MINNESOTA SHORELAND MANAGEMENT PROGRAM

STATEMENT OF NEED AND REASONABLENESS

FOR THE PROPOSED REVISIONS TO

MINNESOTA RULES PARTS 6120.2500 - 6120.3900

MINNESOTA DEPARTMENT OF NATURAL RESOURCES
DIVISION OF WATERS

AUGUST 1988

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INTRODUCTION

The Commissioner of Natural Resources is required by statute (Minn. Stat., Sect. 105.485) to promulgate standards for the subdivision, use, and development of shorelands in both unincorporated areas of counties and within cities. Standards for counties were adopted in 1970 and, because the statute was amended to include cities in 1973, standards for cities were adopted in 1976. Although these two sets of standards are currently located in the same chapter (6120) of Minnesota Rules, they are still two separate sets of standards and contain many duplications (i.e. definitions, lot sizes). Additionally, in recent years, many townships have opted to adopt and administer their own shoreland controls independent of the counties in which they are located. Since townships are not currently mentioned in either the county or city shoreland standards, and they sometimes adopt controls pursuant to the same enabling statute (Minn. Stat. Chapt. 462) that cities use, confusion has arisen about which set of state standards townships should use in their shoreland management efforts. For these reasons, one of the basic intents of these proposed regulation revisions is to consolidate the existing two sets of state standards into one set which could be used by any local government in the state.

Since the standards for cities, as mentioned above, were adopted six years after the standards for counties, they contain improvements (i.e. additional definitions and standards for areas served by public sewer) as a result of experience gained over that period in the administration of the county standards. After consultation with staff of the Revisor of Statutes Office, it was decided that the most appropriate procedure for consolidating and revising the two sets of state standards would be to completely rescind the existing standards for counties and use the city standards as the basis for revisions that would end up in a format that could be used by all local governments. This is the reason that throughout the proposed revisions the term "municipality" is proposed to be replaced by the term "local government."

After adoption of the county standards in 1970, the DNR notified counties throughout the state of the requirement in the Shoreland Act for them to adopt county ordinances meeting or exceeding the state standards by July 1, 1972.

DNR staff then began working with individual counties to finalize lake classifications and develop county ordinances. As this process was completed, individual counties then adopted the ordinances and began to administer them. Most of the counties adopted adequate ordinances by the deadline, and those that did not adopted resolutions which indicated their intent to adopt by a particular date. These counties all completed the adoption process in 1973.

In retrospect, adoption of shoreland controls by the counties in the early 1970's was timely, because the pace of shoreland development increased substantially and reached a peak in 1978. Existing shoreland development in Minnesota was first inventoried in 1967-69 in a project at the University of Minnesota called the Minnesota Lakeshore Development Study (LDS). This study, funded by the Legislature through the Minnesota Resources Commission, inventoried seasonal and permanent (year-round) homes existing on lakes larger than 150 acres. The study also inventoried the level of development as of 1954 and determined that there already had been an increase over that period of nearly 90 percent. As of 1967, approximately 63,000 homes already existed.

County officials and DNR staff were well aware of considerable additional development going into shoreland areas through the 1970's. This, coupled with the appearance of new types of development (townhouses, condominiums, and others) and recognition of some problems with existing state shoreland standards, led DNR staff to request funding from the Legislative Commission on Minnesota Resources to update the data regarding levels of development and to do a thorough program evaluation. The request was approved, and a project called the Shoreland Update Project (SUP) was conducted by the DNR in 1982-83.

The SUP originally envisioned a series of nine reports as final products, but due to funding cut-backs during the project, three of the reports were not completed. Since this project provides considerable information and rationale for many of the changes being proposed in these regulation revisions, the reports that were completed are listed below by number and title. They will subsequently be referred to here by using the SUP acronym followed by the report number.

1. SHORELAND MANAGEMENT EFFECTIVENESS: A QUESTIONNAIRE SURVEY OF SHORELAND MANAGERS

2. EVALUATION OF SHORELAND MANAGEMENT BASED ON SAMPLE COUNTIES AND TOWNSHIPS

3. LOCAL OFFICIAL RECOMMENDATIONS FOR SHORELAND PROGRAM IMPROVEMENTS

4. SHORELAND DEVELOPMENT TRENDS

5. A RIVER CLASSIFICATION SYSTEM

8. SHORELAND RESIDENTS - A QUESTIONNAIRE SURVEY

In addition to the evaluations conducted during the SUP, DNR staff have also used several other approaches for identifying needed revisions to the program. In 1985, a preliminary draft of regulation revisions was developed and circulated to DNR, Division of Waters field staff, to all county planning and zoning officials in the state, and to staff personnel of six other state agencies identified in the Shoreland Act as having responsibilities to provide assistance to DNR in developing the state regulations. These agencies included the Pollution Control Agency, Dept. of Health, State Planning Agency, Dept. of Energy and Economic Development, Historical Society, and the Dept. of Agriculture (Board of Soil and Water Resources). Division of Waters staff then held a series of meetings around the state with the county officials to discuss the draft and also met several times with the state agency personnel. Various discussions were also held with representatives of various divisions and bureaus within the DNR.

Next, a Public Review Draft was prepared based on the above discussions and released in August of 1986 for broad review and comment by the Public and others. Division of Waters staff then scheduled, publicized, and conducted a series of 23 public meetings at 12 sites around the state to receive comments, identify interest groups, and develop a mailing list for later distribution of drafts and hearing notices. Several interest groups subsequently requested DNR staff to attend additional meetings of their organizations to answer questions and receive comments. Some of these groups were quite concerned about various parts of the proposed revisions and also felt there had not yet been sufficient opportunities for their input. Several organizations and local governments requested DNR not to proceed to public hearings and, instead, to organize a committee of interest groups to review the proposals.

DNR staff decided to respond to this request by creating a committee of interest groups to review the most recent draft of the proposed regulation revisions (April, '87). Rather than establish just an "Advisory" committee to "recommend" further revisions to the DNR, a decision was made to try a relatively new approach of having the committee operate on a "concensus" basis as much as possible. This means that particular issues would be discussed until a position was reached which no individual committee member would vote to oppose even though they might not completely favor it. In such a committee format each member, including the DNR representative, would essentially have equal standing. The DNR also decided it would make a commitment to the committee at the beginning of the process that it would take the outcome of the committee's efforts to official public hearings without further significant revisions. Two staff persons from the DNR's Bureau of Planning with experience in this type of process were enlisted to act as "facilitators" to organize the process and attempt to keep discussion moving along toward the goal of reaching concensus. The committee process was begun by DNR staff contacting all the organizations and interest groups with state-wide, or at least regional, constituencies identified in the public review periods to request their involvement in the process. They were also asked to designate a representative and one or more alternates to participate in the process. The following organizations agreed to participate:

Minnesota Association of Planning and Zoning Administrators
Minnesota Resort Association
Minnesota Planning Association
Minnesota Land Surveyors Association
Minnesota Association of County Land Commissioners
Minnesota Farm Bureau Federation
Minnesota Association of Realtors
Mississippi Headwaters Board
Minnesota Association of Soil & Water Conservation Districts
League of Municipalities
Minnesota Lake Management Federation
Coalition of Lake Associations
Association of Minnesota Counties
Audubon Society
Congress of Minnesota Resorts
Minnesota Environmental Quality Board
Taylor Investment Corporation
Minnesota Sportfishing Congress
Minnesota Association of Townships
Izaak Walton League
Minnesota Office of Tourism
Minnesota Pollution Control Agency

The Committee began its work in July, '87 and met every other week for an entire day in St. Cloud. A total of twelve meetings were held, finishing in December. A draft with all the Committee's revisions was prepared and the groups took this back to their organizations for review in preparation for a final two-day meeting which was held in Feb., '88. Extensive additional revisions were made at this meeting. These were then incorporated into another draft, which was then submitted to the Revisor of Statutes Office for preparation of an official hearing draft.

NEED AND REASONABLENESS OF PROPOSED REVISIONS

The format of this section will follow the existing current format of the shoreland regulations for municipalities (Minnesota Rules, parts 6120.2500 to 6120.3900), except that the first part, 6120.2500 DEFINITIONS, will be skipped and the definitions of relevant new definitions will be addressed as they appear in subsequent parts.

6120.2600 POLICY

All of the proposed changes in this part are minor. A phrase referencing the 1973 session laws in which the amendment to the original Shoreland Act to include municipalities appears is proposed to be deleted, since the Revisor of Statutes Office has indicated that such references are no longer needed in state rules. A couple of statute chapters, (Minn. Stat. Chaps. 394 and 396, are proposed to be added to a statement which references statutory policies because they appeared in the county regulations, which are being entirely rescinded as part of the consolidation of the two existing sets of rules into one. A phrase indicating use of the term "commissioner" in the rules means the commissioner of natural resources is proposed to be deleted here and handled instead by adding a definition of commissioner (6120.2500, Subp. 3a.). The remaining proposed revisions to this part are either deletions of the term "municipality" for the reasons explained above, or are minor wording revisions made by the Revisor's Office.

6120.2700 MINIMUM STANDARDS AND CRITERIA

This entire part is proposed to be deleted because most of it is just a summary listing of the major topics covered in

the existing rule. Since the provision does not actually regulate anything, its deletion will not materially change the rule. The several statements at the end of this part which should be retained are proposed to be moved to the next part, 6120.2800, Subpart 1.

6120.2800 SCOPE

Subp. 1. Responsibilities and authorities.

The proposed revisions to this subpart consist of a couple deletions of references to municipalities and the addition of several statements which are being moved here from Part 6120.2700, as explained above.

Subp. 2. Adoption schedule.

This is a proposed new section intended to provide coordination in the adoption process between the DNR, counties, and selected cities within the counties which have significant shoreland resources and development. A number of county officials and citizens have, over the years, expressed concerns about the slow pace of adoption of shoreland controls by municipalities. There have also been concerns expressed about particular developments which have gone in within municipalities without shoreland controls. Property owners in unincorporated areas on large lakes have expressed equity concerns regarding the lack of similar shoreland controls for properties on the same lakes but within municipalities. This proposed provision should result in these problems gradually being corrected as counties throughout the state upgrade their shoreland management controls.

Subp. 3. Implementation flexibility

The existing municipal rules, in 6120.3300, subp.6, and also the county rules, in 6120.1400, subp.5,contain provisions which allow the DNR to accept with adequate justification local shoreland controls which do not strictly comply with every standard in the state rules. These provisions were included in the existing rules to give the DNR and local governments some flexibility to develop local shoreland controls to reasonably manage the wide range of resource characteristics and community conditions found across the state within the framework of established statewide standards. To date the DNR has utilized this flexibility in a few instances with regard to counties and in numerous instances with municipalities, particularly within the Twin Cities Metro area.

Evaluations conducted during the Shoreland Update Project also identified a need for flexibility in the state rules. Specifically, in SUP 3, p.3, under Issue #3: Lot Size and Setback Standards, is the following recommendation by local government officials:

3. DNR Municipal Shoreland Regulations should be expanded to clarify areas of flexibility in adopting municipal ordinances.

Also, in the same report on p.11, under a Conclusion section is a discussion of the growing trend in local government land use controls toward use of performance standards and more "flexible" approaches of management.

The proposed language under Subp.3 consists first of a statement very similar to the existing flexibility provision in the Municipal Rules which is being repealed from its current location at 6120.3300, Subp.6 and moved here, followed by a listing under A. of common situations where flexibility has been utilized already by DNR and, under B., a listing of common concepts and approaches which have been used in these situations. Finally, under C., is a proposed statement requiring that local governments request consideration by DNR of a flexible approach and a listing of information they may be required to submit to demonstrate the need and justification for a flexible approach.
The proposed language in this entire subpart was reviewed and discussed by the Shoreland Committee and accepted as proposed.

6120.2900 SEVERABILITY

The Revisor's Office has indicated that this sort of statement is no longer needed in individual state rules, so it is proposed to be repealed.

6120.3000 SHORELAND MANAGEMENT CLASSIFICATION SYSTEM

Subp. 1. Criteria.

Several proposed deletions involve just removal of a municipal reference and an unnecessary phrase. The rest of the deletions in A. through D. are proposed because the existing language amounts to more of a description of the existing lake classes than a listing of criteria. The proposed new language for A. through D. and for the new E.through G. are a listing of criteria actually used in the program to classify lakes and to develop the proposed classifications of rivers. Most of these criteria are not

new, with the exception of "road and service center accessibility," which was identified in the SUP (4) as an important determinant of where development pressure will go, and "presence of significant historic sites," which was requested to be included here by the State Archaeologist.

Subp. 1a. Classes.

As mentioned above, the existing descriptions of the shoreland classes is proposed to be deleted from their location in Subp. 1. This subpart is proposed as the location in the rules for an expanded description of the existing lake classes as well as descriptions of six new proposed classes for rivers. The Shoreland Committee expressed a desire for improved descriptions of the shoreland classes in the rules to inform local officials and others not familiar with the program of the nature and objectives of each class.

The proposed descriptions of the lake classes (Items A-C) are essentially just summaries of the lake class descriptions contained in a report which explains how lakes were originally classified when the Shoreland Program was initiated, Supplementary Report No.1 - Shoreland Management Classification System for Public Waters (1976).

In Items D through H, the need for improved river management in the Shoreland Management Program was identified in SUP 1 (pg. 21) and 3 (pg. 7). Consequently, DNR staff developed a new river land use management strategy and classification system to fulfill this need. The river class descriptions are needed to provide the rule user with a general idea of the resource condition being classified and managed by these rules. The descriptions are based on the information contained in SUP No. 5: A River Classification System, which discusses the methodology and data sources used to derive the proposed classification. The class descriptions apply to the rivers and streams identified in the DNR Outstanding Rivers Inventory, which applies to 157 statewide rivers and over 1200 individual river segments.

For the reader's information, the percentages and approximate total mileage of each proposed river class as they were assigned to 1278 individual river segments averaging 5 miles each on the outstanding rivers are as follows:

		Approx. Total Miles
Remote	16.4%	1800
Forested	21.8%	2400
Transition	13.3%	1460
Agriculture	46.3%	5080
Urban	2.2%	240
Totals	100%	10,980 miles

A state map of segment classes and locations is found in SUP #5 and a large detailed state map will be available for inspection at the public hearings.

In Item I, the description for the "Tributary" class is needed to provide for management of the remainder of watercourses not identified as outstanding rivers in the above referenced inventory. These watercourses are still subject to the Shoreland Management Act and are mapped in the DNR Protected Waters Inventory.

Subp. 2. Supporting data.

This subpart is proposed to be revised to include additional publications, data, and maps developed by the DNR in recent years and used in preparing some of the proposed new parts of these rule revisions, such as the river classes. The Protected Waters Inventory is the current official inventory of public waters for the state, and should, therefore, be incorporated now into the Shoreland Management Program to revise local government ordinances to include all appropriate public waters as required by the Shoreland Act. A couple of minor deletions are proposed for editing purposes and to reflect a change in the name of the Division of Waters.

Subp. 3. Classification procedures.

All of the proposed deletions and additions of language to this subpart consist of either changes to have the rules apply to any local government rather than just municipalities, or minor editorial changes made by the Revisor's Office.

Subp. 4. Reclassification.

The only proposed revision to this subpart is a change to reflect the intent of having the rule apply to any local government, rather than just municipalities.

Subp.5. Modification and expansion of system.

The two proposed changes in this subpart are minor editorial changes made by the Revisor's Office.

6120.3100 LAND USE DISTRICTS.

The several proposed revisions to the introductory paragraph of this part are minor editorial changes required by the Revisor's Office.

Item A has a proposed new phrase regarding significant historic sites at the request of the State Archaeologist's Office. Items B and C are essentially unchanged. Item D. contains several minor proposed changes intended to make it similar to Items A. through C. Item E. is proposed to be added to acknowledge and support efforts in recent years by many counties to preserve valuable agricultural lands. Item F. is proposed to be added to ensure long range planning by local governments for adequate provision of public access sites to public waters. This item was supported by the Shoreland Committee and by staff of DNR's Public Access Program.

