)(a), (2)(b), and that the clearing and development will preserve the pre-development control of stormwater on the site.

access areas, and permitted water-oriented accessory structures or facilities, provided that:

- (a) the screening of structures, vehicles, or other facilities as viewed from the water, assuming summer, leaf-on conditions, is not substantially reduced;
- (b) along rivers, existing shading of water surfaces is preserved; and
- (c) the above provisions are not applicable to the removal of trees, limbs, or branches that are dead, diseased, or pose safety hazards.

### 5.32 Topographic Alterations/Grading and Filling.

A. Grading and filling and excavations necessary for the construction of structures, sewage treatment systems, and driveways under validly issued construction permits for these facilities do not require the issuance of a separate grading and filling permit. However, the grading and filling standards in this Section must be incorporated into the issuance of permits for construction of structures, sewage treatment systems, and driveways.

B. Public roads and parking areas are regulated by Section 5.4 of this ordinance.

C. Notwithstanding Items A. and B. above, a grading and filling permit will be required for:

- (1) the movement of more than ten (10) cubic yards of material on steep slopes or within shore or bluff impact zones; and
- (2) the movement of more than 50 cubic yards of material outside of steep slopes and shore and bluff impact zones.

D. The following considerations and conditions must be adhered to during the issuance of construction permits, grading and filling permits, conditional use permits, variances and subdivision approvals:

(1) Grading or filling in any type 2, 3, 4, 5, 6, 7, or 8 wetland must be evaluated to determine how extensively the proposed activity would affect the following functional qualities of the wetland\*:

- (a) sediment and pollutant trapping and retention;

Sections 5.32 through 5.5 address erosion control and stormwater management issues. Erosion and sediment control, and regulation of stormwater is key to meeting community water quality goals. Communities with stormwater and erosion control ordinances should ensure that the stormwater and erosion control provisions are at least consistent with the State sample ordinance minimum standards. If so, the community can change the shoreland ordinance to be consistent with its stormwater and erosion control ordinances. If not, the community should reference the shoreland ordinance standards in its stormwater and erosion control ordinance to ensure that developers understand that different standards apply in shoreland areas. A uniform stormwater ordinance is, however, highly preferable to one that does not rise to the level of the State sample shoreland ordinance.

Communities that do not have stormwater and erosion control ordinances should seriously consider adopting such ordinances. Some communities will be required to consider or adopt such ordinances under NPDES Phase II

- (b) storage of surface runoff to prevent or reduce flood damage;
- (c) fish and wildlife habitat;
- (d) recreational use;
- (e) shoreline or bank stabilization; and
- (f) noteworthiness, including special qualities such as historic significance, critical habitat for endangered plants and animals, or others.

\*This evaluation must also include a determination of whether the wetland alteration being proposed requires permits, reviews, or approvals by other local, state, or federal agencies such as a watershed district, the Minnesota Department of Natural Resources, or the United States Army Corps of Engineers. The applicant will be so advised.

- (2) Alterations must be designed and conducted in a manner that ensures only the smallest amount of bare ground is exposed for the shortest time possible;
- (3) Mulches or similar materials must be used, where necessary, for temporary bare soil coverage, and a permanent vegetation cover must be established as soon as possible;
- (4) Methods to minimize soil erosion and to trap sediments before they reach any surface water feature must be used;
- (5) Altered areas must be stabilized to acceptable erosion control standards consistent with the field office technical guides of the local soil and water conservation districts and the United States Soil Conservation Service;
- (6) Fill or excavated material must not be placed in a manner that creates an unstable slope;
- (7) Plans to place fill or excavated material on steep slopes must be reviewed by qualified professionals for continued slope stability and must not create finished slopes of 30 percent or greater;

standards. Regardless, stormwater and sediment control is needed throughout the entire community, not just in the shoreland areas.

As noted previously, all land disturbing activities of more than one acre must acquire and meet the conditions of the NPDES Phase II construction permit. Communities should include specific reference to the NPDES permit requirement in this section of their shoreland ordinance.

- (8) Fill or excavated material must not be placed in bluff impact zones;
- (9) Any alterations below the ordinary high water level of public waters must first be authorized by the commissioner under Minnesota Statutes, section 103G;
- (10) Alterations of topography must only be allowed if they are accessory to permitted or conditional uses and do not adversely affect adjacent or nearby properties; and
- (11) Placement of natural rock riprap, including associated grading of the shoreline and placement of a filter blanket, is permitted if the finished slope does not exceed three feet horizontal to one foot vertical, the landward extent of the riprap is within ten feet of the ordinary high water level, and the height of the riprap above the ordinary high water level does not exceed three feet.

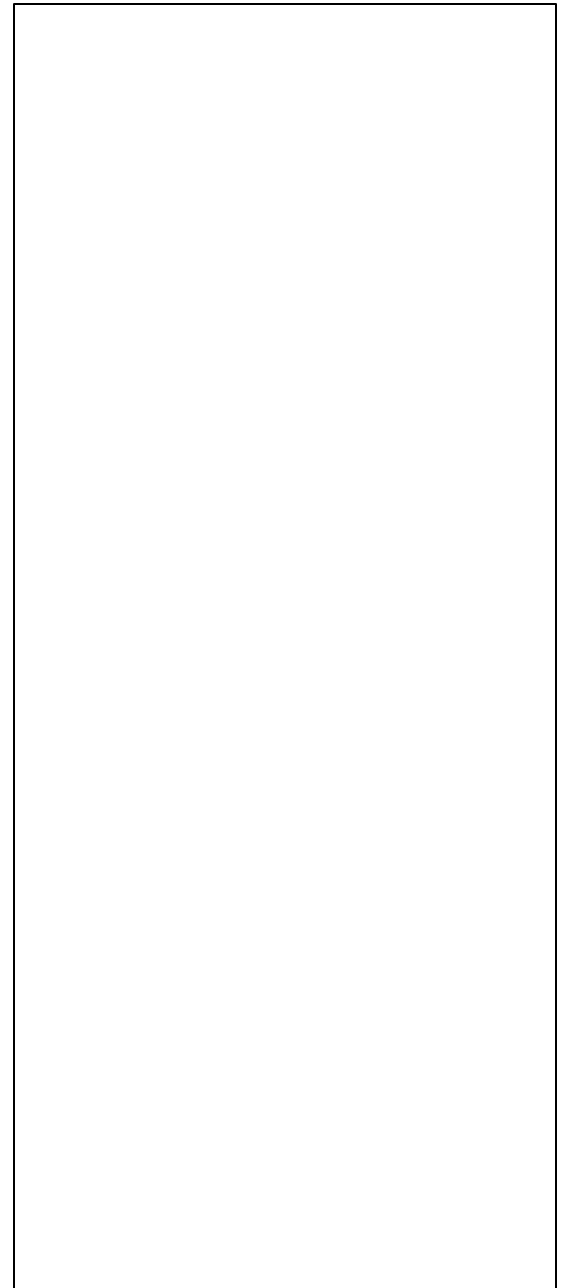
E. Connections to public waters. Excavations where the intended purpose is connection to a public water, such as boat slips, canals, lagoons, and harbors, must be controlled by local shoreland controls. Permission for excavations may be given only after the commissioner has approved the proposed connection to public waters.