6120.3200 CRITERIA FOR LAND USE ZONING DISTRICT DESIGNATION.

Subp. 1. Criteria.

This subpart has a couple of proposed revisions to make these rules apply to all local governments rather than just municipalities. Items A. through E. and I. through K. are otherwise unchanged. Items F., G., and H. are proposed new criteria identified during the SUP as important issues to consider when designating land use districts. Finally, the last sentence in this subpart is proposed to be added because of a need identified by the Shoreland Committee for better coordination between local governments and the DNR regarding the provision of adequate public access to public waters.

Subp. 2. Designation of zoning districts.

The Shoreland Act requires the state shoreland rules to address the designation of allowable land uses within shoreland areas. Existing rules contain a requirement for local governments to designate land use districts compatible with the shoreland classes of public waters. However, during the development of county shoreland ordinances in the early '70's, this issue was not given much emphasis and a variety of simplistic approaches were accepted. As a part of this comprehensive upgrading of the state rules, therefore, improvements in the designation of land use zoning districts is being proposed.

This subpart is being proposed as a new section of the rules, as well as subparts 3., 4., and 5. Since proper designation of zoning districts is a complicated, lengthy, and expensive process, and was determined in the SUP not to be a high priority issue needing immediate attention, the rule enables local governments to address the issue gradually. Although almost a third of shoreland residents contacted in a questionnaire survey (SUP 8, p.30 - 39) felt agricultural activities and public accesses have caused problems on their lake or river, other categories of land uses were not regarded as very problematic. Generally, residents seem more concerned about the design or location of land uses and the behavior of users than they are about whether or not particular land uses are allowed or not within shorelands.

The particular approach proposed here would allow local governments to continue to use their existing zoning district designations until an amendment of districts is proposed. At that time they would have to upgrade the district designations around an entire lake or for a reasonable distance up and down stream on a river to be substantially compatible with requirements in state rules. This approach was discussed and accepted by the Shoreland Committee. Finally, this subpart contains a provision authorizing each local government to resolve interpretation questions which arise about where specific uses fit into the state rule format through procedures presented in their official controls and state statutes. Generally, this would mean the local government's Board of Adjustment would consider and decide the issue.

Subp. 3. Land use district descriptions.

Items A through E of this subpart are needed to clearly describe the intent and purpose of each of the named land use districts in subsequent parts. These descriptions will

assist local units of government in developing and designating zoning districts to comply with the framework of Subparts 4 and 5, as required by the provisions of Subpart 2, above. The names of each district are reasonably reflective of the uses allowed within them. The approach of naming districts and specifying compatible types of uses that can occur within them is widely recognized, accepted and practical by land use planning and zoning professionals.

Subp. 4. Shoreland classifications and uses; lakes.

The existing rules do not require designation of land use districts, although the existing model ordinance for counties does establish several use districts which a number of counties have adopted. The statute however does provide for and in fact requires that land use districts be part of the rules. As in any development setting compatibility of uses is important to maintain the integrity of the area. In fact in the 70's the state of Minnesota required all counties to develop comprehensive land use plans to guide the compatibility of development in the community. Since then some governments have continued to update the plans as times and needs have changed. The Update evaluation did identify certain uses as being inappropriate on shorelands. SUP # 8, page 35 and page 39 indicates that some uses pose a nuisance and contrast to the environment. Some uses identified as inappropriate included commercial development, bars and restaurants, resorts and public access. It was quite evident form further evaluation of the responses that in many cases the use itself may not have been the problem but the location or proximity to other uses that causes the conflict or incompatibility. Further it was evident that some individuals believed that some uses were just in conflict with or inappropriate for the type of lake it was located on.

The proposed rules reflected in Items A through E set forth a general land use matrix which will guide the local government in establishing sound land use districts which will maintain and enhance the quality of development, provide for separation of uses which conflict, while allowing for uses that have a legitimate purpose on the lake. The list was not intended to site every use conceivable, but to identify general categories under which most uses would fit. Proposed uses that do not fit into one area or where there is debate over the use, the board of adjustment would normally be the directed organization to make a formal determination on the question.

Subp. 5. Shoreland classifications and uses; rivers.

The classifications and management objectives of river segments are discussed in this document in parts 6120.3000 Subp. 1a (pg. 8) and in 6120.3300 Subp. 2b (pg. 23). The discussion here will focus on the need for specifying the proposed land use districts and uses for the river classes.

The primary need for this subpart is to provide a basic and consistent framework for local units of government to follow in drafting and implementing comprehensive land use plans and/or zoning ordinances for the future use of river shorelands. Minn. Stat. Sect. 105.485 Subd. 3 (d) requires that the shoreland standards include designation of types of land uses. This subpart meets that requirement by specifying those uses that are generally either compatible (and therefore permitted or conditionally permitted) or incompatible (and therefore prohibitted) in each of the land use district types throughout each river class.

Additionally, local units of government recommendations in SUP #3 and landowners responses in SUP #8, identified a need for developing land use districts and relevant allowable or prohibitted uses.

It is also necessary to consider the issue of compatibility versus incompatibility not only from how a particular use fits the river shoreland environment, but also how one use relates to another in the same district. Therefore, it is a reasonable objective to group together those uses that are mutually compatible in a given land use district, and exclude those uses that are not compatible with those uses best suited to the specified district. The matrix of uses allowed in a river class and a specific district reasonably meets this grouping objective, and reflects accepted modern approaches and concepts of land use zoning.

For example, the designation of a Special Protection district and allowance of the permitted and conditionally permitted uses as seen in Item A, could achieve the goals of management or protection of special or sensitive natural resource areas. Shoreland managers recommended this concept in SUP #3, Issue 12. Therefore it is reasonable to exclude commercial, industrial or high density residential uses from this district, since these uses would generally be incompatible with protecting and managing sensitive areas and their unique natural resources.

In Item B, a Residential District would allow local units to establish river shoreland with the primary focus on single unit residential development, with the other listed uses being compatible via conditional use permit review.

Item C provides for establishment of high density use areas, where single through quad unit developments are permitted, and higher density with associated potential surface water oriented commercial uses that are conditionally permitted. Again, this is a reasonable arrangement which will aid in the wise use and planning of shorelands.

Item D enables the delineation of a specific water oriented commercial district. The highlight here isn't so much as what the district allows but what it doesn't allow, in that residential uses are necessarily absent from the uses allowed, since such uses are generally recognized as incompatible with commercially and publicly developed areas. Therefore, the uses listed are reasonably allowable and compatible in such a district.

Finally, in Item E, a General Use District allows for zoning of industrial and commercial uses, in addition to other uses seen in other districts, along river shoreland segments. Note that for Remote, Transition and Agricultural Segments, Industrial uses are prohibitted in General Use Districts. This is needed and reasonable because industrial uses do not fit the management objective of these classes, and would be incompatible uses of river shoreland in these cases.

6120.3300 ZONING PROVISIONS

Subpart 1. Purpose.

This subpart contains minor proposed revisions intended to clarify the existing provisions. These include referencing both land and water surface crowding, mentioning both ground and surface waters in conjunction with preventing pollution, replacing the term "sanitary facilities" with the more common and current term "sewage treatment systems," and several other editorial types of revisions explained previously. The last change is a proposed addition of a phrase mentioning maintenance of historic values of significant historic sites at the request of the State Archaeologist.

Subp. 2. Residential lot size.

Most of the existing language in the introductory portion of this subpart is proposed to be deleted. All of the existing language in items A., B., and C. is also proposed to be deleted. This is due to a decision by the Shoreland Committee that the state rules should include lot area and

width standards for developments consisting of duplexes, triplexes, and quads. The Committee decided the best way to present these standards, especially in view of the need to present such standards for six proposed new river classes in addition to the existing three lake classes, would be in tables. Since the existing standards for lots intended for single family homes are presented in the rules in a text format, it was decided by the Committee that these should be included in the tables also. Therefore, the standards previously presented in items A., B., and C. are proposed to be relocated in subparts 2a and 2b, as explained below.

The proposed new language for item A addresses several issues which DNR staff and local government officials have encountered over the years in the administration of shoreland controls. The first two statements are needed to ensure that only the intended number of dwelling units are constructed on lots meeting the dimensional standards presented in subparts 2a and 2b. One of the primary reasons for specifying lot sizes is to control the long term total density of dwelling units and people in each shoreland area. This is needed to prevent overcrowding of development on the land which can lead to declines in property values, degradation of groundwater by sewage systems, excessive removal of vegetation, and accelerated soil erosion. It can also cause overcrowding on the public water by recreational users, which in turn can lead to declines in the quality of recreational experiences and degradation of surface water quality. This issue was identified as a problem in SUP 2, p.52.

The next statement in this item is needed to ensure that those proposing new subdivisions cannot count the beds of public waters in designing lots to meet the size requirements presented in subparts 2a. and 2b. Those administering shoreland controls have seen numerous attempts at this approach already. It is reasonable to prohibit this practice because land lying below the ordinary high water level of public waters is generally not useable by purchasers of lots for installation of normal residential facilities such as structures and sewage systems because it is usually covered by surface water and various government agencies such as the DNR and the Army Corps of Engineers have regulatory authorities to prevent such uses. Another reason is that to allow use of these lands would contribute to increased dwelling densities over the long run with the associated impacts explained above.

The final statement in this item is needed to ensure that the smaller lot sizes presented in subparts 2a. and 2b. are

only allowed to be used where publicly owned sewer system service is indeed available to lots when they are developed and used. This requirement is reasonable because if such service is not available to these smaller lots, there is little possibility of installing adequate onsite systems on such lots which will meet all design requirements and not cause pollution of wells and ground and surface waters. The requirement that the systems be publicly owned is reasonable to ensure that the systems will be adequately maintained over the long run.

The proposed new language in item B contains several provisions which were developed in the Shoreland Committee process during the extensive discussions concerning development of the standards for duplexes, triplexes, and quads. The DNR representative expressed concerns about the long-term impacts on Natural Environment lakes of the standards being advocated by other Committee members if the entire shoreland area were allowed to be developed over time at those standards. This is a reasonable concern because there are a large number of Natural Environment lakes and many of them currently have little or no development. To illustrate this point, of the 9667 lakes currently under the jurisdiction of county shoreland ordinances, 7271 are classified Natural Environment (Supplementary Report No.1 - Shoreland Management Classification System for Public Waters). Of a total of approximately 107,000 dwelling units on these lakes as of '82, only about 5000 were on Natural Environment lakes. So, although the Natural Environment class includes about 75 percent of the number of lakes under the jurisdiction of county shoreland controls, only about 5 percent of existing development is located on these lakes.

All of the proposed new provisions under item C deal with "guest cottages." This issue was proposed in the Shoreland Committee process after the Committee had reached decisions regarding the standards presented in subparts 2a and 2b. A proposal to allow guest cottages on duplex size lots was presented to the Committee and a subcommittee was designated to develop standards and a definition of "guest cottage." The intent of the proposed definition and standards is to allow a second, small dwelling unit on a duplex size lot in addition to a single family home. Since most lots with single family homes do not meet the duplex size requirements, this should not significantly increase the long-term total density of dwellings in individual shoreland areas. Members of the Shoreland Committee familiar with the real estate market expressed their opinion that there are a substantial number of existing examples of this and that

there is growing demand for this sort of development. Apparently some property owners have a need to expand the structural living space on their properties to accommodate relatives, guests, and cannot or desire not to accomplish this by adding an addition onto their existing residence. They often have a large enough parcel to justify another residence, but for cost reasons or due to the location of the existing residence on the parcel, do not care to subdivide off a separate lot for construction of another residence. This proposed approach would provide these people with a reasonable alternative.

Proposed subitem (1) provides language to ensure that, on large parcels of several acres or more, a guest cottage would have to be located within close enough proximity to the existing principal dwelling unit that both could potentially fit on a duplex size lot. This will ensure that the guest cottage in fact functions as intended as ancillary additional living space for guests of the occupants of the principal dwelling unit. If not located within such proximity, the situation could be handled more appropriately by subdividing the parcel.

Subitem (2) contains size and height limits for guest cottages which are approximately half the average size and height of new homes. These proposed standards are reasonable to ensure that, as explained above, the guest cottage functions as extra living space for guests of occupants of the principal dwelling unit and not as a second, full-size residence.

Proposed subitem (3) contains a standard provision also found elsewhere in these proposed rule revisions intended to assure that guest cottages do not unreasonably detract from the natural appearance of developed shorelands, while giving local governments several choices for achieving this.

The Shoreland Committee reviewed and accepted the above standards as developed by their subcommittee.

Several of the proposed deletions and additions of language to this item D, are just editorial types of improvements. The substantive revisions include the following. First, the existing state standards do not indicate whether or not a variance from lot size requirements is needed to develop substandard size lots created prior to adoption of local shoreland controls if the proposed development meets all other standards (i.e. setbacks). Counties handle this issue in different ways. Some do not require a variance in this

situation, others require a variance from lot size requirements to be obtained once, and still others require obtaining such a variance every time any new construction is proposed on such a lot. The proposed new language would exempt owners of such lots from the need to obtain a variance if lot size standards are the only requirements that cannot be met. However, additional proposed language would qualify this provision to apply only to situations where sewage treatment and setback requirements can be met and the lot has been in separate ownership from abutting lands at all times since its creation. This provision, in combination with two additional proposed statements, would ensure that persons owning two or more of these lots adjacent to each other would have to combine them as much as possible to meet current lot size requirements before selling or developing the properties. There are a number of case law precedents for this sort of requirement.

An additional proposed statement in this item provides improved guidance to Boards of Adjustment when considering variance requests for proposed development on these lots. In particular, it requires Boards to consider sewage treatment and water supply capabilities of lots for which variances for development are being sought and to deny the variances if adequate facilities cannot be provided.

All of these provisions are reasonable requirements to ensure that existing lots which do not meet current size requirements are not developed in a manner which would cause significant pollution of ground and surface waters and declines in property values. The provisions do provide for development and use of these lots if this can be done in a manner which would not cause such problems. Since the counties have had shoreland controls for 15 or more years, it is reasonable to assume that the more desirable and suitable of these lots have already been developed. It is, therefore, also reasonable to improve the standards now which will apply to the remaining, less suitable, undeveloped lots of this type.

The proposed new provisions in item E deal with standards for the design and use of lots in new subdivisions for controlled access to public waters for watercraft or for recreation sites for use by owners of lots in the subdivisions that do not have shore frontage. Although this issue was not ranked as a high priority item by local government officials in a questionnaire survey several years ago (SUP 1, p.11), it is an emerging problem elsewhere in the Country and will probably develop as a problem in

Minnesota also. Specifically, Michigan has experienced serious problems with large developments which have very little shore frontage "funneling" people and watercraft onto lakes through small access lots. DNR staff have read accounts and received phone inquiries from Michigan residents describing the problem. It has even been given the name "Keyhole Development" by some sources. Apparently some local governments are attempting to address the problem by adopting special ordinances of several types to address the problem. There have also been a number of lawsuits over the issue.

Although this issue does not yet seem to be a serious problem in Minnesota, it is reasonable to include some standards in these proposed rule revisions to try to head off the a problem before it develops. We already know that shoreland property owners regard "crowding" and "nuisance by users" as the two highest ranking inappropriate development characteristics (SUP 8, p.36 & 37). If developments that would allow even greater numbers of people to easily access and use lakes are not adequately managed, we can expect such concerns to grow in the future.

The actual design and use standards being proposed for controlled access lots are intended to address several possible impacts. These include prevention of overcrowding of lakes by people and watercraft, prevention of various "spill-over" impacts onto adjacent properties, and adequate control of the design and use of structures and other facilities on these lots to avoid soil erosion and preserve a natural appearance of the property as viewed from the lake.