#### 5.4 Placement and Design of Roads, Driveways, and Parking Areas.

5.41 Public and private roads and parking areas must be designed to take advantage of natural vegetation and topography to achieve maximum screening from view from public waters. Documentation must be provided by a qualified individual that all roads and parking areas are designed and constructed to minimize and control erosion to public waters consistent with the field office technical guides of the local soil and water conservation district, or other applicable technical materials.

5.42 Roads, driveways, and parking areas must meet structure setbacks and must not be placed within bluff and shore impact zones, when other reasonable and feasible placement alternatives exist. If no alternatives exist, they may be placed within these areas, and must be designed to minimize adverse impacts.

5.43 Public and private watercraft access ramps, approach roads, and access-related parking areas may be placed within shore impact zones provided the vegetative screening and erosion



control conditions of this subpart are met. For private facilities, the grading and filling provisions of Section 5.32 of this ordinance must be met.

## 5.5 Stormwater Management.

The following general and specific standards shall apply:

### 5.51 General Standards:

- A. When possible, existing natural drainageways, wetlands, and vegetated soil surfaces must be used to convey, store, filter, and retain stormwater runoff before discharge to public waters.
- B. Development must be planned and conducted in a manner that will minimize the extent of disturbed areas, runoff velocities, erosion potential, and reduce and delay runoff volumes. Disturbed areas must be stabilized and protected as soon as possible and facilities or methods used to retain sediment on the site.
- C. When development density, topographic features, and soil and vegetation conditions are not sufficient to adequately handle stormwater runoff using natural features and vegetation, various types of constructed facilities such as diversions, settling basins, skimming devices, dikes, waterways, and ponds may be used. Preference must be given to designs using surface drainage, vegetation, and infiltration rather than buried pipes and man-made materials and facilities.

### 5.52 Specific Standards:

- A. Impervious surface coverage of lots must not exceed 25 percent of the lot area.
- B. When constructed facilities are used for stormwater management, documentation must be provided by a qualified individual that they are designed and installed consistent with the field office technical guide of the local soil and water conservation districts.
- C. New constructed stormwater outfalls to public waters must provide for filtering or settling of suspended solids and skimming of surface debris before discharge.

## 5.6 Special Provisions for Commercial, Industrial, Public/Semipublic, Agricultural, Forestry and Extractive Uses and Mining of Metallic Minerals and Peat.

Stormwater management is one of the key elements to maintaining the community's water quality. Section 5.5 identifies the basic elements of stormwater management and sets clear priorities management techniques. Far more direction is, however, needed to meet NEMO-recommended standards for water quality. Communities with stormwater ordinances should reference those ordinances here. Communities without stormwater ordinances should consider additional language in this section specifying either stormwater performance standards or specific management techniques. For example, all residential development could be required to discharge all downspouts or drainage from roofs onto pervious surfaces (such as yards) and to crown all driveways or other impervious surfaces to prevent stormwater from flowing directly into the street system or waterways. Additional technical and performance standards, and ordinance language addressing such standards, is available from the NEMO website under the model stormwater ordinance. ([www.northlandnemo.com](http://www.northlandnemo.com))

Section 5.52 includes one of the key provision of the sample shoreland ordinance's management of non-point pollution – the 25% impervious surface coverage. Communities should consider, however, that 25% lot coverage will likely push lake subwatersheds into the 'degraded' status, unless the community can ensure that substantial areas of the subwatershed remain undeveloped. The 25% standard is unlikely to protect water quality in GD lakes and the threshold is likely to be met or exceeded over time. Alternative concepts for addressing these problems



5.61 Standards for Commercial, Industrial, Public, and Semipublic Uses.

A. Surface water-oriented commercial uses and industrial, public, or semipublic uses with similar needs to have access to and use of public waters may be located on parcels or lots with frontage on public waters. Those uses with water-oriented needs must meet the following standards:

- (1) in addition to meeting impervious coverage limits, setbacks, and other zoning standards in this ordinance, the uses must be designed to incorporate topographic and vegetative screening of parking areas and structures;
- (2) uses that require short-term watercraft mooring for patrons must centralize these facilities and design them to avoid obstructions of navigation and to be the minimum size necessary to meet the need; and
- (3) uses that depend on patrons arriving by watercraft may use signs and lighting to convey needed information to the public, subject to the following general standards:
  - (a) no advertising signs or supporting facilities for signs may be placed in or upon public waters. Signs conveying information or safety messages may be placed in or on public waters by a public authority or under a permit issued by the county sheriff;
  - (b) signs may be placed, when necessary, within the shore impact zone if they are designed and sized to be the minimum necessary to convey needed information. They must only convey the location and name of the establishment and the general types of goods or services available. The signs must not contain other detailed information such as product brands and prices, must not be located higher than ten feet above the ground, and must not exceed 32 square feet in size. If illuminated by artificial lights, the lights must be shielded or directed to prevent illumination out across public waters; and
  - (c) other outside lighting may be located within the shore impact zone or over public waters if it is used primarily to illuminate potential safety hazards and is shielded or otherwise directed to prevent direct illumination out across public waters. This does not preclude use of navigational lights.

include the following:

- limiting the calculation of 25% impervious lot coverage to the buildable area of each lot (excluding wetlands, steep slopes, and shore impact zone);
- lowering the threshold to 20% but providing impervious surface incentives for shoreline restoration with native vegetation;
- linking maximum impervious surface coverage to water quality standards or the amount of impervious surface in the subwatershed. Consider adapting the water quality standard for additions to existing lots (garages, outbuildings, patios).
- Outside of urban areas, communities should consider changing the 25% per lot threshold to incorporate a lower gross impervious surface threshold for the entire development or subwatershed.
- For watersheds with high existing percentages of impervious coverage (18-25%) make more land use conditional (rather than permitted). Include aggressive stormwater mitigation, such as shoreline buffer restoration and permanent protection, a condition for approval.

An important enforcement element that is missing from the sample shoreland ordinance is the requirement that developers submit a to-scale drawing of the proposed development including a calculation of impervious surface coverage. Development under the PUD section (Section 8) does include informational requirements, and those (including the annotations in this sample) can be adapted to this section, to the general requirements of the zoning ordinance, or other place in the

B. Uses without water-oriented needs must be located on lots or parcels without public waters frontage, or, if located on lots or parcels with public waters frontage, must either be set back double the normal ordinary high water level setback or be substantially screened from view from the water by vegetation or topography, assuming summer, leaf-on conditions.