Overcrowding is proposed to be avoided by requiring all of these lots to at least meet the minimum size and width requirements for residential lots on the lake. If the lot will be used for docking, mooring, or over-water storage of watercraft, then the size of the lot would have to be increased proportionately based on the number of watercraft intended to make use of the lot and the size and shape of the lake. The Shoreland Committee decided that since some normal residential lots have been observed to have as many as six watercraft moored, it is reasonable to allow up to this many at a controlled access lot also. If additional watercraft are intended to be moored, then the lot size and width would need to be increased proportionately, based on the ratio of lake size to shore length of the lake. For Minnesota lakes this ratio can vary from less than 100 to greater than 400. Lakes on the lower end of this scale have relatively less surface area available per lot to accommodate watercraft usage than lakes at the higher end of

the scale. A table is therefore proposed to be included which would require size and width of lots on lakes with a ratio above 400 to be increased 5 percent for each additional watercraft beyond 6, and on lakes with a ratio less than 100 to be increased 25 percent for each additional watercraft. The table also includes percentage increases of 10, 15, and 20 for groupings of ratios between these extremes.

Other additional benefits of this approach include more land and shoreline being available to buffer adjacent properties from the increasing usage occurring on controlled access lots as more people and watercraft use the lots and also as an economic incentive to developers not to design new projects with extremely large numbers of lots without shoreline. As the numbers of such lots increases, controlled access lots will need to be increasingly large, which entails using increasing amounts of shore frontage which is significantly more valuable than land further from the shore.

The remaining subitems under this item are proposed requirements to ensure controlled access lots are used as intended and are adequately maintained. Subitem (2) requires controlled access lots to be jointly owned by all purchasers of lots who will have legal rights to use the access lots. This provision will ensure that the subdivision developer does not retain ownership of the access lots and later propose additional development on them. It will also provide purchasers of lots with clear notice of their legal rights to use access lots. Subitem (3) requires covenants or other similar legal documents to be developed which clearly explain who has the right to use access lots, what activities are allowable on the lots, and specific limits on the total numbers of parked vehicles and moored watercraft allowable at each access lot. A final requirement would ensure centralization of facilities and activities on the lots in the most suitable locations for them to minimize topographic and vegetation disturbances and visibility of structures, parked cars, and other facilities as viewed from the water.

Subpart 2a. Lot Area and Width Standards for Single, Duplex, Triplex and Quad Residential Development on Lakes.

As indicated in the text of the proposed rules, the lot area and width standards for Natural Environment and Recreational Development sewered and unsewered lots are not being changed from the existing standards. Additionally, General Development unsewered riparian and all sewered lot areas and

widths are also unchanged from existing standards. The reason these standards are underlined here is because they appear in a new location and format in the proposed regulations. It was found to be needed and reasonable by the Shoreland Committee to increase the lot width and area standards of unsewered, non-riparian General Development lots due to factors related to on-site sewage treatment concerns and real estate markets. Minnesota Pollution Control Agency staff explained the potential for cumulative adverse environmental impacts to riparian ground and surface water quality if new lands on unsewered General Development lakes were developed at the existing rule's 20,000 sq. ft. backlot requirement. Staff suggested an increase lot area would provide for better treatment, absorption and dilution of drainfield effluents, since groundwater typically slopes down gradient towards the water body and the riparian tier of development. Real estate professionals on the committee felt that a larger non-riparian backlot is more attractive to the market than backlots as small as 20,000 sq. ft. Their reasoning was that individuals have been willing to buy bigger backlots without riparian frontages as a tradeoff to smaller lots with riparian frontages.

The existing rules do not provide for modified lots sizes for other than planned unit developments. Although during the initial evaluation of the shoreland program multi dwelling units outside of PUD'S was not a issue, it did become a significant issue during the shoreland committee deliberations. Both development and zoning interests indicated that duplexes, triplexes and quads were desirable and were being advocated by local developers. The existing rules would allow these types of development to take place, however the lot size and frontage would have to be multiples of the single family standard or the property would have to be designed as a PUD. Since typical local ordinances general provided lot size and width modifications for these developments the committee decided to do the same for shorelands. The crucial factor in development of these standards was the application of the sanitary provisions. After considerable discussion with respect to the sanitary provisions it was decided to maintain multiples of the single family lot size requirements for recreational and general development lakes for duplexes, triplexes, and quads on RD and GD lakes within the riparian tier of development. For the same reason the nonriparian tier lot sizes for these multi unit developments were also set at multiples of the respective lake classes. It should be noted that the NE riparian lot sizes for duplexes, triplexes and quads was significantly reduced. This increase in density was compensated for by requiring that these developments on NE

lakes must have common sewer and water systems, increased setbacks and centralized docking facilities.

The lot widths for these types of developments were modified for all lake classes except for non riparian, nonsewered NE lakes. The modifications do certainly increase the potential development density around a lake, however the total increase is likely to contained by the fact that all the shorelands of a particular lake will not be multi dwelling units.

The provisions seem to be reasonable when taken in context with the other standards applicable to the duplexes, triplexes and quads. By definition these developments constitute one structure having two, three or four units being attached by common walls and each unit having separate sleeping, cooking, eating, living and sanitation facilities. These restrictions will minimize the impact of the increased densities on the shore environment both from the on lake and the on shore. The provisions also recognize the fragile character of NE lakes, particularly those in the northern part of the state that are trout lakes and very sensitive to changes in the surrounding physical environment.

Subp. 2b. Lot width standards for single, duplex, triplex and quad residential development; river classes.

The standards are needed to guide the development along the proposed river classes and meet the management objectives of each river class. The management objectives for each class were developed in accordance to the purpose statement of the Shoreland Management Act which states in part "..to provide guidance for the wise development of shorelands of public waters and thus preserve and enhance the quality of surface waters, preserve the economic and environmental values of shorelands, and provide for the wise utilization of water and land related resources of the state."

In contrast to the lake class where both lot width and area standards exist, lot area standards for river classes were intentionally not developed. The rationale behind this is based on the fact that in most cases, the depth of the shoreland area, as defined by Minn. Stat. Sect. 105.485 is only 300' from the ordinary high water level of the river. Given this limitation in jurisdictional depth and combined with the proposed structure setbacks for the Remote, Forested and Transition and Agricultural Classes, the riparian tier of development will in most cases essentially occupy the majority of the depth of the district. Additionally, many rural areas of the state where the river

classes are proposed have a variety of large lot area requirements adopted in present land use controls as a means of preserving existing low rural development densities or preserving agricultural land bases.

This is especially true for Agricultural and Transition classes since most agricultural counties have a strong emphasis on agriculture land preservation. In Urban River areas where proposed structure setbacks are closer to the river and the potential for two development tiers in the river shoreland is probable and justifiable, appropriate lot area standards are better left to the local unit of government to establish based on their comprehensive planning process and particular needs.

In developing lot width standards for the river classes, a variety of existing river management plans/programs were analyzed. The lot width standards of those existing programs as they related to the specific type of river resource being managed, were compared to the river resource characteristics of the already described proposed river classes of these rules. These other plans and programs were the state's Wild and Scenic Rivers Program, the Upper Mississippi Headwaters Management Plan, and the Project River Bend Plan on the Middle Minnesota River. In addition, river land use management programs of other states were also reviewed. To develop the proposed rules, the specific management objectives from Sup. # 5 for each river class were reviewed. They are discussed below along with the proposed width standards.

Remote. The management objective for Remote segments is to maintain the remote, primitive and wilderness characteristics of these segments. The proposed lot width of 300 feet will accomplish this objective since residential density would not exceed more than 17 residences per river mile (one side of river) under optimum development conditions. These segments are primarily unroaded, inaccessible and unsuited to excessive development, so even the occurrence of the maximum density per river mile is unlikely.

Forested. The management objective for Forested segments is to maintain the forested and rural character and manage the recreational attributes of these segments. The proposed lot width of 200 feet will meet this objective since a higher per river mile density is allowed (26 residences: one side of river) as compared to the Remote segments. Development activity on Forested segments at the proposed densities is

justified since these segments are already generally served by roads and located relatively close to regional cities or commercial centers, where additional development is suitable and likely to occur.

Transition. The management objective for Transition segments is to protect the remaining natural areas of wooded river frontage that now exist in areas that are otherwise typified by surrounding agricultural land uses. The proposed lot width for these segments is 250 feet. This development density would allow a maximum of 21 residences per river mile (one side) under optimum development conditions. This proposed density limit is needed to reduce the impacts that additional residential development would have on Transition segments. The segments are generally characterized by wooded river frontage or mixes of agriculture and forestry or woodlots. Preservation and management of these areas is necessary because the occurrence of this type of river segment is important in agricultural regions since valuable habitat diversity and cover are provided.

Agricultural. The management objective for Agricultural segments is to protect shoreland resources from the impacts due to agricultural land uses. Riparian lot densities for residential development are not as crucial as developing and implementing improved agricultural practices. However, since some scattered residential development or subdivisions will still occur in some areas of these segments, a proposed lot width of 150 feet is reasonable and would allow for a maximum development density of 35 homes per river mile on one shore.

Urban. The management objective for Urban segments is to protect the river and adjacent shorelands from urban land use impacts without restricting the higher development density potentials especially for areas served by public water and sewer services. The proposed lot widths for this class reflects the unavailability or availability of sewer services. Unsewered areas are proposed to have a lot width of 100 feet, which would allow for development densities of 52 residences per mile on one shore. Sewered areas would be allowed to increase densities to 70 residences per river mile with proposed lot widths of 75 feet. It must be pointed out that while few river segments in the state are developed to this extent for distances of a mile or more, these numbers do represent realistic densities that have already occurred in urban subdivisions at lesser riparian frontage distances.

Tributary. On Tributary segments the management objective is to provide the necessary minimums of resource protection for

the streams not listed as outstanding on a statewide basis. The lot width standards proposed for this class are the same as for the Urban class segments. Some of the these segments pass through small to large communities with relatively short distances of river frontage developed at high densities. Others of these segments are distant from any existing development or roadways and the probability of future large scale development is low for these reasons. However, the development standards would allow an individual to construct a residence on a small frontage lot widths (100' unsewered/75'sewered), which is often encountered in agricultural areas when a small acreage lot is split off of a larger agricultural use parcel.

Finally, it is important to note that several of these tributary segments are state designated Trout Streams. Presently all Trout Streams are given the existing shoreland management classification of "Natural Environment", which has the most restrictive lot width (200') of the current shoreland zoning standards. Concurrent with this set of proposed revisions now before us, the change from a "Natural Environment" to a "Tributary" shoreland zoning classification does not represent a downgrade in the management of land use along Trout Streams even though the lot widths represent a reduction from current standards. Instead, these provisions, if implemented, would provide for better management of the riparian fringe of soil and vegetation resources. For example, improved management of this area through the shoreland alterations provisions in Part 6120.3300, Subp. 4 will reduce erosion potentials and maintain lower water temperatures, elements that are important to the trout fishery.

In summary, the lot widths for each class of segments are reasonable because they reflect dimensions that are compatible with existing resource conditions, development patterns and the limitations or capabilities of the particular river class.

Lot widths for duplex, triplex and quad residential development on rivers are needed because the current regulations are silent on this type of development. Reduced lot widths are reasonable because the development of duplex, triplex or quad residential units can have less impact on shoreland resources than traditional single unit lot-block development, since the occupancy rates of multi-units is usually lower than single units on a unit-by-unit basis (the number of people per household). These type of developments will be required to consolidate beach areas, docking sites,

sewer and water services, driveways and other facilities into common areas, which is less disruptive to the shoreland area in total than a string of several single unit residences over the same distance. Additionally, since the occupancy rates are usually lower, water use and subsequent waste production as well as the potential for surface water crowding are all reduced.

Subp. 3. Placement and height of structures and facilities on lots.

In general, structure setbacks are needed to provide an adequate distance between the development of a shoreland area and the adjacent waterbody or near blufftops to control the resource damaging effects of non-point source pollution. Soil erosion and subsequent sedimentation in water bodies and the loading of nutrients, toxics and other pollutants to the water body from shoreland area surface water runoff are examples of non-point source pollution.

The introductory language in this subpart contains several proposed editorial types of revisions and one substantive new provision. The new statement requires that when more than one setback standard applies to a site, all of the setbacks must be met. Both DNR staff and local government officials have received numerous questions about this kind of situation over the years. Adding a statement to the rules to clarify the matter is particularly appropriate now in view of the several new setbacks being proposed.

A major format change is being proposed. The existing rules present the several structure setback standards in text statements. These are now being proposed to be deleted and replaced by a table which includes both the existing setbacks which are not being revised, one which is, and several new types of setbacks. The first statement in Item A is proposed to be revised to reference the new table, to remove a reference to Item F. Exceptions, which is being deleted, and to include a reference to a new Item H., which is where the setback for water-oriented accessory structures and facilities is located. Subitems (1) through (4) are proposed to be deleted.

All of the ordinary high water level lake setback standards except the unsewered, Natural Environment standard are presented unchanged in the table. The Shoreland Committee decided the Natural Environment setback for unsewered areas should be reduced from the current 200 feet to 150 feet. Some shoreland managers, in a questionnaire survey several years ago also expressed a desire to see this setback

reduced (SUP 1, p.13-15). Although in this survey only 22 percent of the respondents statewide called for this change, within the Northeast area of the state, 47 percent desired such a change. Primary reasons given for wanting the change included opinions that the 200 foot setback often eliminated views of the water, encouraged variance applications, led to frequent cutting of trees, and encouraged topographic alterations.

In Item A, structure setback standards for the proposed river class segments are needed to accomplish the management objectives for each class. Similar to the previous discussion of lot width standards for rivers, other existing river management plans and programs as well as the existing structure setbacks for lake shoreland development were reviewed to assist in developing structure setback standards for rivers. These standards were then compared to the previously discussed management objectives (SUP #5). For Remote segments, a 200 foot setback form the Ordinary High Water Level (OHWL) is reasonable because it provides an adequate separation between the river and development, which will maintain the remote and undeveloped character for these types of segments. For Forested and Transition segments, a 150 foot OHWL setback is reasonable because development can be placed closer to the river while still achieving the objectives of recreational management and protecting wooded shoreland areas. For Agricultural, Urban and Tributary segments, the 100 foot OHWL setback is reasonable in unsewered areas because an adequate distance will remain between development and the river to enable installation or preservation and maintenance of vegetation which can intercept and filter surface water runoff from developed areas. On many transition, agricultural and tributary river and stream systems, the proposed structure setbacks will provide for a minimum of protection from the natural meandering and channel shifting characteristics of watercourses found in these areas. Additionally, for all of the above OHWL setbacks, the preservation of open space between the river and development is necessary to provide flexibility in the placement and design of on site sewage treatment facilities.

Sewered areas of Remote, Forested and Transition segments are rare and it is reasonable not to reduce the OHWL setbacks, in order to maintain consistency throughout these classes and meet the previously stated management objectives.

In sewered areas of Agriculture, Urban and Tributary segments an OHWL setback of 50 feet is reasonable since

these areas are usually already highly developed and the preservation of open space for on site sewage treatment systems is not necessary. Further, a 50 foot OHWL setback will reasonably allow for installation or preservation and maintenance of vegetation or other facilities that can intercept precipitation and filter or reduce surface water runoff velocities in theses developed areas, thereby addressing water quality and quantity concerns.

The setbacks from bluff tops for structures in all shoreland classes is needed and reasonable to protect bluff tops from adverse environmental impacts of development and construction activities. These impacts can be measured in both physical and aesthetic terms. Physically, development encroachment on bluff tops can lead to accelerated soil erosion and in some cases, slope failure. Aesthetically, development encroachment on bluff tops can compromise or eliminate the natural appearance of this topographical feature in shoreland areas. The 30 foot structure setback from the bluff top provides a minimum distance between the bluff top and the planned or proposed foundations, walls or eaves of a structure for the maneuvering of building materials during construction. Consequently, the preservation of soils can reduce or avoid erosion problems, and preservation and maintenance of vegetation can protect soils, screen development and maintain the natural appearance of bluff areas. Necessary shoreland alterations such as clearing of vegetation to accommodate structures can be conducted within the first 10 feet waterward of the bluff top setback area until the bluff impact zone is encountered, which is defined as being 20 feet from the top of the bluff and the whole bluff. (i.e., 20 feet plus 10 feet = 30 feet, the width of the bluff setback area). It is noted for clarity that the bluff impact zone is established for preservation and management of shoreland vegetation and soils, and all structural development is excluded from this zone, except for stairways, lifts and landings. (see Item I of this subpart for stairways & lifts and see Item C of this Subpart and Subp. 4 of Part 6120.3300 for additional discussion of bluff impact zones).

The statements of need describing the definitions relevant to the above discussion of bluff setbacks and bluff impact zones are discussed below.

Subp 1b. Bluff: The definition of a bluff is needed because of the new proposal to manage bluff areas in shoreland areas, as described in the Statement of Need for bluff top setbacks and bluff impact zones. The topographic

features of a bluff need to be described in detail so shoreland managers, surveyors, property owners and others can have a common understanding of the conditions that constitute a bluff. These descriptions are contained in items A through D of subp. 1b. The provision that a bluff slope rise at least 25 feet above the ordinary high water level was developed by the Shoreland Management Committee after a presentation by DNR staff and subsequent discussion about what the appropriate height limitation should be for these regulations. A consensus was reached that 25 feet was appropriate because areas less than 25 feet in height do not have as great a potential for significant slope erosion and failure problems. This value is supported by research indicating a strong relationship between erosion and bluff height when the bluff height is greater than 18' for historic bluff recession on Lake Ontario (1)*. Recognizing that these rules are intended for substantially smaller lake systems than Lake Ontario, the intent is not to extrapolate from that research. Instead, the Lake Ontario research is mentioned to indicate that the 25' height value as derived by shoreland committee members and based on their professional experience is realistic and reflective of

documented research. Additionally, committee members agreed that shoreland topographic features of less than 25 feet in elevation are not as visually significant as those areas that are 25 feet or more above the waterbody.

An average slope gradient of 30% or more to define a bluff is reasonable since slopes in this category generally begin to exhibit significant problems of erosion, mass wasting, slumping or instability if they are altered by vegetative removal and disruption or grading and filling. Communication with researchers at the University of Wisconsin (2)* indicated that on a general basis, slopes ranging from 25% to 32% are slopes that should be considered as approaching the ultimate angle of stability. In Douglas County, Wisconsin, a generalized stable slope angle of 33% has been suggested for regulatory purposes in predominantly clayey soils on Lake Superior (3)*. Several factors contribute to the stability or instability of a slope, among them the variation of the soil profile, the height of the bluff or slope, soil moisture and groundwater conditions, surface drainage and vegetation cover (4)*. Since these factors can vary significantly from site to site, an average slope gradient of 30% is reasonable and will serve to caution shoreland managers when shoreland development is proposed in bluff areas.

Where soil erosion and stability are not issues, as would be the case if rock outcroppings comprise a bluff, a 30% slope

*See page 31 for references.

combined with a 25 foot or more vertical height does constitute a prominent topographical feature that requires management to preserve the natural scenic values of shoreland areas. It is also reasonable to require that a bluff slope must drain to the waterbody, thereby excluding areas that meet the slope and height requirements of a bluff within shoreland areas, but effectively may have no potential for negative impacts on shoreland values.

Finally, it is necessary to exclude from the definition of a bluff any areas that include lands that have average slopes of 18% or less for 50 feet or more between the top of the bluff and the toe of the bluff (as defined later in this document), since these areas could qualify for building sites if the ordinary high water level setback can be met.

Subp 1c. Bluff Impact Zone: This definition is needed to describe the extent of the bluff impact zone, an area that is proposed to be managed for the protection of vegetation, soil and aesthetic resources within shoreland areas. It is reasonable to manage these areas to ensure that development activities will not involve significant vegetative clearing and soil disturbance or disruption of scenic vistas as viewed from the surface of a waterbody. Vegetation is important to bluff stability in four ways: it directly removes water from the soil layers; the root systems hold soil in place; vegetation softens the impact of raindrops which otherwise can jar loose soil particles; and, vegetation slows runoff and filters out suspended sediments. (4) Therefore, defining the bluff impact zone as the bluff plus 20 feet from the top of the bluff will reasonably achieve the objective of managing the bluff feature for soil and vegetation protection in shoreland areas.

Subp. 18b and 18c. Toe of the Bluff and Top of the Bluff: These definitions are needed to aid in the definition and field location by shoreland managers and surveyors of the bluff and bluff impact zone as defined and discussed earlier in this document. The text of" 50-foot segment" and " an average slope exceeding 18%" were derived after detailed discussion by members of the Shoreland Committee to refine the definition of a bluff as proposed in earlier rule revision drafts. The definitions are reasonable because professional surveyors and planners (Minnesota Land Surveyors Association and Minnesota Planning Association) participating on the committee felt that these definitions in combination with the definitions for bluff and bluff impact zone will enable the accurate location and mapping of bluff features in shoreland areas for planning and development activities.

*References for bluff discussion:

1. Drexhage, T. and Calkin P.E. (1981), "Historic Bluff Recession Along the Lake Ontario Coast, New York," New York Sea Grant Institute. Albany New York.

2. Personal communication with Dr. Tuncer Edil, Department of Civil and Environmental Engineering, University of Wisconsin-Madison. Spring 1986.

3. Yanggen, D.A. (1981), "Regulations to Reduce Coastal Erosion Losses", pg. 89 IN: Bluff Slumping, Proceedings of the 1982 Workshop, Romulus, Michigan, February, 1982.

4. Tainter, Suzanne P. (1982) "Bluff Slumping and Stability: A Consumer's Guide", pg. 6. Michigan Sea Grant Program, Ann Arbor, Michigan.

Item B, which addresses requirements for elevation of structures to prevent flood damage, contains several proposed rewordings of existing requirements, a new provision for lakes with extreme water level fluctuations, and a new provision for water-oriented accessory structures.

The introductory language under this item has been rewritten to make it briefer and clearer. It requires structures to elevated consistent with local flood plain ordinances where they exist. As with the current rules, where local ordinances do not exist several approaches are presented (Subitems 1-3) for determining the appropriate structure elevation. A new phrase has been added to reference the possibility of floodproofing certain structures rather than elevating them on fill, as an introduction to the specific requirements for water-oriented accessory structures under subitem (3), as explained below.

Subitem (1) has also been also been rewritten. A statement has been added to authorize local officials, when they deem it prudent, to require structures to be elevated higher than the standard elevation requirements on lakes that have a history of extreme water level fluctuations. In recent years, due to an extended, multi-year wet cycle, a number of lakes in the state have experienced extended, extremely high water levels that have damaged and destroyed hundreds of shoreland dwellings. Glacial lakes without outlets are particularly susceptible these extreme fluctuations. A good description of this sort of problem may be found in Chapter 8 of "Reducing Losses in High Risk Flood Hazard Areas: A Guidebook for Local Officials" by the Federal Emergency Management Agency, 1987.

Subitem (2), regarding requirements to prevent flood damage of structures located along rivers and streams when local flood plain ordinances do not exist, is proposed to be rewritten to specifically state approaches which may be used to determine the required flood protection elevation, rather than the existing more general language requiring use of available flood information and consistency with state flood plain rules. It also has a new statement which requires that when more than one of the approaches is used in a particular circumstance, the higher of the determined elevations must be used for actually placing the structure. This is reasonable because all three approaches are constrained by data availability and some inherent variability in the methodologies. It is much more prudent in terms of cost, safety, and other considerations to elevate structures somewhat higher when they are initially built than to repair and elevate or floodproof them later after having been damaged by flood waters.

The existing rules exempt boathouses from setback standards from public waters and elevation requirements. Although a few counties adopted controls more restrictive than the state standards and required various setback and elevation standards to be met, most counties have been allowing boathouses to be exempt from these requirements. They have also been allowing a wide variety of sizes and shapes of structures with a wide range in value to qualify as boathouses. This situation, coupled with the wet cycle of the last few years in many areas and the rapid increase in shoreland development, has led to large numbers of structures near shores at low elevations which have experienced various kinds of damage. Many have been flooded, many of these have then been further damaged by ice, and still others have been directly damaged by winds and storm waves.

The SUP identified a number of problems associated with boathouses. A questionnaire survey of shoreland managers ranked boathouses about in the middle of a list of 23 shoreland problem areas of major concern (SUP 1, p.11). Similarly, a thorough program evaluation of a sample of counties and townships also revealed several problems with current handling of boathouses under local shoreland controls (SUP 2, p.53). Finally, a series of local official and DNR regional staff discussion committees recommended several improvements be made in the management of boathouses (SUP 3, p.5).

A final reason for now requiring all shoreland structures to be adequately protected from possible flood damage is the advent and growth of the National Flood Insurance Program.

State law now requires Minnesota communities to maintain eligibility in this program. Since federal regulations for the program require all structures, including accessory structures to be protected, it is now prudent for local shoreland controls to require elevation or floodproofing of water-oriented accessory structures. A additional benefit is the lower flood insurance premiums property owners will pay if these structures are protected to federal requirements.

In view of all the above, it now is reasonable to include better standards in the state rules regarding the management of boathouses and other structures located near the shores of public waters. One important improvement is the inclusion of standards to prevent future flooding of these structures. Proposed revisions to this Item and the above-described-subitems will require boathouses and other water-oriented accessory structures to be elevated properly to prevent flood damage. Subitem (3) proposed language would allow such structures to be flood-proofed (constructed of water-resistant materials) rather than elevated on fill in appropriate circumstances. This will make such structures much more convenient to use for their intended purposes than if they were elevated several feet on fill. However, it also makes them more vulnerable to damage from ice and wind action than elevated structures, so a caution statement is also presented for situations where long-duration flooding is likely (i.e. lakes without outlets).

The statement in item C regarding bluff impact zones is needed to ensure that structures or accessory facilities are not placed within the bluff impact zones. It is reasonable to exclude stairways and landings from this provision since stairways and landings are facilities needed for achieving access up and down the steeply inclined areas associated with bluff areas. (Provisions for their installation are included elsewhere in these rules.) Exclusion of all other structures and facilities from bluff impact zones is necessary because of the accelerated amount of erosion that often accompanies development here and because these areas are typically unsuited to development by nature of their steepness, soil type or because the placement of development can substantially alter the natural appearance of bluff features in shoreland areas. Not allowing development in these areas is reasonable since the natural resource values of shorelands will be protected.

The statement in item D regarding steep slopes is needed to require local governments to evaluate the potential erosion impacts to shoreland areas and subsequent sedimentation and degradation of water bodies that may result from the development of steep slopes. It is reasonable to require that conditions be attached to the issuance of shoreland development permits on steep slopes if the proposed development is determined to have potential for creating soil erosion or visual impacts as viewed from the surface of the water. Additional reasons for the proposed treatment of steep slopes as a special management area is justified by review of existing county soil survey documents. These documents show that generally, steep slopes are prone to soil erosion or stability problems and care should be taken when developing in these areas.

Item E is needed to ensure that development does not encroach upon unplatted cemeteries protected by Minn. Stat. Sect. 307.08. It is reasonable to require that permission to construct within 50 ft. of such sites be obtained from the State Archaeologist Office since that office is responsible for comprehensive statewide management of such sites. Further, it is reasonable to prohibit the placement of structures on significant historic sites, since the construction activity and placement could adversely affect the values of the site unless and until appropriate information is collected at the site. The state Archaeology Office requested a provision of this order to ensure that future development activity will be sensitive to preserving and protecting cultural resources of this nature.

In item F only two minor editorial types of changes are proposed.

Item G provides provisions for the height of structures. The Shoreland Committee decided that a structure height standard should only apply within residential districts of cities, and that it should not apply to churches. The Committee also decided that, since many cities use the Minnesota State Building Code (based on the national Uniform Building Code), the method used to determine heights of buildings should be the same as in these codes. They therefore decided to include a definition of "Height of building" as presented in these codes. Since the current rule has a height limit of 35 feet and this definition uses an approach which results in a measurement which only goes part way up pitched or hipped roofs, the Committee decided to change the maximum height limit to 25 feet.

The primary purpose of the existing structure height limit is to limit visibility of shoreland development as viewed from public waters by keeping structures lower than the average height of trees. The Shoreland Committee concluded that within cities this is most important in residential areas. They also apparently felt that in rural areas tall structures have not yet appeared in sufficient numbers to justify setting a height limit for these areas at this time.

In Item H accessory structures and facilities are addressed. Both local government officials and DNR staff have noticed in recent years a proliferation in types and numbers of boat houses, fish houses, wood and metal storage buildings of various colors, free-standing decks, satellite dishes, saunas, and other man-made facilities being placed on lots very near the shore. In addition to creating a very developed and sometimes crowded appearance to these lots, the installation of these structures and facilities involves considerable destruction of vegetation and grading and filling. This in turn accelerates soil erosion and slumping. The close proximity of these facilities to the shore also frequently leads to their being damaged or destroyed by rising water levels, wave action during storms, and ice heaving. Some of these consequences have already been described above under Item B.

During the SUP, these problems were identified several times in various ways. A questionnaire survey of local government shoreland managers ranked boathouses, garages, and other accessory structures about in the middle of a priority listing of 23 problems of major concern (SUP 1, p.11). They also identified "shoreland crowding" as their most common concern with regard to the notion that some sort of resource capacity limit is being reached (SUP 1, p.22). A thorough evaluation of a sample of counties and townships with shoreland controls identified summer storage of fish houses as a serious problem in some areas. Around lakes such as Mille Lacs, fish houses are often stored in large numbers and used as dwellings - usually without proper sanitation facilities present (SUP 2, p.45). This same study also identified the proliferation of numerous structures on lots and abuse of boathouse standards as additional problems(SUP 2, p.52 & 53). Finally, a questionnaire survey of shoreland property owners revealed that about 50 percent of those asked felt that "crowding" was an inappropriate development characteristic on their lake (SUP 8, p.36). All of these findings support the approaches described below.

The basic approach for managing these problems is to define the land located between the shore and one-half of the

structure setback as a "shore impact zone" and apply special standards within it to control the number, location, size, and visibility of accessory structures and other facilities within this zone. This is proposed to be accomplished by dividing these structures and facilities into two categories, one with legitimate reasons for being located closer to the shore than the normal structure setback and the other without such rationale. The former are proposed to be called "water-oriented accessory structures and facilities," and the latter just "accessory structures or facilities." The accessory structures and facilities would have to meet normal structure setbacks from the shore, but would not otherwise be regulated in number or size. Water-oriented accessory structures and facilities would only have to meet a 10 foot setback, and only one of these would be allowed within the structure setback area.

Several other design standards are also proposed for the water-oriented accessory structures and facilities. Subitem (1) limits their height to a maximum of 10 feet, except for detached decks, which are limited to a maximum height of 8 feet. There is also a maximum ground coverage of 250 square feet. The primary intent of these provisions is to control the visibility and associated vegetation and topographic alterations of these structures, while still providing each property owner with the opportunity to construct a reasonable structure or facility to enhance the use and enjoyment of the property. On many shoreland properties, having a secure, weather-tight structure for storage of a boat and boating equipment located near the shore is a reasonable health and safety consideration when the only other alternative is to carry these items up and down a steep slope or long stairway before and after each use. The 10 foot height limit basically provides for a one-story building and the 250 square foot size is sufficiently large to accommodate most boats and some other equipment.

Subitem (2) is the proposed 10 foot setback from the ordinary high water level mentioned above. This setback would help prevent future damage of these structures and facilities by wind, wave, and ice action. It would also provide room for some limited screening of these structures from view from the water by vegetation and topography, as required below, while still allowing placement close enough to the shore to be convenient to use for their intended purposes.