#### 5.62 Agriculture Use Standards.

A. General cultivation farming, grazing, nurseries, horticulture, truck farming, sod farming, and wild crop harvesting are permitted uses if steep slopes and shore and bluff impact zones are maintained in permanent vegetation or operated under an approved conservation plan (Resource Management Systems) consistent with the field office technical guides of the local soil and water conservation districts or the United States Soil Conservation Service, as provided by a qualified individual or agency. The shore impact zone for parcels with permitted agricultural land uses is equal to a line parallel to and 50 feet from the ordinary high water level.

B. Animal feedlots must meet the following standards:

- (1) new feedlots must not be located in the shoreland of watercourses or in bluff impact zones and must meet a minimum setback of 300 feet from the ordinary high water level of all public waters basins; and
- (2) modifications or expansions to existing feedlots that are located within 300 feet of the ordinary high water level or within a bluff impact zone are allowed if they do not further encroach into the existing ordinary high water level setback or encroach on bluff impact zones.

5.63 Forest Management Standards. The harvesting of timber and associated reforestation must be conducted consistent with the provisions of the Minnesota Nonpoint Source Pollution Assessment-Forestry and the provisions of Water Quality in Forest Management “Best Management Practices in Minnesota.”

#### 5.64 Extractive Use Standards.

A. Site Development and Restoration Plan. An extractive use site development and restoration plan must be developed, approved, and followed over the course of operation of the site. The plan must address dust, noise, possible pollutant discharges, hours and duration of operation, and anticipated vegetation and topographic alterations. It must also identify actions to

community’s ordinance. Such a requirement may be included in the community’s subdivision ordinance, but that will not, in many communities, capture many small developments of 5-units or less. The community needs to ensure that even individual lots meet the impervious surface standard, particularly for riparian lots. If the community is relying on the subdivision ordinance to require information on impervious surface, the community should add language in the shoreland ordinance requiring to-scale drawings of the lot showing setbacks, building footprint, accessory buildings, all impervious surfaces (driveways, patios), and a calculation of total impervious surface for all lots in the waterbody’s subwatershed. A list of items to include on the pre and post construction drawings is included in the model stormwater ordinance.

Communities will only include provisions similar to Section 5.6 if these types of land uses are allowable within the community. If any of the use provisions in Section 5.6 are not included, then the respective land uses cannot be an allowable use in the land use district tables in Section 4.0.

The reference to vegetative buffers in Section 5.62 should be modified to say “permanent native vegetation, consistent with DNR’s *Restore Your Shore* Guide, or operated under an approved . . .” Similarly, the minimum shore impact zone in Section 5.62 is insufficient to protect water quality except for the most gradual slopes. Communities should increase the shore impact zone by at least 10 feet for each degree of slope. Some soils and slopes demand even larger impact zones, and the community should consider additional

be taken during operation to mitigate adverse environmental impacts, particularly erosion, and must clearly explain how the site will be rehabilitated after extractive activities end.

B. Setbacks for Processing Machinery. Processing machinery must be located consistent with setback standards for structures from ordinary high water levels of public waters and from bluffs.

5.65 Mining of Metallic Minerals and Peat. Mining of metallic minerals and peat, as defined in Minnesota Statutes, sections 93.44 to 93.51, shall be a permitted use provided the provisions of Minnesota Statutes, sections 93.44 to 93.51, are satisfied.

## 5.7 Conditional Uses

Conditional uses allowable within shoreland areas shall be subject to the review and approval procedures, and criteria and conditions for review of conditional uses established community-wide. The following additional evaluation criteria and conditions apply within shoreland areas:

5.71 Evaluation criteria. A thorough evaluation of the waterbody and the topographic, vegetation, and soils conditions on the site must be made to ensure:

- (1) the prevention of soil erosion or other possible pollution of public waters, both during and after construction;
- (2) the visibility of structures and other facilities as viewed from public waters is limited;
- (3) the site is adequate for water supply and on-site sewage treatment; and
- (4) the types, uses, and numbers of watercraft that the project will generate are compatible in relation to the suitability of public waters to safely accommodate these watercraft.

5.72 Conditions attached to conditional use permits. The \_\_\_\_\_ (designated body), upon consideration of the criteria listed above and the purposes of this ordinance, shall attach such conditions to the issuance of the conditional use permits as it

performance standards or guidelines given the kind of soils, slopes, and type of agricultural practices and crop types found in the community.

Subsection B. addresses how to manage animal agriculture. Animal agriculture can be compatible with shoreland areas. Since the sample ordinance was written, however, animal agriculture practices have become much more intense, and the risk of catastrophic events has increased. The setback for new feedlots should include a consideration of the water body's subwatershed rather than a blanket 300 foot setback, and additional mitigating requirements for manure management facilities in the subwatershed.

The sample ordinance assumes communities have established procedures in their comprehensive zoning regulations for processing, reviewing and granting conditional use applications. The provisions of Section 5.7 must be added for shoreland areas only.

The community should include specific reference in 5.71(1) to compliance with NPDES Phase II permits.

deems necessary to fulfill the purposes of this ordinance. Such conditions may include, but are not limited to, the following:

- (1) increased setbacks from the ordinary high water level;
- (2) limitations on the natural vegetation to be removed or the requirement that additional vegetation be planted; and
- (3) special provisions for the location, design, and use of structures, sewage treatment systems, watercraft launching and docking areas, and vehicle parking areas.

## 5.8 Water Supply and Sewage Treatment

5.81 Water Supply. Any public or private supply of water for domestic purposes must meet or exceed standards for water quality of the Minnesota Department of Health and the Minnesota Pollution Control Agency.

5.82 Sewage treatment. Any premises used for human occupancy must be provided with an adequate method of sewage treatment, as follows:

- A. Publicly-owned sewer systems must be used where available.
- B. All private sewage treatment systems must meet or exceed the Minnesota Pollution Control Agency's standards for individual sewage treatment systems contained in the document titled, "Individual Sewage Treatment Systems Standards, Chapter 7080," a copy of which is hereby adopted by reference and declared to be a part of this ordinance.
- C. On-site sewage treatment systems must be set back from the ordinary high water level in accordance with the setbacks contained in Section 5.21 of this ordinance.
- D. All proposed sites for individual sewage treatment systems shall be evaluated in accordance with the criteria in subitems (1)-(4). If the determination of a site's suitability cannot be made with publicly available, existing information, it shall then be the responsibility of the applicant to provide sufficient soil borings and percolation tests from on-site field investigations.

Evaluation criteria:

The community should also add conditions to ensure best management practices for stormwater management, including permanent protection of sensitive shoreline using conservation easements, construction of stormwater diversions or constructed wetlands, and additional restrictions on impervious surface lot coverage.