Subitem (3) is a provision which is intended to limit visibility of these structures and facilities as viewed from public waters by providing local governments a choice of four or more methods. These include use of vegetation,

topography, setbacks greater than the 10 feet minimum, specifying required exterior color, or other methods acceptable to local officials. This provision was developed by the Shoreland Committee after extensive discussion. It replaces an earlier proposal by DNR staff that all of these structures and facilities be earth tone colors.

Subitem (4) allows use of the roofs of these structures to be used as decks. This provision was developed by the Shoreland Committee, which felt this is a reasonable joint use of a boathouse to allow in exchange for the limit of one water-oriented accessory building or facility per residential lot.

Subitem (5) contains several provisions intended to prevent use of boathouses for residential purposes, a common problem which has occurred under the existing rules. The statement prohibits the use of these structures for human habitation and also prohibits their being connected to water supply or sewage treatment facilities. The second statement requires that any accessory structures or facilities which do not meet the criteria presented in Subitems (1) through (5), or any that do not qualify as being "water-oriented" must meet normal structure setback standards.

Since all of the provisions explained above under this item are new concepts, it is necessary to include two new definitions to enable proper decisions to be made about differentiating water-oriented accessory structures and facilities from those that are not. Under 6120.2500, Subp. 20, "water-oriented accessory structure or facility" is proposed to be defined as a small, above ground building or other improvement 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. A phrase is included exempting stairways, fences, docks, and retaining walls from the definition since these facilities routinely need to be placed closer to the ordinary high water level than the 10 foot setback proposed for water-oriented accessory structures and facilities. At the end of the definition a sentence is also included which lists several structures and facilities which are intended to be included in this definition. They include boathouses, gazebos, screen houses, fish houses, pump houses, and detached decks. Several of these are reasonable to allow close to the shore so they can be reached by breezes which help minimize insect announces during use and also have a reasonable view out over the water. Their proximity to the shore would also provide safety benefits when they are used by adults to monitor young children playing on the shore or swimming. Although some have argued that saunas should be

included under this definition, they intentionally are not included in the list of examples because they often include water supply and sewage facilities and are also used for habitation, uses which pose imminent pollution hazards to public waters when allowed to be placed as close as 10 feet.

The second new definition being proposed under this part is at Subp. 1a and is for "accessory structure or facility." It is simply defined in one sentence as any building or improvement subordinate to a principal use which can reasonably be located at or beyond normal structure setbacks. This definition is very similar to definitions of this term found commonly in existing local government ordinances.

Item I is needed to provide a consistent set of standards for the installation of stairways, lifts and landings in shoreland areas. Consistent standards will ensure that only minimal amounts of shoreland areas are disturbed or altered, resulting in reduced potentials for soil erosion and vegetation clearing. In some cases, the proper installation of stairways and lifts can protect sensitive soils from the damaging effects of repeated foot traffic over an unprotected path on the ground. Therefore, it is reasonable to require design requirements so local units of government can adopt provisions that protect shoreland soil, vegetation and aesthetic resources. The design requirements are reasonable because they allow for adequate design sizes to meet the pedestrian shore access needs of residential, commercial and recreational shoreland area property uses. It is also reasonable to allow special ramps, lifts or mobility paths for the physically handicapped for their shore access needs. These standards were developed and are presented in a way that will enable local units of government to furnish simple brochures and diagrams to shoreland owners.

In Item J decks are addressed. Outdoor decks have become increasingly popular in the past decade with the advent of durable, reasonably priced treated lumber, particularly for shoreland dwellings. Owners of shoreland properties, particularly those used only seasonally, have discovered that adding a deck to a dwelling is a low-cost way to expand useable living space. It is also a project which many people are able to construct themselves, an important cost-saving feature in today's climate of inflated wage rates and materials prices. This increasing popularity of decks has created several problems for shoreland managers.

Many of the features of decks described above also encourage people to not include them in the initial construction of dwellings and add them at some later date. However, deck additions are frequently not planned in advance when location of the dwelling is being decided. Dwellings are usually placed right at the minimum required setback from the shore. There are also thousands of shoreland dwellings which do not even meet the minimum setbacks because they were constructed before there were any setback requirements. In both situations owners desire to add a deck on the dwelling side facing the shore, cannot meet the setback, and must apply for a variance from the setback requirement. Local government Boards of Adjustment are often sympathetic to such requests because they do not see any serious detrimental impacts associated with the construction and use of such decks. They also often conclude that addition of a wood deck on the shore side of a very visible structure will actually help break up the visible mass of the structure and make it blend into the natural surroundings better. They also correctly conclude that property values and, therefore, local property tax revenues will be enhanced by allowing decks. However, they are also aware of state law requirements regarding necessity for variance applicants to demonstrate existence of a "hardship" to justify approval of variances and fail to see such hardships demonstrated in the deck variance applications. These problems were identified in several ways during the SUP. First, in a questionnaire survey of local government and DNR field shoreland managers, "decks" ranked 10th of 23 in the percentage of respondents who indicated it as a problem of major concern (SUP 1, p.11). The types of deck problems explained above were also identified in a report of the results of thorough program evaluations of a sample of county and township shoreland programs throughout the state (SUP 2, p.55). Finally, three recommendations were made about how to better manage decks by several regional advisory committees of local government officials and DNR field personnel (SUP 3, p.5). The second recommendation is particularly relevant here because it includes several of the features being proposed in this item:

> DNR should amend statewide regulations to allow local governments the option of allowing decks on the waterward side of structures within specified dimensions (perhaps 10 feet) administratively if the ordinance clearly defines what constitutes a deck and conditions are specified to preclude future alterations into a habitable structure addition.

Decks have been problematic long enough that several local governments have requested assistance from DNR staff to develop an approach similar to the above recommendation. The

City of Maple Grove and Stearns County have both had ordinance provisions of this type for several years which were approved by DNR under existing flexibility provisions in the state rules. These provisions have allowed these communities to allow reasonably-sized decks to be added on the shore side of existing dwellings which do not meet current setback requirements without the expense, delay, and questionable legality of the variance approach.

The approach being proposed in this item is basically a refinement of that used in the communities mentioned above. The approach begins with a statement that decks must, when possible, meet structure setback standards. This provision is necessary to ensure that free-standing decks are not placed in bluff impact zones or other unsuitable locations, except for placement of one within the shore impact zone if a property owner chooses this option. The definition of structure (6120.2500, Subp.16) is also proposed to be revised to clearly include decks as a type of structure appurtenance so attached decks are included when measuring structure setbacks. Under Subp.6a of the same part is a proposed new definition of "deck." This definition was developed after reviewing several existing definitions of this term in existing ordinances. It was also extensively reviewed and discussed by the Shoreland Committee. The Committee decided to ensure the definition would be consistent with use of the term in the State Building Code, so they added a phrase requiring some portion to extend more than 3 feet above ground to be considered a deck. This means that at-grade or slightly above-grade patios, walkways, and other similar improvements will not be managed as decks.

The approach then goes on to lay out criteria and standards under which local governments could allow decks which do not meet structure setbacks without variances. The first criteria is that the structure to which the deck is to be attached must have been already in existence when the local government's shoreland controls were adopted. This is a reasonable requirement because owners of structures built after adoption of the controls should have been aware of the minimum setback standards and should have placed the structures further back than the minimums if they intended to add waterward decks later.

Proposed subitem (1) requires a thorough evaluation of the property to determine that no reasonable site exists (particularly between the sides of the structure and side lot lines) for locating a deck which meets the setback from the ordinary high water level.

Proposed subitem (2) requires that the deck not encroach toward the shore more than 15 percent of the existing setback and in no case can it result in a setback of less than 30 feet. This provision will ensure that the size and setback of the deck are in reasonable proportion to the existing setback of the structure. The 30 foot limit will protect decks from potential damage from ice heaving and wind and wave damage during storms. It will also provide space for maintenance of existing screening vegetation or planting of such vegetation.

Proposed subitem (3) requires these decks to be constructed primarily of wood and prohibits their being roofed or screened. These provisions will ensure that these decks are not significant visual intrusions along the shore and that they function only as outdoor decks, not dwelling additions.

Subp. 4. Shoreland Alterations.

The existing language on shoreland alterations is being deleted in the introductory paragraph because the entire subpart is being rewritten and reorganized. The first provision after the deleted text (Fill shall be stabilized...)is needed to assert that vegetative alterations and excavations for sewage treatment systems and structural placement are exempt from the vegetation alterations provisions and that separate permits are not required. It is reasonable to require that the grading and filling conditions are met in lieu of separate permits for structure and sewage system installation, since shoreland managers can add the appropriate conditions to building permits for shoreland areas. It is also necessary and important to require that alterations to vegetation and topography be controlled by local governments since the mismanagement of soil and vegetation can adversely impact the natural resources of shoreland areas. Examples of adverse impacts are erosion and sedimentation to surface waters which impairs or destroys fish and wildlife habitat, soil sedimentation or the intentional filling of areas that previously held and filtered surface water runoff for a period before drainage or discharge to a waterbody, or the excessive clearing of shoreland vegetation that once provided natural screening of shoreland development and maintained the scenic vistas of our many lakes and streams. It is necessary to exclude public roads and parking areas from this subpart since they area regulated by another subpart.

The definition "Intensive Vegetation Clearing" as defined in 6120.2500 Subp. 7c. is discussed here, since it is relevant to this section.

Subp. 7c. Intensive Vegetation Clearing: This definition is needed to replace and modify the repealed definition of "Clearcutting". The definition is reasonable since the complete removal of shoreland trees and shrubs in the manner described has a high potential for creating significant non-point source pollution problems, which can reduce the long term economic value of shorelands. Examples of these problems are damage to shoreland fish and wildlife habitat via a reduction of the nutrient recycling, stormwater runoff filtering and soil protecting properties of vegetation. Vegetation also acts to visually screen shoreland development which maintains the natural values of shorelands.

Subp. 4 [See Repealer] Clearcutting: This definition is being repealed because a new definition, "Intensive Vegetation Clearing" is being substituted for "Clearcutting". The repeal of this definition is reasonable because the word 'clearcutting' is a term used to describe a technical forest management practice. Private and County forest resource managers had indicated a need for the shoreland regulations to contain a different word and definition to describe and regulate the removal of shoreland vegetation, especially in non-forest management areas, since the regulations address a significant acreage of shoreland that is not being used for industrial or commercial forest management purposes.

Item A is necessary to exclude agriculture and forestry from these provisions since the area is managed in subsequent subparts.

In subitem 1, it is necessary to prohibit vegetation clearing within the bluff and shore impact zones and on steep slopes to protect the vegetation and soil resources of these areas. The existence of vegetation in these areas is important to reduce the erosive effects of falling precipitation on the soil. Vegetation can also reduce the velocities or disperse the flow of surface water runoff, which is important since high velocity or concentrated surface water runoff can readily erode soils. Vegetation in these areas will also consume and utilize nutrients that may be in runoff waters or in the soil profile which could degrade the shoreland water quality if not consumed. Additionally, vegetation root systems in these areas will assist in binding the soil column to prevent or reduce the likelihood of bank and slope failure, which further protects the fish and wildlife habitat values associated with shoreland areas. The existence of vegetation in these areas also acts to screen shoreland development activities which

will protect and preserve the natural values of shoreland areas as directed by the shoreland statute.

The statement of need for a "bluff impact zone" was introduced earlier during the discussion of bluff setbacks (pg. 28). The statements of need for the definitions of a "shore impact zone", and "steep slopes" are included here for completeness.

Subp. 14c. Shore Impact Zone: This definition is needed to describe the area of land between the ordinary high water level and the structure setback which is proposed for managing riparian fringe vegetation, soils and to define the area appropriate for the location of water oriented accessory structures, as defined later in this document.

A shore impact zone width equivalent to 50% of the shoreland class structure setback is reasonable because sufficient land base will remain out of the zone and waterward of the structure (between the structure and the rear end of the zone) for the installation of on-site sewage treatment systems and the clearing of vegetation (if necessary or desired) around the principal structure site. For example, the shore impact zone width on lakes will range from 25 feet on sewered General Development Lake lots to 75 feet on unsewered Natural Environment Lake lots. For rivers, the zone will range from 25 feet on sewered Tributary, Urban or Agricultural segments to 100 feet on Remote river segments.

These widths are reasonable since they provide a buffer strip between the waterbody and the respective structure setback line to accomplish the various management objectives for each shoreland class. For example, the zone provides a management framework for: the reduction of non-point source pollution problems(by managing vegetation and soil resources as discussed earlier); the regulation of the size, type and placement of near shore structures(water oriented accessory structures); and, the maintenance and preservation of shoreline vegetation for the screening of shoreland area development activities. For river segments, implementation of a shore impact zone will also protect riparian soils and stream banks from the natural meandering characteristics of channels, thereby reducing accelerated erosion, sedimentation and channel shift problems.

Subp. 15b. Steep Slopes: This definition is needed to identify the areas of land where due to a variety of site specific land and soil conditions, development or agricultural activity is either not recommended or poorly suited to the area. It is reasonable to reference county soil surveys or other technical reports since these

documents usually are the best sources of information concerning the capability of soils for agricultural or development activity. When these documents are not available, it is necessary and reasonable to define steep slopes as lands that are in excess of 12% slope or more, since county soil surveys and technical reports generally begin to include cautionary statements about soils capability when these conditions exist. The requirement that the slope horizontal component be 50 feet or more is based on the relationship that slope length has to soil erosion potential. Generally, the longer the slope the greater the potential for erosion. A slope length of 50 feet is necessary to exclude those areas commonly found in shoreland that may have a 12% slope or greater but only over relatively short areas with minimal potential for soil erosion. For example, ice ridges and small natural terraces or benches of land along lake or river shorelines would not be considered as steep slopes unless they are long enough to meet the above definition.

It is reasonable to allow vegetation clearing outside of the previously mentioned areas if the activity is consistent with accepted forest management practices and soil erosion control practices since this is where development will take place according to the structure setback requirements for the particular shoreland area. It is also reasonable to allow limited clearing of trees and shrubs within these areas as long as it is the minimum necessary to meet the specific needs of the landowner to place the facilities or conduct the activities that are allowed in these areas. As a condition of allowing vegetative alterations in the shore and bluff impact zones and on steep slopes, it is necessary to specify performance standards and provisions to ensure that soil, vegetation, water and aesthetic resources of these areas will be properly managed.

A notable benefit of the proposed rule language and arrangement is that local units of government are not required to issue written permits for vegetative alteration, thereby reducing costs to these units. Instead, landowners wishing to conduct vegetative alteration activities need only comply with the listed performance criteria, which is intended to be published in informational brochures and distributed to local units and handed out to shoreland owners.

As stated in item B it is necessary to require the issuance of local permits for the grading or filling of the topography in shore and bluff impact zones and on steep slopes that involves ten or more cubic yards of material

since grading or filling of this amount of material generally has a high potential for causing negative impacts to shoreland area natural resources. Some of these impacts are sedimentation to receiving water bodies, soil deposition on adjacent properties or into wetlands, and significant erosion or soil slumping problems on steeper slopes or on highly erosive soils. The cutoff of ten cubic yards was chosen so that projects involving less than ten cubic yards would not need permits, since these activities generally have less potential for causing significant problems. (Ten cubic yards is roughly equivalent to a standard dump truck load.) It is reasonable to require use permits for the movement of more than 50 cubic yards of material anywhere within the areas specified since this type of activity has the potential to create significant negative impacts to shoreland natural resources. This value of 50 cubic yards as a cutoff for conditional use permits is currently being used by many counties with shoreland provisions. Additionally, it is reasonable to require that the conditions contained in subitems (1) through (10) be considered during the review of the listed uses to further protect and manage shoreland areas.
(NOTE: Due to changes made at the last minute at the final shoreland committee meeting the wording of this item does not make sense. The original proposal was to require conditional use permits for grading and filling in excess of 50 cu. yds. Now that the word 'conditional' has been removed, the provisions of local use permits for both a 10 and 50 cu. yd. volume are redundant.)

Subitem 1 is needed to require that local officials consider the effects that grading and filling would have on the wetland types listed because these natural resource systems often play an important role in protecting shoreland areas from degradation or by providing important habitat diversity. For example, wetlands adjacent to shorelands can receive and filter surface water runoff before the waters are drained or discharged to lakes and rivers. Certain wetland types may provide spawning areas for gamefish or serve as waterfowl production areas, as well as provide non-game related habitat benefits and recreational opportunities. Therefore,it is reasonable to list the functional qualities shoreland area wetlands may have so resource managers and local officials will make decisions and recommendation based on a common set of criteria.

The remaining subitems (2) through (D) are needed to clearly set forth the conditions and criteria by which grading or filling activities should be evaluated, permitted and conducted. They are reasonable because they achieve the objectives of shoreland area natural resource conservation

and are also consistent with commonly accepted soil management practices. They are further reasonable since most of these conditions are currently used by zoning administrators and professional soil conservation managers. Subitems (2), (3), (4), (5) and (9) are currently in the existing shoreland regulations in slightly different text and are being retained from the reorganization of this part as mentioned earlier. Subitems (6) through (8) and (10) were developed and modified through the Shoreland Committee process.

It is reasonable to delete the sentences of item C that are regulated by other existing statutes and rules. It is reasonable to edit the remaining text consistent with the changes in rule style made elsewhere in this rule.

Subp 5. Placement and design of roads, driveways and parking areas.

It is necessary to delete the existing text since the rules are being reorganized for this subpart.

The first sentence of this subpart is needed because it essentially repeats in a clearer manner the objective of this subpart as compared to the preceding deleted language. It is necessary to include driveways in this subpart since their placement can have detrimental effects to shoreland areas, such as blockage of normal drainage patterns , filling of small wetlands or depressions that temporarily store runoff or they may contribute to accelerated soil erosion problems if not properly designed and constructed. It is also reasonable to require that these facilities be planned, designed and constructed consistent with field technical guides for soil and water conservation districts in order to protect the natural resource values of shoreland areas.

In Item A it is necessary to require that the listed facilities meet structure setbacks for the class of public water whenever feasible and that they not be placed within the specified zones if alternatives exist. It is reasonable to allow placement within the setback areas and zones if no alternatives exist and require that potential adverse environmental impacts be considered during facility design.

In Item B it is necessary to allow both public and private access ramps to be placed within the shore impact zone for since the shore and water surface could not be accessed if such encroachment were prohibited. It is reasonable to require that the vegetative screening and erosion control

conditions of this subpart be met to ensure adequate protection of shoreland resources. It is also necessary to require that private facilities employ methods that will minimize erosion and trap sediments to reduce the potential for cumulative impacts that several private facilities could have on a given shoreland area.

Subp. 6. Exception to zoning provisions.

This subpart is proposed to be repealed and replaced by a new subpart, 6120.2800, Subp. 3 Implementation Flexibility, because their is a need for some flexibility in implementing the entire rule, not just the zoning provisions.

Subp. 7. Agricultural Use Standards.

The existing rules do not have provisions which specifically address agricultural activities in shoreland areas. However the shoreland statute certainly provides the commissioner of natural resources with the authority to incorporate such provisions into the shoreland rules under Minn. Stat. Sect. 105.485. SUP # 1 identified agricultural activities in shorelands as one the six most important issues deserving of immediate attention by county and township managers. It is well known that runoff and erosion from fields and feedlots contribute sediments and contaminants to the state's rivers and lakes which adversely affect water quality, increases flooding due to reduction in channel capacity, threatens public health and safety, and impacts recreation and fish and wildlife habitat. SUP # 8 finds that 31.3 % of the seasonal shoreland residents claim that agricultural activities are the cause of problems on their lake or river. SUP # 8 in Table 14 on page 31 reflects the regional distribution of the responses of seasonal shoreland residents (Reg 1- 33.9%, Reg 2- 5.8%, Reg 3- 34.2%, Reg 4- 60.4%, Reg 5- 71.3%). It is evident that those owners of seasonal dwellings on lakes and rivers strongly believe that agricultural activities adversely impact the lake and river resources.

Due to the controversial nature of the agricultural issue in SUP # 3 state and local shoreland managers recommended that a special panel be established to further assess the issue and make recommendations. This effort known as the Citizens Panel on Agriculture and Water Quality submitted a final report in January 1985. Appendix 3 of this report shows that 75% of Minnesotans polled feel that government should be placing a high or very high priority on addressing agricultural impacts on water quality. The report also shows

that 83% of the people attending the informational meetings around the state felt that the government should be placing a high or very high priority on addressing agricultural impacts on water quality. The panel made several recommendations for local and state government that can be found beginning on page 82 of the panel's report. Specifically, the report recommended that the shoreland regulations incorporate provisions to guide counties in dealing with agricultural activities. Standards were recommended for the conversion of some pasture to wildlife habitat to reduce the effects of cattle grazing on streams. Other recommendations were to establish a 40 foot buffer strip of permanent vegetation between cropped agricultural land and the Ordinary High Water level of lakes, rivers and streams.

The NONPOINT SOURCE POLLUTION ISSUES TEAM REPORT - November 1986, presented to the State of Minnesota subcabinet on energy\environment\resources, states that by volume, sediment is the pollutant entering the state's waters in the greatest quantities and cropland is the major source of the sediment. The National Resources Inventory prepared by the U.S. Department of Agriculture (USDA) states that 96% of the state's wind and water erosion comes from croplands. This problem is compounded by the appreciable quantities of chemicals, both fertilizers and pesticides, that are attached to and transported by the sediments.

The Nonpoint Source Pollution Issues Team Report also identified animal feedlot runoff as a problem. The report stated that 95% of the 5,100 feedlots surveyed in shoreland areas were determined to be potential pollution hazards.

The report went on to recommended that the DNR establish regulations requiring vegetative filter strips to be maintained adjacent to all protected waters and drainage ditches, and that the shoreland regulations be revised to require that a feedlot permit be obtained from MPCA before a local conditional permit for a feedlot in shoreland areas can be granted.

USDA Soil Conservation Service (SCS) Minnesota Filter Strip publication 343 (April 1980) (Minnesota Supplement) and SCS Filter Strip publication 393, (April 1982), provides design criteria for various filter strips. The publications include design for: 1) filter strips on cropland at the lower edge of fields, on fields and pastures, or in manure spreading areas adjacent to streams, ponds, and lakes, and above conservation practices such as terraces or diversions; 2) filter strips for runoff from concentrated livestock areas; and 3) filter strips on forest land to reduce delivery of

sediment into watercourses. For cropland it is recommended that the length of flow through vigorous vegetation be at least 10 feet for slopes of less than 1% and proportionately up to at least 25 feet for slopes of 30%. For livestock areas, grass filter strips should be on the contour and of sufficient width to provide at least 15 minutes of flowthrough time. Lastly, as a guide, the flow length through undisturbed forest floor should be at least 25 feet for slopes less than 1% and up to 65 feet for slopes of 30% and at least 150 feet for 70% slopes. All of these recommend that strip width should be increased when the contributing drainage area is increased.

Based on the above information prescriptive draft rules were proposed to address agricultural activities in shorelands. Public input from 23 public information meetings around the state suggested that the rules were too prescriptive and were attempting to transfer a great degree of authority held by state agencies to locals with respect to feedlots. The public input also suggested that the rule reflect the federal farm policies recently passed by congress and basically reinforce existing policies, laws, and procedures. The shoreland committee considered this information and recommended the proposed rules for adoption as being needed and reasonable for managing agricultural uses in shoreland areas.

For lands in agricultural use, the rule provides for a 50 foot shore impact zone for all classes of rivers and lakes. The 50 foot zone is reasonably consistent with the recommendations of the Citizens Panel and is supported by several research studies that evaluated the effectiveness of vegetated buffer strips in controlling or reducing sediment transport and polluted runoff. Although the range of effectiveness is dependent in part on the intensity of a rainfall event, the slope of the land, and the concentration of pollutants, the 50 foot zone will provide a substantial benefit in reducing sediment and pollutant delivery to lakes and rivers. While it may take some land out of production, the rule acknowledges the existence of the federal farm program which requires that all farms have an approved conservation plan by 1990 and have practices in place by 1995 in order to continue price support and other benefits. The rule allows for an exemption to the 50 foot shore impact zone in those cases where the agricultural activities are consistent with the conservation plan. It should be noted that the farm program requirements do not totally eliminate erosion and sedimentation but will go a long way towards improving existing conditions. If a farmer chooses to not implement the conservation plan the 50 foot shore impact zone would be required. It should also be noted that the

Conservation Reserve Program currently provides for placing approximately 100 foot buffer strips along lakes and rivers into permanent vegetation with payment to the landowner.

The feedlot rule provisions build on the premise that feedlots pose an environmental risk in shorelands of both rivers and lakes. In land use controls, these types of controversial and potentially environmentally risky uses are generally dealt with as conditional uses so that adequate public input can be afforded and the unit of government can provide the greatest degree of review and evaluation before making a decision on the proposed use.

Feedlot location is restricted by the rule since new feedlots may not be located within 300 feet of a lake, within the shorelands of a watercourse or in bluff impact zones. There was much discussion over this provision. Several felt that feedlots should not be allowed in shoreland areas at all. Some believed that with a significant setback and the proper design and operation of the feedlot a total prohibition is not warranted. It was acknowledged that the shoreland district for rivers is 300 feet from the bank or to the extent of a delineated floodplain. The committee also acknowledged that along rivers, the flooding potential for feedlots could greatly impair water quality. Existing feedlots were allowed to continue as conforming uses as long as the feedlot did not expand closer to the waterbody and held a compliant MPCA feedlot permit. The rule provides continuity to the decision making process of the state and local government which will result in greater feedlot compliance and greater protection to the lakes and rivers. In summary, the provisions are needed and reasonable to reduce the negative environmental impacts associated with feedlots in shoreland areas.

These provisions will not significantly increase the administrative costs of the local government. Most, if not all local units of government currently require conditional uses for feedlots and all units have a conditional use process in existing ordinances. There will be some effort required for enforcing the 50 shore impact zone requirement depending on the rate of adoption and implementation of conservation plans. Even here, the monitoring done by the Agriculture Stabilization and Conservation Service (ASCS) and Soil and Water Conservation Districts (SWCD's) for farm program compliance could potentially aid the zoning office in implementing these provisions.

Subp. 8. Forest Management Standards.

The existing shoreland rules do not have specific standards for forest management activities. The rules only deal with the concept of clearcutting on developed lots or for activities relating to grading and filling. Although forest management activities were not defined as a general problem in shoreland areas, shoreland alterations were identified as an issue to be addressed. Issue # 17 of SUP-3 suggests that the shoreland rules include definitions of alterations and provide performance standards addressing topography, soils, vegetation, use, screening and views. It also suggested that the various agencies of the federal and state government provide assistance in implementing the performance standards. SUP # 1, Table # 2, shows that 32% of the shoreland managers indicated that shoreland alterations are a major problem. The table also shows that 31% of those individuals felt that vegetation cutting and clearing is a major problem.

The NONPOINT SOURCE POLLUTION ISSUES TEAM REPORT, November, 1986, Topic 7: Forestry, suggests that water pollution is not generally severe in forest areas. However the report also states that an extremely high proportion of quality waters occur in forested areas. Although forestry and related forestry activities do not appear to be a widespread threat to water quality, some practices, if done carelessly or with out regard for water quality will impair high quality waters of the state. The report went on to identify the following forestry activities as potential causes for water pollution:

- construction of roads in forest land
- recreational activities
- clearing for fire breaks
- timber harvest operations including skidding of logs and development of landings
- mechanical site preparation
- prescribed burning for site preparation
- application of pesticides for site preparation

The report suggests that there are known effective practices for controlling and preventing these activities from impacting water quality. 63% of the forest land in the state is publicly owned and the federal, state, and counties have sufficient authority to protect water quality by regulating activities that occur on public lands. However, establishing effective forest management practices on the remaining 27% private land is the primary concern for continued protection of water quality. The NONPOINT SOURCE POLLUTION ISSUES TEAM REPORT, in part recommend the implementation of the following regulations:

To control private forest management practices in shoreland areas counties should adopt and implement a shoreland management ordinances which require,

1) a vegetated buffer strip be left between the ordinary high water elevation and the cutting area during timber harvest and reforestion.

2) landing and yarding areas and skid and haul roads when located in shoreland areas, be designed and managed to minimize water quality impacts.

3) a no clear-cutting provision should be incorporated into the shoreland rules.

4) a reforestation plan for the reestablishment of desired forest species after timber harvest which minimizes erosion into public waters.

The existing rules do not require land use designations for various uses, although the model ordinance does setforth land use districts to minimize the potential for conflicts between competing uses. It was acknowledged that forest management and lot-block subdivision uses could pose a conflict and have the potential for adversely impacting land values in shoreland areas. Therefore as with other uses that pose a potential conflict, forestry uses were proposed as conditional uses in all but special protection districts. This provision generated concern from local zoning officials and forest interests as being too restrictive. In many areas subdivisions do not exist and therefore conflicts between uses do not exist. After much discussion in the shoreland committee it was decided that conditional uses be required ONLY when timber harvesting would take place in some proximity to a concentration of nine or more residences under separate ownership and having an average lot size of two or less acres. 1000 feet was accepted as the proximity threshold. The thresholds defined in this provision are not scientifically derived, but were considered to be a reasonable minimal standard that will ensure adequate public review of competing uses or at least potentially conflicting uses that can impact the value of shorelands of public waters. Either more prescriptive standards requiring forest management plans prior to timber harvesting or performance standards based on the recently developed "best management practices" (BMP's) may be alternatives that the forestry industry would prefer if it would reduce the number of conditional uses required.

The first draft rule relating to forest management provided for development of forest management plans consistent with guidelines developed by the Division of Forestry and the forestry industry. The rule setforth specific provisions calling for all timber harvesting and reforestation activities to have forest management plans approved by the DNR district forester or a professional

private forester or equivalent professional in forest management. At the initial public meetings the Division of Forestry was concerned that there were not enough foresters available to perform the technical assistance required by the provisions.

Other than the conditional use provision the forest management standards setforth general performance standards that must be met for timber harvesting and reforestation. Buffer strips are required but no specific standard is establish. It is expected that the local unit of governme will consider various parameters such as slope, soils, existing vegetation, time of year, etc in determining if buffer strips are of sufficient width. Landing and skid and haul roads are to be kept out of the shore and bluff impact zones. The previously mentioned report on nonpoint sources suggests that these activities pose the greatest threat to water quality when done without regard for slope and proximity to public waters. It should be noted that these activities are not prohibited on steep slopes when properly designed to prevent sediment movement into public waters.

The administration of these provisions may pose an additional element of work for the local government where land use districts have not been delineated to minimize conflict between competing uses. However it appears that a number of counties already require some type of forest plan and require conditional uses of major timber harvesting activities when in close proximity to existing development. The availability of BMP's will greatly assist the local units of government administration of these provisions. The fact that the forest industry has participated in the development of these BMP's should also aid the understanding and implementation of the provisions.

Subp. 9. Extractive use standards.

During the course of the Shoreland Management Program to date, DNR field staff have observed serious erosion problems on a number of occasions associated with sand and gravel mining operations located in close proximity to public waters - particularly rivers. The most severe examples of these problems have included creation of deltas of eroded materials into river channels, causing disruption of flow and damages to aquatic habitats. Both field and central office staff have also received phone complaints about these problems and also about the unsightly appearance of associated processing equipment and stockpiles. Additional complaints have been voiced by nearby residents about noise and dust. The erosion problems have been observed while mining operations are underway and for extended periods after cessation of mining when nothing has been done to stabilize slopes and reclaim the land for other uses.