Section 5.8 – Water Supply and Sewage Treatment:

This is the minimal acceptable language for water supply and wastewater treatment in shoreland areas. Local governments may choose to adopt their own comprehensive sewage treatment code in lieu of adopting MPCA's Chapter 7080 by reference. This code would have to be as restrictive or more restrictive than Chapter 7080.

- (1) depth to the highest known or calculated ground water table or bedrock;
- (2) soil conditions, properties, and permeability;
- (3) slope;
- (4) the existence of lowlands, local surface depressions, and rock outcrops;

E. Nonconforming sewage treatment systems shall be regulated and upgraded in accordance with section 6.13 of this ordinance.

## SECTION 6.0 – NONCONFORMITIES

All legally established nonconformities as of the date of this ordinance may continue, but they will be managed according to applicable state statutes and other regulations of this community for the subjects of alterations and additions, repair after damage, discontinuance of use, and intensification of use; except that the following standards will also apply in shoreland areas:

### 6.1 Construction on nonconforming lots of record.

A. Lots of record in the office of the county recorder on the date of enactment of local shoreland controls that do not meet the requirements of Section 5.1 of this ordinance may be allowed as building sites without variances from lot size requirements provided the use is permitted in the zoning district, the lot has been in separate ownership from abutting lands at all times since it became substandard, was created compliant with official controls in effect at the time, and sewage treatment and setback requirements of this ordinance are met.

B. A variance from setback requirements must be obtained before any use, sewage treatment system, or building permit is issued for a lot. In evaluating the variance, the board of adjustment shall consider sewage treatment and water supply capabilities or constraints of the lot and shall deny the variance if adequate facilities cannot be provided.

C. If, in a group of two or more contiguous lots under the same ownership, any individual lot does not meet the requirements of Section 5.1 of this ordinance the lot must not be considered as a separate parcel of land for the purposes of sale or development. The lot must be combined with the one or more contiguous lots so they equal one or more parcels of land, each meeting the requirements of Section 5.1 of this ordinance as much as possible.

### 6.2 Additions/expansions to nonconforming structures.

A. All additions or expansions to the outside dimensions of an existing nonconforming structure must meet the setback, height, and other requirements of Section 5.0 of this ordinance. Any deviation from these requirements must be authorized by a variance pursuant to Section 3.3.

B. Deck additions may be allowed without a variance to a structure not meeting the required setback from the ordinary high water level if all of the following criteria and standards are met:

- (1) the structure existed on the date the structure setbacks were established;

Communities must include Sections 6.1 and 6.2 unless they can demonstrate that they have no nonconforming, undeveloped lots of record and no nonconforming structures, respectively. A structure is a nonconforming structure if it does not meet the placement, design, height, or use criteria of Section 5.0 of the sample ordinance.

Communities should consider eliminating the phrase “as much as possible” from the end of Section 6.1C. This phrase implies an inappropriate degree of flexibility without setting mitigating conditions. If the community desires to build in regulatory flexibility on meeting Section 5.1 requirements for nonconforming lots of record it should specifically identify what elements of 5.1 are flexible, why these are flexible, and what conditions allow flexibility.

(2) a thorough evaluation of the property and structure reveals no reasonable location for a deck meeting or exceeding the existing ordinary high water level setback of the structure;

(3) the deck encroachment toward the ordinary high water level does not exceed 15 percent of the existing setback of the structure from the ordinary high water level or does not encroach closer than 30 feet, whichever is more restrictive; and

(4) the deck is constructed primarily of wood, and is not roofed or screened.

### 6.3 Nonconforming sewage treatment systems.

A. A sewage treatment system not meeting the requirements of Section 5.8 of this ordinance must be upgraded, at a minimum, at any time a permit or variance of any type is required for any improvement on, or use of, the property. For the purposes of this provision, a sewage treatment system shall not be considered nonconforming if the only deficiency is the sewage treatment system's improper setback from the ordinary high water level.

B. The governing body of \_\_\_\_\_ (community name) has by formal resolution notified the commissioner of its program to identify nonconforming sewage treatment systems. The \_\_\_\_\_ (community name) will require upgrading or replacement of any nonconforming system identified by this program within a reasonable period of time which will not exceed 2-years. Sewage systems installed according to all applicable local shoreland management standards adopted under Minnesota Statutes, section 103F, in effect at the time of installation may be considered as conforming unless they are determined to be failing, except that systems using cesspools, leaching pits, seepage pits, or other deep disposal methods, or systems with less soil treatment area separation above groundwater than required by the Minnesota Pollution Control Agency's Chapter 7080 for design of on-site sewage treatment systems, shall be considered nonconforming.

Section 6.3 is mandatory if a community has on-site sewage treatment systems. Local governments must develop and implement programs to identify and upgrade sewage treatment systems that do not meet proper design criteria. In addition to requiring reconstruction when permits or variances are issued, a local program must implement one of the following approaches to upgrading nonconforming systems:

1. A systematic review of existing records to determine which systems in the jurisdiction are nonconforming and requiring reconstruction when practicable;
2. A systematic on-site inspection program including all properties where adequate record of conformances does not exist, identifying nonconforming or illegal systems and requiring reconstruction when appropriate; or
3. A notification or education program that is oriented toward convincing substantial numbers of property owners to evaluate their sewage systems and voluntarily upgrade the sewage treatment system, if appropriate.

No later than the date of adoption of compliant shoreland regulations, a community must submit a formal resolution to the commissioner indicating which of the above three options the community has selected. The commissioner can accept other programs if they are justified by the local unit of government.

## SECTION 7.0 - SUBDIVISION/PLATTING PROVISIONS

7.11 Land suitability. Each lot created through subdivision, including planned unit developments authorized under Section 8.0 of this ordinance, must be suitable in its natural state for the proposed use with minimal alteration. Suitability analysis by the local unit of government shall consider susceptibility to flooding, existence of wetlands, soil and rock formations with severe limitations for development, severe erosion potential, steep topography, inadequate water supply or sewage treatment capabilities, near-shore aquatic conditions unsuitable for water-based recreation, important fish and wildlife habitat, presence of significant historic sites, or any other feature of the natural land likely to be harmful to the health, safety, or welfare of future residents of the proposed subdivision or of the community.

7.12 Consistency with other controls. Subdivisions must conform to all official controls of this community. A subdivision will not be approved where a later variance from one or more standards in official controls would be needed to use the lots for their intended purpose. In areas not served by publicly owned sewer and water systems, a subdivision will not be approved unless domestic water supply is available and a sewage treatment system consistent with Sections 5.2 and 5.8 can be provided for every lot. Each lot shall meet the minimum lot size and dimensional requirements of Section 5.1, including at least a minimum contiguous lawn area, that is free of limiting factors sufficient for the construction of two standard soil treatment systems. Lots that would require use of holding tanks must not be approved.

7.13 Information requirements. Sufficient information must be submitted by the applicant for the community to make a determination of land suitability. The information shall include at least the following:

- (1) topographic contours at ten-foot intervals or less from United States Geological Survey maps or more accurate sources, showing limiting site characteristics;
- (2) the surface water features required in Minnesota Statutes, section 505.02, subdivision 1, to be shown on plats, obtained from United States Geological Survey quadrangle topographic maps or more accurate sources;
- (3) adequate soils information to determine suitability for building and on-site sewage treatment capabilities for every lot from the most current existing sources or from field investigations such as soil borings, percolation tests, or other methods;

A community must adopt, at a minimum, the subdivision and platting provisions of this Section of the sample ordinance. A community must demonstrate that it has a legally enforceable mechanism to administer these procedures, standards and criteria. A community must submit a copy of its subdivision regulations to the DNR prior to receiving State approval that the community's overall shoreland regulations are in compliance with Minnesota Regulations, Parts 6120.2500 - 6120.3900.



(4) information regarding adequacy of domestic water supply; extent of anticipated vegetation and topographic alterations; near-shore aquatic conditions, including depths, types of bottom sediments, and aquatic vegetation; and proposed methods for controlling stormwater runoff and erosion, both during and after construction activities;

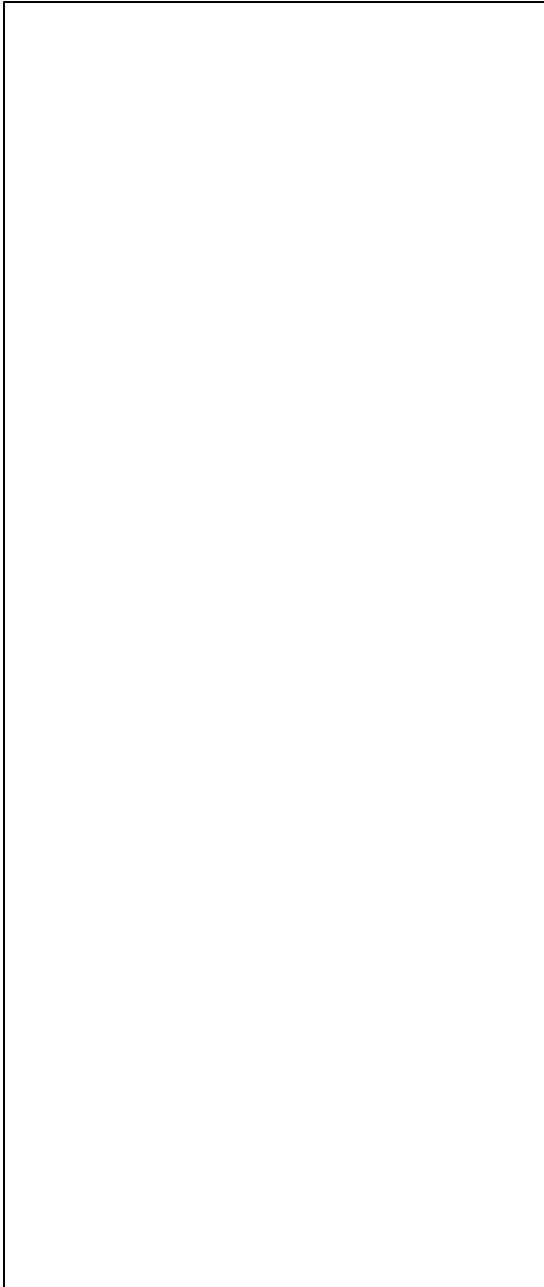
(5) location of 100-year flood plain areas and floodway districts from existing adopted maps or data; and

(6) a line or contour representing the ordinary high water level, the “toe” and the “top” of bluffs, and the minimum building setback distances from the top of the bluff and the lake or stream.

7.14 Dedications. When a land or easement dedication is a condition of subdivision approval, the approval must provide easements over natural drainage or ponding areas for management of stormwater and significant wetlands.

7.15 Platting. All subdivisions that create five or more lots or parcels that are 2-1/2 acres or less in size shall be processed as a plat in accordance with Minnesota Statutes, Chapter 505. No permit for construction of buildings or sewage treatment systems shall be issued for lots created after these official controls were enacted unless the lot was approved as part of a formal subdivision.

7.16 Controlled Access or Recreational Lots. Lots intended as controlled accesses to public waters or for recreational use areas for use by nonriparian lots within a subdivision must meet or exceed the sizing criteria in Section 5.14 of this ordinance.



## 8.0 – PLANNED UNIT DEVELOPMENTS (PUD’s)

### 8.1 Types of PUDs Permissible

Planned unit developments (PUDs) are allowed for new projects on undeveloped land, redevelopment of previously built sites, or conversions of existing buildings and land. The land use districts in which they are an allowable use are identified in the land use district descriptions in Section 4.2 of this ordinance and the official zoning map.

### 8.2 Processing of PUDs

Planned unit developments must be processed as a conditional use, except that an expansion to an existing commercial PUD involving 6 or less new dwelling units or sites since the date this ordinance was adopted is permissible as a permitted use provided the total project density does not exceed the allowable densities calculated in the project density evaluation procedures in Section 8.5. Approval cannot occur until the environmental review process (EAW/EIS) is complete.

### 8.3 Application for a PUD

The applicant for a PUD must submit the following documents prior to final action being taken on the application request:

8.31 A site plan and/or plat for the project showing locations of property boundaries, surface water features, existing and proposed structures and other facilities, land alterations, sewage treatment and water supply systems (where public systems will not be provided), and topographic contours at ten-foot intervals or less. When a PUD is a combined commercial and residential development, the site plan and/or plat must indicate and distinguish which buildings and portions of the project are residential, commercial, or a combination of the two.

8.32 A property owners’ association agreement (for residential PUDs) with mandatory membership, and all in accordance with the requirements of Section 8.6 of this ordinance.

8.33 Deed restrictions, covenants, permanent easements or other instruments that: 1) properly address future vegetative and topographic alterations, construction of additional buildings, beaching of watercraft, and construction of commercial buildings in residential PUDs; and 2)

Many local governments allow development that differs from base zoning and subdivision requirements under Planned Unit Development (PUD) standards. PUD requirements generally allow some flexibility on zoning requirements in exchange for meeting specific community goals for new development. Some PUD ordinances allow most of the community’s zoning standards to be negotiated. Other PUD ordinances allow flexibility on only a select few zoning standards, and then only in exchange for very specific considerations by the developer. PUDs are appropriately limited to larger subdivisions that include elements not considered under the zoning standards.