Although mining of minerals and peat on a large scale can have even greater impacts, these operations are already extensively managed under several state statutes, rules, and agencies. For example, all new metallic mining and peat mining of more than 320 acres requires preparation of an environmental impact statement and major expansions of existing metallic mining operations or new peat mining of more than 160 acres requires an environmental assessment worksheet under rules of the Environmental Quality Board. These documents provide the DNR Division of Minerals, the Division of Waters, and the Pollution Control Agency with information to consider in their processing of several different state permits which are needed for these activities. They also provide the Public with extensive information on what mining is being proposed, how and when it will occur, and what steps will be taken both during and after the mining to limit impacts on the environment. In view of the state management of these types of mining operations, it is not necessary for local governments to duplicate such management under their shoreland controls.

A new definition is proposed (6120.2500, Subp.6e) to cover the term "extractive use." It specifically excludes the mineral and peat mining regulated already by state agencies as explained above.

The first proposed provision in this subpart requires processing machinery to meet the same setback standards from bluffs and shores of public waters as structures. The second provision calls for preparation, local government approval, and use of a site development and restoration

plan. The plan must address all of the possible problems mentioned above and must also identify how adverse environmental impacts will be handled while the mining is occurring and how the site will be restored after mining ceases.

Subp. 10. Standards for commercial industrial, public, and semipublic uses.

These categories of uses generally involve high potential for negative impacts on surface and ground water resources because they involve large amounts of land coverage by structures and parking areas, high use levels by people with resultant large sewage volumes, considerable pollution potential associated with various industrial processes or heavy volumes of vehicular traffic, or multiple combinations of these. Some of these uses also involve structures, docking facilities, signs, parking areas, and lighting which are highly visible from public waters - especially if not carefully designed. Such visibility detracts from the natural appearance of shoreland areas and contributes to a "developed" impression of shore areas by recreational users of public waters. When asked to select which uses from a list of 9 choices were "inappropriate" on their lake or river, a sample of shoreland residents indicated "commercial development" more often than any of the other choices (SUP 8, p.35). It is reasonable to include design standards for these types of uses which have a necessity to be located near public waters and to also include provisions to ensure uses without such needs are located further from the shore to reduce the likelihood of them negatively impacting such waters.

Subp. 11. Stormwater management.

The existing shoreland rules do not contain a specific section on stormwater management. A few of the existing standards help address this issue, but there is a need for a separate section to address the matter so local governments will consider stormwater management in their decision-making processes under their shoreland controls.

In a recent report to the Legislature (Nonpoint Source Issues Team Report, 1986), the Pollution Control Agency documents that water quality in both lakes and streams is still being significantly degraded by "nonpoint" sources of pollution even though most "point" sources are now being adequately controlled. Of several major sources of nonpoint pollution, runoff and soil erosion from developing areas, especially during construction, is identified as one of the most intense types. For example, the report indicates that

erosion from construction sites can be up to 10 times greater than from croplands (p. 36). If developments are not properly designed and built serious erosion and other runoff-born pollution can continue for many years after a project is completed and occupied.

The introductory portion of this subpart contains a statement requiring local governments to consider the need for proper stormwater management in all of their reviews and decision making under their shoreland controls. The remainder of the subpart contains several "general" and "specific" standards to use in doing this.

Item A contains the general standards. Subitem (1) calls for existing natural landscape features such as drainageways, wetlands, and vegetated areas to be used when possible to convey, store, and filter runoff prior to discharge to public waters.

Subitem (2) requires that several basic concepts which reduce erosion potential to be followed. These include keeping disturbed areas to a minimum, reducing runoff velocities, and reducing or delaying runoff volumes. Another statement also requires that disturbed areas be stabilized as soon as possible and efforts be made to retain sediments on the site.

Subitem (3) provides for constructing and installing storm water facilities such as settling basins, diversions, skimming devices, dikes, waterways, and ponds in the absence of natural storm water management features such as wetlands. This provision is required so that erosion is minimized and the runoff is filtered before it is directly discharged into the body of water. This provision is also needed to minimize the pollutant discharge into public water and preserve shorelands.

Item B provides specific standards. Subitem (1) specifies that the impervious surface coverage of lots must not exceed 25 percent of the lot area instead of the current standard of 30%. The Shoreland Committee also concluded, based on their experience, that in a development 30% of imperviousness is rarely exceeded and felt that 25% was still a large percentage. This is needed to prevent the excessive amount of runoff that will be generated during a rainstorm by an enlarged impervious area. Such excessive runoff will cause erosion, transport of pollutants to public waters thereby degrading water quality. Thus limiting the impervious surface to 25% will reduce the negative impact on shorelands and public waters.

Subitem (2) requires that stormwater management facilities be designated and installed consistent with Field Offices Technical Guide of the Minnesota Soil and Water Conservation districts and the United States Soil Conservation Service. This provision is needed to insure that the constructed and installed facilities operate to handle the runoff they are designed for.

Item (3) requires that construction of new stormwater outfalls to public waters be equipped with devices for filtering or settling of suspended solids and skimming of surface debris before discharge. These provisions would result in minimizing pollution in water bodies and enhancing water quality.

6120.3400 SANITARY PROVISIONS

Subp. 1. Purpose.

This subpart is proposed to be repealed because the intent and purpose are already incorporated in 6120.3500, Subp. 1 and Subp. 2 and 6120.3400, Subp. 3.

Subp. 2. Water Supply.

One of the changes made in these subparts requires the water quality standards of the Minnesota Department of Health and Minnesota Pollution Control Agency to be adopted as minimum standards or to be exceeded for any public or private supply of water for domestic purposes. This provision would promote the public health and welfare of shoreland residents. The other change requires that wells no longer in service be abandoned according to water well abandonment standards of the Minnesota Department of Health. While the number of abandoned wells in Minnesota is unknown, it is believed to be very high. Officials of the Minnesota Department of Health estimate the number of improperly abandoned wells to be 1/2 million to 1 1/2 million. If wells are not abandoned according to standards, they are a threat to public health and welfare since they become conduits through which contaminants reach and pollute groundwater aquifers. Almost 100% of rural Minnesota and some cities depend on ground water for their domestic water supply. As such its protection is important to prevent disastrous consequences on public health and welfare.

Subp. 3. Sewage Treatment.

The changes in the introductory paragraph and Items A and B are needed to update the language and to eliminate inappropriate or redundant phrasing. Generally, the notion that sewage is to be "treated" as opposed to "disposed" is conveyed with the new language. In Item A, "publicly-owned sewer systems" is a better way of describing the types of systems that should be utilized in Shoreland areas when they are available.

In Item B, the changes made are needed to reflect more appropriate and current terminology, and to specifically refer the rule user to the comprehensive state rule (Minn. Rule 7080) that is incorporated into the shoreland rules for on-site sewage treatment.

In Items C, D, E, F and G, it is reasonable to delete from the rule the stated standards, criteria and factors for location and installation of sewage treatment systems, since all of these items are addressed in a consistent and comprehensive fashion in the relevant rules (Minn. Rules 7080) that are referenced in Item B, above.

Further, the numerical sewage system setback standards from the OHW of lakes are deleted as they appeared in text format and subsequently re-arranged in tabular form. In Item C, the setback values for lakes are underlined only because of their new tabular arrangement, as the values themselves are not changed from the original set of rules. The setbacks for sewage treatment systems for river classes are derived from consideration of several aspects of shoreland development and protection.

First, the system location is related to and dependent on the location of the principal structure. Ordinarily, land along rivers at the area of the principal structure setback is either flat or sloping toward the river at varying rates. For sloping building sites, placement of the sewage treatment system can use this natural slope for gravity feed of sewage effluent from the principal structure to the septic tank and finally to the drainfield. Additionally, the flow of groundwater is usually oriented towards the river. This can enable dilution of the nitrate component of the effluent in a manner that will not pose a health threat to the well water supply of the principal structure, since most residences would be designed with the well at or near the principal structure and upslope of the groundwater flow from the drainfield. For this reason it is reasonable to

establish a sewage treatment system setback at a distance closer to the river than the principal structure setback.

Second, the location of the sewage treatment site should be related to the management objective of each river class, the expected recreational uses of the river (which is a component of the river classification system), and the inherent capabilities of soils or building sites adjacent to the watercourses to effectively treat the effluent loads in the drainfield.

For example, a system setback of 150 feet for Remote river segments accomplishes the management objective as stated earlier because drainfield location will ensure that a high degree of effluent absorption (phosphorous) and dilution (nitrates) occurs between the system location and the watercourse. This in turn maintains and enhances water quality which is important for the Remote river class and the recreational use expectations and activities associated with the class(fishing, swimming, recreational boating). The soils capability for this class can be generalized as moderate to poor since most of the Remote river segments are in areas of either shallow soil depth to bedrock or high seasonal ground water tables, which are both limiting factors in siting sewage treatment systems. For these reasons, a sewage treatment system setback of 150 feet is needed and reasonable.

The same rationale also applies to the Forested and Transition river segments, with the only difference being a sewage system setback standard of 100 feet which is related to the reduced structure setback provision for these two classes. These watercourses generally receive a high amount of recreational use and preservation of water quality is important. These segments generally have higher flows than Remote river segments and therefore would have better assimilation and dilution capabilities, justifying the slightly reduced setbacks for the placement of on-site sewage treatment systems.

Sewage treatment setbacks for Agricultural, Urban and Tributary segments of 75 feet are reasonable since they relate to the proposed structure setbacks. They are also reasonable from a water quality aspect since the water quality of these segments is primarily influenced by other factors such as agricultural runoff and urban point and no-point pollution sources. Most of the Urban and those Tributary segments having concentrated development already have municipal sewer service available or installed and the sewage setback discussion is no longer relevant.

Item D addresses the upgrading nonconforming sewage treatment systems via local government implementation of shoreland zoning controls. The overall issue of nonconforming sewage treatment systems was identified as a high priority issue by local officials and DNR-Division of Waters staff during a statewide shoreland program advisory committee process conducted in 1983. The results of that process, as documented in Sup. 3, Issue 1, clearly point to the need for aggressively addressing nonconforming sewage treatment systems through the Shoreland Management Program.

The negative environmental impacts of the existence of non-conforming sewage treatment systems are well documented. For example, a November, 1980, Environmental Protection Agency publication entitled "Groundwater Protection" clearly describes the processes and threats of groundwater pollution from malfunctioning on-site sewage treatment systems. In shoreland areas, groundwater resources are often directly linked to the surface waters of the lake or stream. More recently, two published reports entitled, "Protecting Minnesota's Waters ... The Land Use Connection" (MNPCA, 1986) and "A Citizen's Guide to Lake Protection" (MNPCA and Freshwater Society/Foundation, 1985) clearly discuss the negative impacts that failing systems and improperly treated sewage have on our shoreland resources. Briefly, these impacts are often seen as algae blooms, fish and wildlife population declines, unsightly or smelly water, and eventual erosion of soils if discharge from failing systems breaks out onto the ground surface.

The provisions in this item were developed and agreed upon by the Shoreland Management Committee after modifying the earlier proposals drafted by DNR Shoreland staff. The requirements found in the introductory language of Item D are needed because local governments in some cases cannot reasonably develop and implement programs to correct non-conforming sewage treatment systems unless appropriate funding is available. However, in many cases, the level of funding required to implement parts of item D may already be available at local units of government, since zoning administrators and support staff (building inspectors, sanitarians, clerks) could feasibly satisfy on a routine basis the requirement that systems be updated when permits are issued and variances are granted, and the costs of implementing this section may not be substantial. Further, it was found reasonable by the Shoreland Management Committee that such programs must require system reconstruction whenever permits or variances are required and/or granted, as recommended in SUP 3, Issue 1, point 5.

This requirement is needed to ensure that nonconforming systems are upgraded by the property owners, at the time of permitted expansion, remodeling or new building. This will have long term positive impacts towards the protection, improvement and preservation of shoreland area natural resources, specifically surface waters and groundwater. Finally, in conjunction with the requirements to upgrade systems through funded local programs, three specific program approaches are listed to provide guidance to local officials in meeting the rule's intent for addressing nonconforming systems. Subitems (1) and (2) are approaches that are currently being successfully implemented by some Minnesota counties with substantial lake acreage and development activity. Subitem (3) was developed by shoreland staff as an alternative approach to subitems (1) and (2). Collectively, subitems (1), (2) and (3) satisfy recommendations from statewide shoreland managers as found in SUP 3, Issue 1, points 4 and 6. Subitem (4) is needed to provide local units of government with the flexibility to introduce creative and effective alternatives for meeting the intent of this item. For example some Minnesota counties are currently and successfully holding up the sale and transfer of shoreland properties until either the buyers or sellers agree to having the necessary actions done to bring nonconforming sewage systems into compliance with Chapter 7080 and setback requirements of this subpart. In summary, all of the above approaches are needed and reasonable in order to set guidelines for future local programs aimed at correcting existing non-conforming sewage treatment systems.

6120.3500 SUBDIVISION PROVISIONS

Subp. 1. Land Suitability.

The language in the current rules regarding the establishment of lots was deficient in that lots may be created on paper but may be totally unsuitable for building structure and siting on-site sewage treatment systems and recreational facilities. This provision is needed so that unsuitable lands cannot be made suitable by grading and filling. The proposed language addresses very important issues that must be considered when lots are created. The new language requires that each lot created must be suitable in its natural state, that is, with minimum vegetation alteration, grading and filling and that local units of government should consider the subdivisions susceptibility to flooding, existence of wetlands, steepness of the topography, 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 that is going to adversely affect future residents and degrade land and water quality. In SUP 3 many of these issues were identified by local officials who recommended that the DNR look into ways of ensuring that subdivision be developed in such a way that these problems don't continue in the future and be a threat to public health and welfare. Another important reason for this subpart is that wildlife habitat and plant communities, and suitability of access to the body of water should be considered so that substantial work is not needed to develop recreational facilities. This provision is needed to prevent unsuitable lands to be preserved in their natural state and protect future homeowners investments.

Subp. 2. Platting.

This is a new language that requires that any subdivision with 5 or more lots or parcels that are 2 1/2 acres or less must be properly and legally subdivided which is required by Minn. Stat. Sect. 462.358 Subp. 3A and recorded according to Minn. Stat. Chapt. 505 and officially approved by the local unit of government. For smaller lots the metes and bounds method of subdividing is far less accurate than platting using monuments. Therefore metes and bounds creates problems of establishing lot lines. Thus, these requirements are needed to protect both the local unit of government and the investor by minimizing or eliminating significant boundary errors. It also requires, which is also required by Minn. Stat. Sect. 462.358 Subp. 2A, the local unit of government not to record parcels or issue building or sewage permits that have not been officially approved after the enactment of official controls under parts 6120.2500 to 6120.3900. This provision will help minimize or eliminate the subdivision of unsuitable and marginal land and protect the investment of future homeowners.

Subp. 3. Consistency with other Controls.

This is new language designed to help the establishment of subdivisions to be consistent with all other official controls under 6120.2500 to 6120.3900. This part requires that the availability of domestic water supply and suitable soil with sufficient depth and area to install and operate two on-site sewage treatment systems must be available for each lot before a subdivision is approved. The reason for requiring two sites for the on-site sewage treatment system is that if and when the one installed system fails, there will be the second site to build on another on-site sewage treatment system. It is reasonable that lot sizes must meet minimum requirements as defined in 6120.3300, subparts 2a

and 2b so that the overall purposes for the shoreland rules be met. Lots that would need holding tanks would be excluded from being subdivided because according to suitability requirements in Subp. 1 they are not to be subdivided. While the local unit of government is going through the process of subdividing or approval of PUDs, it is required to notify the appropriate governmental agency if the land has potential for public access. The reason being that agencies would have the possibility for developing public access if funds are available.