Most communities will need to substantially modify the model ordinance’s PUD section in order to appropriately protect water quality. The sample shoreland PUD ordinance includes substantial density bonuses for both residential and commercial development, lake access for non-riparian lots, preservation of sensitive areas, and clustering of housing units or commercial facilities in appropriate locations on the development site. The minimum standards in the sample ordinance are designed to address the most complex situations that communities could face, and sets density and conservation standards consistent with a complex shoreland development. Adopting the sample ordinance language without modification will, for most communities, result in inappropriate shoreland development and inadequate protection of water quality.

For those communities that allow PUD’s elsewhere in the community, within the shoreland zone the community’s shoreland

ensure the long-term preservation and maintenance of open space in accordance with the criteria and analysis specified in Section 8.6 of this ordinance.

8.34 When necessary, a master plan/drawing describing the project and the floor plan for all commercial structures to be occupied.

8.35 Those additional documents as requested by the \_\_\_\_\_ (designated official/body) that are necessary to explain how the PUD will be designed and will function.

8.4 Site "Suitable Area" Evaluation

Proposed new or expansions to existing planned unit developments must be evaluated using the following procedures and standards to determine the suitable area for the dwelling unit/dwelling site density evaluation in Section 8.5.

8.41 The project parcel must be divided into tiers by locating one or more lines approximately parallel to a line that identifies the ordinary high water level at the following intervals, proceeding landward:

Shoreland Tier Dimensions

	Unsewered (feet)	Sewered (feet)
General development lakes – first tier	200	200
General development lakes – second and additional tiers	267	200
Recreational development lakes	267	267
Natural environment lakes	400	320
All river classes	300	300

8.42 The suitable area within each tier is next calculated by excluding from the tier area all wetlands, bluffs, or land below the ordinary high water level of public waters. This suitable area and the proposed project are then subjected to either the residential or commercial planned unit development density evaluation steps to arrive at an allowable number of dwelling units or sites.

PUD provisions must be consistent with or more restrictive than the provisions of Section 8.0 in the sample ordinance. Those communities that do not allow PUDs should seriously consider eliminating Section 8 from their shoreland ordinance altogether, or replacing the PUD section a simpler cluster development ordinance.

In order to evaluate the water quality impacts of any development, and a PUD in particular, the community must have sufficient information from the developer. Section 8.3 outlines some of the background information that must be submitted to meet the standards of the sample ordinance. Additional information should at a minimum include the demarcation of every subwatershed in which the development lies, identification of existing land uses in adjacent parcels, the percentage of each lot covered by impervious surface, the percentage of the entire development that will be impervious, and the kind and size of the pre-development and post-development vegetative shoreline buffer. This information should be required not only for PUDs for also for any shoreland development of an unimproved lot.

The Department of Natural Resources has developed a PUD Evaluation Worksheet to aid in the administration of the Section 8.3 provisions, which is available upon request.

The sample ordinance's PUD section includes a series of calculations for breaking the shoreland into 'tiers' and for setting dimensions for these tiers. Communities should evaluate where and under what circumstances these minimum dimensions should be increased. For example, the

## 8.5 Residential and Commercial PUD Density Evaluation

The procedures for determining the “base” density of a PUD and density increase multipliers are as follows. Allowable densities may be transferred from any tier to any other tier further from the waterbody, but must not be transferred to any other tier closer.

### 8.51 Residential PUD “Base” Density Evaluation:

A. The suitable area within each tier is divided by the single residential lot size standard for lakes or, for rivers, the single residential lot width standard times the tier depth, unless the local unit of government has specified an alternative minimum lot size for rivers which shall then be used to yield a base density of dwelling units or sites for each tier. Proposed locations and numbers of dwelling units or sites for the residential planned unit developments are then compared with the tier, density, and suitability analyses herein and the design criteria in Section 8.6

### 8.52 Commercial PUD “Base” Density Evaluation:

A. Determine the average inside living area size of dwelling units or sites within each tier, including both existing and proposed units and sites. Computation of inside living area sizes need not include decks, patios, stoops, steps, garages, or porches and basements, unless they are habitable space.

B. Select the appropriate floor area ratio from the following table:

distinction between sewered and unsewered dimensions is unwarranted from a storm water quality management perspective; communities should rely on the first column of 8.41. Communities should also exclude from the ‘suitable area’ calculation the shore and bluff impact zones as defined in the base overlay districts. These areas cannot be built in, and are critical to protecting water quality.

Section 8.5 addresses the density bonuses allowed under the minimum state standards, first by setting a ‘base density’ and then by allowing a bonus to the base density if specific conditions are met.

The residential base density calculation (8.51) is a good base standard for communities to apply either density bonuses or to use as a basis for a cluster ordinance. Note that the definition of a river tier should be consistent with what the community used for minimum lot sizes in Section 5.13.

The commercial base density calculation, however, is based on floor-to-area ratios, a metric infrequently used by rural or lakes-region local governments and consequently difficult to administer by planning commissions and staff.

The density multipliers allowed under minimum state standards (8.53) are excessive for water quality protection. The density multipliers should be used only for waters with substantial carrying capacity such as lightly developed general development (GD) lakes, water bodies with very small subwatersheds, or situations where stormwater is aggressively managed by the community. Options for the community to consider include

Commercial Planned Unit Development  
 Floor Area Ratios\*  
 Public waters classes

*Average unit floor area (sq. ft.)	Sewered general development lakes; first tier on unsewered general development lakes; urban, agricultural, tributary river segments	Second and additional tiers on unsewered general development lakes; recreational development lakes; environment transition and forested river segments	remote river segments
200	.040	.020	.010
300	.048	.024	.012
400	.056	.028	.014
500	.065	.032	.016
600	.072	.038	.019
700	.082	.042	.021
800	.091	.046	.023
900	.099	.050	.025
1,000	.108	.054	.027
1,100	.116	.058	.029
1,200	.125	.064	.032
1,300	.133	.068	.034
1,400	.142	.072	.036
1,500	.150	.075	.038

\*For average unit floor areas less than shown, use the floor area ratios listed for 200 square feet. For areas greater than shown, use the ratios listed for 1,500 square feet. For recreational camping areas, use the ratios listed at 400 square feet. Manufactured home sites in recreational camping areas shall use a ratio equal to the size of the manufactured home, or if unknown, the ratio listed for 1,000 square feet.

the following:

- Eliminate the density bonus altogether, and use the base density to guide clustering of housing or commercial units, also called a conservation subdivision. An example of conservation subdivision ordinance language can be found in Minnesota Planning's *From Policy to Reality: Model Ordinances for Sustainable Development*. The ordinances can be viewed and downloaded at: [www.mnplan.state.mn.us/Report.html](http://www.mnplan.state.mn.us/Report.html).
- Allow the bonuses only in the non-riparian tiers on water bodies meeting specific carrying capacity thresholds.
- Create a Transfer of Development Rights program allowing density to be transferred from sensitive areas to areas with greater capacity for development. For detailed description of TDR programs and sample TDR ordinance language see Minnesota Planning's *From Policy to Reality: Model Ordinances for Sustainable Development*. The website reference for this document is noted above.

Section 8.53(A) also describes minimal conditions for a density bonus. In order to get a density bonus the developer must increase the setback and consider additional improvements such as vegetative management. Additional requirements should also be in place, including:

- Mandatory shoreline restoration with vegetation consistent with DNR's *Restore Your Shore* guide.
- Limiting total impervious surface on developable (suitable) land to 20%.
- Conservation easements held by a third party for open space and shoreland impact

C. Multiply the suitable area within each tier by the floor area ratio to yield total floor area for each tier allowed to be used for dwelling units or sites.

D. Divide the total floor area by tier computed in Item C. above by the average inside living area size determined in Item A. above. This yields a base number of dwelling units and sites for each tier.

E. Proposed locations and numbers of dwelling units or sites for the commercial planned unit development are then compared with the tier, density and suitability analyses herein and the design criteria in Section 8.6.

8.53 Density Increase Multipliers:

A. Increases to the dwelling unit or dwelling site base densities previously determined are allowable if the dimensional standards in Section 5.0 are met or exceeded and the design criteria in Section 8.6 are satisfied. The allowable density increases in Item B. below will only be allowed if structure setbacks from the ordinary high water level are increased to at least 50 percent greater than the minimum setback, or the impact on the waterbody is reduced an equivalent amount through vegetative management, topography, or additional means acceptable to the local unit of government and the setback is at least 25 percent greater than the minimum setback.

B. Allowable Dwelling Unit or Dwelling Site Density Increases for Residential or Commercial Planned Unit Developments:

Density evaluation tiers	Maximum density increase within each tier (percent)
First	50
Second	100
Third	200
Fourth	200
Fifth	200

zone.

- Stormwater management consistent with a stated design guide such the *Protecting Water Quality in Urban Areas* (March, 2000) published by the MnPCA. The document can be found at [www.pca.state.mn.us/water/pubs/sw-bmpmanual.html](http://www.pca.state.mn.us/water/pubs/sw-bmpmanual.html).

The maximum density bonus allowed under state standards (Section 8.53[B]) are appropriate only in areas where the community want to see urban density development, and where the water body has substantial capacity to absorb non-point source runoff and pollution. The bonuses are thus too large for most lakes and rivers in the state. Communities must consider their local priorities as expressed in comprehensive plan, water plan, natural resource inventory, or other policy documents in setting density bonuses. As a general standard, most communities should not exceed a 100 percent increase, and should only allow density bonuses in the first tier when the shoreline has little danger of erosion and is protected with permanent vegetated buffers under conservation easement.

Communities should consider the following in setting density bonuses for PUDs in shoreland areas;

- Do not allow density bonuses unless the water body's carrying capacity for non-point source nutrients and pollutants is sufficient for all existing and as-of-right shoreland development (requires build-out analysis).
- Based on the community's comprehensive plan and water plan, identify lakes and river segments where

## 8.6 Maintenance and Design Criteria

### 8.61 Maintenance and Administration Requirements.

A. Before final approval of a planned unit development, adequate provisions must be developed for preservation and maintenance in perpetuity of open spaces and for the continued existence and functioning of the development.

B. Open space preservation. Deed restrictions, covenants, permanent easements, public dedication and acceptance, or other equally effective and permanent means must be provided to ensure long-term preservation and maintenance of open space. The instruments must include all of the following protections:

- (1) commercial uses prohibited (for residential PUD's);
- (2) vegetation and topographic alterations other than routine maintenance prohibited;
- (3) construction of additional buildings or storage of vehicles and other materials prohibited; and
- (4) uncontrolled beaching of watercraft prohibited.

C. Development organization and functioning. Unless an equally effective alternative community framework is established, when applicable, all residential planned unit developments must use an owners association with the following features:

- (1) membership must be mandatory for each dwelling unit or site purchaser and any successive purchasers;
- (2) each member must pay a pro rata share of the association's expenses, and unpaid assessments can become liens on units or sites;
- (3) assessments must be adjustable to accommodate changing conditions; and
- (4) the association must be responsible for insurance, taxes, and maintenance of all commonly owned property and facilities.

- higher densities are preferred, and limit density bonuses to those areas (requires mapping designated bonus areas).
- Allow density bonuses only in shoreland areas outside the immediate subwatershed of the affected water body (where the 1,000 foot or 300 foot shoreland boundary is larger than the subwatershed).
  - Require clustering and screening of development needing subdivision approval along sensitive rivers and lakes, with only 10-15% bonus (requires separate cluster provisions outside the PUD section).

The state minimum PUD standards also include a number of design and maintenance requirements outlined in Section 8.6 of the sample ordinance. Subsection B. requires permanent protection of open space. Deed restrictions and covenants are generally the least acceptable means of protection, as neither are genuinely permanent, and have a poor record for enforcement. Since the sample ordinance was written communities now have more alternatives for using easements, including donations to lake associations, non-profit organizations or land trusts, or public entities.

Management of buffers and open space is critical to meeting water quality goals. Section C. sets basic criteria for ensuring that a management structure and funding is available. Communities should enhance part (4), describing the management entity's responsibility, to include ensuring management of community water and wastewater systems, protection of vegetated (tree, shrub, grasses) buffers, protection of

8.62 Open Space Requirements. Planned unit developments must contain open space meeting all of the following criteria:

- (1) at least 50 percent of the total project area must be preserved as open space;
- (2) dwelling units or sites, road rights-of-way, or land covered by road surfaces, parking areas, or structures, except water-oriented accessory structures or facilities, are developed areas and shall not be included in the computation of minimum open space;
- (3) open space must include areas with physical characteristics unsuitable for development in their natural state, and areas containing significant historic sites or unplatted cemeteries;
- (4) open space may include outdoor recreational facilities for use by owners of dwelling units or sites, by guests staying in commercial dwelling units or sites, and by the general public;
- (5) open space may include subsurface sewage treatment systems if the use of the space is restricted to avoid adverse impacts on the systems;
- (6) open space must not include commercial facilities or uses, but may contain water-oriented accessory structures or facilities;
- (7) the appearance of open space areas, including topography, vegetation, and allowable uses, must be preserved by use of restrictive deed covenants, permanent easements, public dedication and acceptance, or other equally effective and permanent means; and
- (8) the shore impact zone, based on normal structure setbacks, must be included as open space. For residential PUD's, at least 50 percent of the shore impact zone area of existing developments or at least 70 percent of the shore impact zone area of new developments must be preserved in its natural or existing state. For commercial PUD's, at least 50 percent of the shore impact zone must be preserved in its natural state.

8.63 Erosion Control and Stormwater Management. Erosion control and stormwater management plans must be developed and the PUD must:

shore and bluff impact zones, and investment and maintenance in all green infrastructure.

One of the primary considerations for allowing a PUD is ensuring appropriate open space in the development. The state minimum standards are designed to ensure that areas needing protection (such as the shore impact zone) are included in the protected open space areas. Communities should consider, however, additional open space and green infrastructure needs that protect water quality, particularly in heavily developed and degraded watersheds. Additional considerations include excluding septic fields (part (5)) and water-oriented accessory (part (6)) structures from the open space calculation, requiring 100% of the shore impact zone to be maintained in natural or restored state (part (8)), and requiring open space within the site to be contiguous or connected by linear greenways.

National Pollution Discharge Elimination Standards (NPDES) Phase II standards require that all developments disturbing at least an acre of land must obtain an NPDES permit. This permit requires a number of erosion control standards be met, and that a stormwater management plan be created prior to construction. All PUDs should obtain an NPDES permit.



(1) be designed, and the construction managed, to minimize the likelihood of serious erosion occurring either during or after construction. This must be accomplished by limiting the amount and length of time of bare ground exposure. Temporary ground covers, sediment entrapment facilities, vegetated buffer strips, or other appropriate techniques must be used to minimize erosion impacts on surface water features. Erosion control plans approved by a soil and water conservation district may be required if project size and site physical characteristics warrant; and

(2) be designed and constructed to effectively manage reasonably expected quantities and qualities of stormwater runoff. Impervious surface coverage within any tier must not exceed 25 percent of the tier area, except that for commercial PUD's 35 percent impervious surface coverage may be allowed in the first tier of general development lakes with an approved stormwater management plan and consistency with Section 5.3.

8.64 Centralization and Design of Facilities. Centralization and design of facilities and structures must be done according to the following standards:

(1) planned unit developments must be connected to publicly owned water supply and sewer systems, if available. On-site water supply and sewage treatment systems must be centralized and designed and installed to meet or exceed applicable standards or rules of the Minnesota Department of Health and Sections 5.2 and 5.8 of this ordinance. On-site sewage treatment systems must be located on the most suitable areas of the development, and sufficient lawn area free of limiting factors must be provided for a replacement soil treatment system for each sewage system;

(2) dwelling units or sites must be clustered into one or more groups and located on suitable areas of the development. They must be designed and located to meet or exceed the following dimensional standards for the relevant shoreland classification: setback from the ordinary high water level, elevation above the surface water features, and maximum height. Setbacks from the ordinary high water level must be increased in accordance with Section 8.53 of this ordinance for developments with density increases;

(3) shore recreation facilities, including but not limited to swimming areas, docks, and watercraft mooring areas and launching ramps, must be centralized and located in areas suitable for them. Evaluation of suitability must include consideration of land slope, water depth, vegetation, soils, depth to groundwater and bedrock, or other relevant factors. The number of spaces provided for continuous beaching, mooring, or docking of

watercraft must not exceed one for each allowable dwelling unit or site in the first tier (notwithstanding existing mooring sites in an existing commercially used harbor). Launching ramp facilities, including a small dock for loading and unloading equipment, may be provided for use by occupants of dwelling units or sites located in other tiers;

(4) structures, parking areas, and other facilities must be treated to reduce visibility as viewed from public waters and adjacent shorelands by vegetation, topography, increased setbacks, color, or other means acceptable to the local unit of government, assuming summer, leaf-on conditions. Vegetative and topographic screening must be preserved, if existing, or may be required to be provided;

(5) accessory structures and facilities, except water oriented accessory structures, must meet the required principal structure setback and must be centralized; and

(6) water-oriented accessory structures and facilities may be allowed if they meet or exceed design standards contained in Section 5.2 of this ordinance and are centralized.

## 8.7 Conversions

Local governments may allow existing resorts or other land uses and facilities to be converted to residential planned unit developments if all of the following standards are met:

8.71 Proposed conversions must be initially evaluated using the same procedures for residential planned unit developments involving all new construction. Inconsistencies between existing features of the development and these standards must be identified.

8.72 Deficiencies involving water supply and sewage treatment, structure color, impervious coverage, open space, and shore recreation facilities must be corrected as part of the conversion or as specified in the conditional use permit.

8.73 Shore and bluff impact zone deficiencies must be evaluated and reasonable improvements made as part of the conversion. These improvements must include, where applicable, the following:

(1) removal of extraneous buildings, docks, or other facilities that no longer need to be located in shore or bluff impact zones;

(2) remedial measures to correct erosion sites and improve vegetative cover and screening of buildings and other facilities as viewed from the water; and

(3) if existing dwelling units are located in shore or bluff impact zones, conditions are attached to approvals of conversions that preclude exterior expansions in any dimension or substantial alterations. The conditions must also provide for future relocation of dwelling units, where feasible, to other locations, meeting all setback and elevation requirements when they are rebuilt or replaced.

8.74 Existing dwelling unit or dwelling site densities that exceed standards in Section 8.5 may be allowed to continue but must not be allowed to be increased, either at the time of conversion or in the future. Efforts must be made during the conversion to limit impacts of high densities by requiring seasonal use, improving vegetative screening, centralizing shore recreation facilities, installing new sewage treatment systems, or other means.

## APPENDIX A

### CONSIDERATIONS FOR TOWNSHIP ZONING

Townships may adopt shoreland management controls under authority of Minnesota Statutes, section 394.33, subdivision 1, if the controls are not inconsistent with or less restrictive than the controls adopted by the county in which the township is located. This must be accomplished in accordance with the following conditions:

- For the purposes of Minnesota Regulations, Parts 6120.2500 to 6120.3900, shoreland management controls adopted by townships will only be considered to be consistent with county controls if they cover the same full range of shoreland management provisions covered by the county controls, contain dimensional standards at least as restrictive as those in the county controls, and do not allow land uses in particular areas that are not allowed under the county's official controls.
- The township must demonstrate to the county board that their proposed ordinance and administration is at least as restrictive as the county's prior to final adoption by the township. This will include, at a minimum, that the township has the staff necessary to administer the ordinance, has sufficient building permit application and certification forms and procedures, and an enforcement mechanism to enforce the ordinance should violations occur.
- Townships must provide for administration and enforcement of shoreland management controls at least as effective as county implementation. Townships that adopt shoreland controls must provide the notifications in Section 3.4 of the sample ordinance to the Commissioner or the Commissioner's designee and to the zoning official of the county.
- After adequate shoreland management controls are adopted by a township, property owners must only obtain necessary permits and approvals as required in the township shoreland management controls. Property owners do not have to obtain similar permits or approvals under the county's shoreland controls.

The Commissioner of the Department of Natural Resources must also approve a township's shoreland ordinance. The DNR and the respective county should work together to make a joint determination as to whether the township's ordinance is in compliance with state and county standards.