This subpart ensures the integration of the various requirements in the rules so that a subdivision evaluation is not merely based on the plan of the property, but that it must have all the other necessities that are needed to promote the health and welfare of future residents, and enhance land and water quality.

Subp. 4. Information Requirement.

This new language requires local subdivision controls to set minimum information to be submitted by a developer. The information must include at least a topographic contoured map at ten feet intervals or less showing limiting site characteristics such as wetlands, surface water features required by Minn. Stat. Sect. 505.02, subdivision 1, to be shown in plats, adequate soils information to determine suitability for building on-site sewage treatment, adequacy of domestic water supply, anticipated vegetation and topographic alterations, near-shore aquatic conditions, methods for controlling storm water runoff and erosion both during construction and operation and a map showing the boundary of the 100-year flood plain from existing data or map. This information is needed so that suitability of the subdivision for development can be determined.

Subp. 5. Dedications.

This provision requires that when a land is subdivided, the developer has to provide for drainage and ponding of stormwater. This is needed to ensure that natural drainage systems and habitats are preserved and maintained or compensated for when there is a change made.

6120.3800 PLANNED UNIT DEVELOPMENT

Planned Unit Developments (PUDs) are defined as 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.

The definition of PUDs does not differentiate between residential and commercial PUDs, a distinction which is made for regulatory purposes in this subpart. As intended by the Department of Natural Resources for these rules, a Residential PUD is considered to be a use where the nature of residency is non-transient and the major or primary focus of the development is not service oriented. For example, residential apartments, time-share condominiums, townhouses, cooperatives and full fee ownership residences would be considered as residential PUDs. In contrast, commercial PUDs 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, recreational vehicle and camping parks, and other primarily service oriented activities are commercial PUDs.

The current rules provide only brief minimum standards for approving PUDs. However after the current rules were adopted, the DNR developed guidelines for local officials and developers on how to develop PUDs. These guidelines were published in "THE CONCEPT OF CLUSTER DEVELOPMENT, Explanation and Guidelines, SHORELAND MANAGEMENT, Supplementary Report No. 4" May 1974.

During the promulgation of the current shoreland rules in the early 1970s, PUDs were a newly emerging urban development trend. Their popularity has grown at an accelerated rate to the present. The advantage of PUDs from a shoreland management perspective is that they allow sensitive portions of the project areas such as wetlands, shore and bluff zones, steep slopes and unsuitable soils to be left undeveloped by concentrating units in the most developable portions of a project site. PUDs also allow the centralization of sewage treatment systems, water supply, and recreational facilities thereby allowing more space to be left open.

Since the early 1970s, and particularly since the MDNR publication in 1982, the local units of government and the MDNR have had considerable experience in the evaluation of proposed PUDs. In the early 1980s the MDNR developed a procedure and minimum standards to guide the design of PUDs in shoreland areas and published them in "A DESCRIPTION OF SHORELAND MANAGEMENT GUIDELINES FOR CLUSTER & PLANNED UNIT DEVELOPMENT", June 1982. In this publication the MDNR described project review procedures, project designs,

general concepts, procedures for evaluating land suitability and density of units, methods for siting on-site sewage treatment systems, and the management of vegetation, open space and shore recreation facilities in PUDs. Many successful PUDs have been built and operated. Since the shoreland management program started, over 100 PUDs have been reviewed and approved by the DNR. There is a need, however, to formalize the provisions and standards in the proposed shoreland rules that have been applied as general guidelines in the past.

One of the major proposed rule changes in the approval process of PUDs is that the final authority to approve or reject PUD projects will be transferred from the MDNR to the local units of government. Current provisions do not include commercial PUDs. Therefore a whole new provisions and standards for commercial PUDs have been developed and proposed in the revised rules.

Subp. 1. Scope of planned unit development.

The scope of this section allows the development of new PUD projects, redevelopment of existing projects and the conversion of existing development, such as resorts to PUDs. In the period between the adoption of parts 6120.2500 to 6120.3900 and adoption of 6120.3800 by local units of government, PUDs must be reviewed for consistency with part 6120.3800 and approved by the Commissioner. This will ensure a smooth transition in the interim between the present MDNR PUD approval procedures and the adoption into the official control of the local unit of government of the proposed minimum standards.

Subp. 2. Land Use district designation.

This part requires a local unit of government to designate or identify in their official controls and on zoning maps the land use district where PUDs are going to be allowed as conditional uses. This is needed to allow the local unit of government to evaluate the capability of a body of water to support increased densities as is the case with PUDs. In the publication "LAKE DEVELOPMENT, How Much Is Too Much?" (DNR-Division of Waters, 1987) it was shown that lakes have a threshold of recreational and physical carrying capacities up to which they can reasonably sustain development. Further, the rule reasonably requires that when the local unit of government designates a district where PUDs are allowed as conditional uses it must consider the criteria in part 6120.3200. The local unit of government must also assess the existing use of surface waters and what the impact will be when the PUD is in place, the suitability and

impact on the land and water by the increased density, the level of existing development and the type of ownership of undeveloped shorelands. These minimum standards are needed to help achieve the reasonable use of the shoreland while preserving and enhancing the land and water quality. Item E allows the expansion of existing commercial PUDs by up to six dwelling units if the density allowed by Subpart 6, Item A, is not exceeded. Expansions by more than six dwelling units have to be processed as conditional uses. This is needed to allow the conditional use process to set conditions that would minimize degradation of shoreland and water quality.

Subp. 3. Information Requirements.

To enable the local units of government to evaluate a proposed PUD, this subpart requires a minimum set of information to be submitted by the developer. This includes the site plan, showing the project boundaries, surface water features, existing and proposed structures, and topographic contours at ten foot intervals. Documents, such as plans, reports, and covenants that explain how the project is designed and will function, have to be submitted to the local unit of government as part of the evaluation process. This information is needed to evaluate the soundness, feasibility, and operation of the project and protect future homeowners investment.

Subp. 4. Dwelling Unit or Site Density Evaluation.

This subpart states the standards and methodology for determining the number of units or density of the development. The exercise as required by this subpart is simply setting the tier depth for all classes of lakes both for sewered and unsewered areas. Then the results of this exercise are carried out further in the following subparts both for residential and commercial PUDs. This concept of multiple tiers is needed so that all the PUDs are not located only in the first tier near the shore. This allows the distribution of PUDs away from the body of water thereby minimizing impact on the shore impact zone and enhancing water quality.

Subp. 5. Residential planned unit development density evaluation steps and design criteria.

This subpart, items A through D, describes the method and standards for determining the density or number of units. The standards in table 2a and 2b in 6120.3300 are also used in determining the number of single structures. Then, as allowed by this subpart, the number of single structures are

increased by various multipliers depending on which tier the PUDs are located to determine the number of units. Again the trade off of allowing increased density is that it will allow more space to be open. The magnitude of open space is further enhanced by centralizing on-site sewage treatment systems, water supply systems, and recreational facilities. The standards provide for a reasonable increase of the dwelling units in exchange for the relatively large open space that would be left due to the clustering or concentration of the units. These provisions provide an objective method for determining the density in contrast to the subjective guidelines in the current rules.

Item A requires that each tier be divided by the lot size and setback standards of subpart 2a and 2b to find number of single unit dwelling structures for each tier. Then the maximum number of dwelling units in the PUD is determined using density increase factors provided in this subpart for first, second, third, fourth, and fifth tiers. More density is allowed in the second tier than in the first tier and in the third, fourth and fifth tiers than in the second tier. This allows the developer more units but also recognizes the fact that lesser density near the shore impact zone has less impact on water quality and the immediate shore.

In Item B the minimum design criteria are specified. It requires that the minimum number of units in a PUD be 5 or more, and that at least 50% of the project area be left as open space. The minimum number of 5 is specified here because the cost of the administration of the property association cannot be sustained by less than five members. This item provides for open space management, preservation and use by taking into account uses such as roads, parking areas, and by preserving wetlands and areas unsuitable for development in their natural state. It also requires that at least 50 percent of the shore impact zone of existing developments and 70 percent of shore impact zone area of new developments be preserved in their existing or natural state. Even though this concept can potentially provide more protection for shorelands than classical subdivision methods, some people are worried that the density increase allowed by some cluster developments will overcrowd the surface waters of our lakes. This is a legitimate argument and there is no doubt that the ability of a particular body of water to absorb the increased use generated through cluster development must be an important factor used in deciding how much of a density increase to allow for a specific cluster development. This item requires that maximum density may be allowed if structure setback from the ordinary high water mark is increased at least by 50% greater than the minimum setback thus allowing more open

space near the shore impact zone to be open. PUDs are required to be connected to publicly owned water supply and sewer systems when available if sewer systems are available. On-site sewage treatment and water supply systems must be centralized and must be designed, installed, and operated to meet at least the minimum standards set by the Minnesota Department of Health and Minnesota Pollution Control Agency. All new dwellings must use water conserving plumbing fixtures. These provisions have to be met so that this subpart is consistent with other provisions of these rules. Further, it requires that shore recreation facilities such as swimming areas, docks, and watercraft mooring areas and launching ramps be centralized and located in areas suitable for them. It also requires that erosion control measures and stormwater management for PUDs be designated in such a manner that erosion is minimized during both construction and operation of the project. Plans for erosion control and stormwater management has to be approved by soil and water conservation districts if project size and site physical characteristics warrant it. These standards are needed to minimize sediment transport to public waters thereby minimizing or preventing degradation of shoreland and water quality.

Item C provides standards for the administration, maintenance, and operation of PUDs so that the preservation of open spaces is perpetual by prohibiting changes that will alter vegetation, topography, and water quality.

Item D deals with conversion of existing structures, such as resorts, to PUDs by setting minimum standards for conversion. Conversion must meet the same standards for water supply, on-site sewage treatment system, docking facilities and beach areas as new developments. Any deficiency involving water supply, or sewage treatment, impervious surface coverage, open space, or shore recreation facilities have to be upgraded to meet minimum standards. If the density exceeds the standards at the time of conversion, the conversion may be allowed but an increase of density may not be allowed. For structures that are in shore or bluff impact zones at conversion, this section requires that expansions be prohibited and that space be provided for future relocation of dwelling units where feasible. It also requires that efforts be made during the conversion to limit impacts of high densities by centralizing shore recreation facilities, installing new centralized on-site sewage treatment systems, if public sewer system is not available, and improving vegetation. These provisions ensure consistency with new developments and minimize impact on land and water quality.

Subp. 6. Commercial planned unit development density evaluation steps and design criteria.

This subpart provides both standards for determining the density and design criteria for commercial PUDs.

There is a significant difference between residential and commercial PUDs in the way they impact public waters and shorelands. Large commercial PUDs, such as resorts, focus on the business aspect such as conventions and users don't usually have much time to impact the shoreland and the body of water on a regular basis. On smaller resorts, however, the shoreland, especially the shore impact zone and the adjacent public waters, are heavily impacted. In residential PUDs the residents do establish a consistent pattern of the use of their property and adjacent public water and therefore the impact is almost predictable.

Commercial PUDs also differ from residential PUDs in the way they are planned and used. First, commercial PUDs, such as resorts, try to accommodate space needs of different customers. The concept of average unit area ranging from 200 to 1,500 square feet accommodates this need. Secondly, commercial PUDs involve enterpreneurship. There is competition involved. Therefore they keep on evolving and changing. Thirdly, because of the first and second reasons the standards set for commercial PUDs are more in tune with current architectural practice. Thus the need for separate standards for commercial PUDs. The standards for residential PUDs do not allow this flexibility or method to figure out the density. These were some of the reasons behind the separate standards for determining the density of residential and commercial PUDs.

Item A sets step by step standards for determining the density of the project. The key to the evaluation process is a table showing floor area ratio that corresponds to average unit floor area and class of lake or river. First the average unit area is determined, then the appropriate floor area ratio is selected from the table for the appropriate lake or river classification. Then the useable area within each tier is multiplied by the floor area ratio and the result is divided by the average unit area to determine the number of units or density for each tier. Following that, a determination is made whether the project is eligible for additional density increases using the design standards in item B. This item specifies floor area ratios for average unit area less than 200 square feet and greater than 1,500 square feet, and recreational camping areas. The maximum allowable density multipliers are the same as for residential PUDs in Subp. 5. These provisions

are needed to allow a direct way of determining the density of units.

Most of design criteria listed in item B are similar to item B in Subp. (5) for residential PUDs, which have already been discussed.

As a whole, these provisions and standards are an improvement on the MDNR guideline on PUDs described in Subpart (1). They provide for the uniform step by step evaluation of PUD projects and significantly minimize inconsistencies and provide greater predictability for developers during the design and review process.

6120.3900 ADMINISTRATION.

Subp. 1. Administration and enforcement.

This part provides language for rule consolidation, makes reviser's office form changes, and requires that permits are the process for administration of certain activities regulated under the rules. Although implied under the existing rules, a few local governments argued the fact that the rule did not specifically require permits. Therefore it is reasonable to provide the appropriate clarification in the rule.

Subp. 2. (See Repealer).

The elements of this part were incorporated into subpart 1 and therefore this subpart can be repealed.

Subp. 3. Variances.

The rule provides for uniformity with the reference to Minn. Stat. Chapt. 394 for the administration of variances. The existing rule does not provide for uniformity for application of variances therefore each unit of government used its unique underlying zoning authority to judge variances. This meant that the process was different between cities and counties and even townships. This caused abuses of the intent of the variance process, particularly where there were multi jurisdiction on a given lake or river segment. The rule as proposed will provide for uniform definition and criteria for administration of variances.

NOTE: The Department notes that the reference to Minn. Stat. Chapt. 394 in the rule has been questioned by the Attorney General's office in their review of the rule. Counsel observed that since chapter 394 is the enabling

legislation for counties only and the rule may exceed legislative intent by giving cities and towns different discretion on the standards and procedures required for granting a variance than they now have through applicable enabling legislation. This point is mentioned here since a change to this part of the rule may be warranted during discussion and testimony at the public hearing.

This section also provides for evaluation of specific considerations by the local government when a variance is requested. The shoreland statute provides for special rules for variances to help ensure the intent of the shoreland management program is maintained. The program evaluation, SUP # 3, Issue # 2, suggested that a list of factors should be developed to further guide the Boards of Adjustment in considering variance requests. The proposed rule provides reasonable guidance. If a local government did not consider these matters interested parties would have a legal avenue to debate the decision. The rule provides reasonable compromise between no rule guidance and the earlier drafts which was restrictive in definition and conditions. The committee believed that the proposed language would protect the integrity of the program with proper oversite from the state and when applied with supporting training for boards of adjustment.

Subp. 3a. Conditional uses.

The existing rules did not have specific provisions relating conditional uses, except in the county model ordinance. Although most local ordinances have conditional use provisions to address these types of uses in a general sense few had additional provisions which focused on shorelands. Recent court cases have seemed to imply that conditional use provisions cannot be open ended, leaving everything to the discretion of the local government. The ordinance must provide general guidance to ensure equity, uniformity and reasonableness. The rule provides for the type of evaluation that will contribute to the purposes of the shoreland program.

Subp. 4. Nonconformities.

The shoreland update evaluation recognized that sewage treatment systems continue to be a major problem on Minnesota's lakes and streams. The current rule called for all nonconforming systems to be upgraded within 5 years of local adoption of the shoreland ordinance. A few local governments were diligent in recent years in pursuing the problem, however after 14 years of program administration some 36,000 nonconforming systems still exist. The primary

reason that this shortcoming exists is the lack of specific direction in the rules to ensure that each local government had, in place, the necessary provisions to provide an orderly means to identify and eliminate nonconforming sewage systems. SUP # 2 maintained that the existence of a large number of nonconforming sewage systems was a major shortcoming of the program. In SUP # 3, Issue # 1, it is recommended that specific standards be developed to correct this shortcoming.

The NON POINT SOURCE ISSUES TEAM REPORT identified nonconforming sewage systems as a threat to lakes and rivers and recommended that the MDNR establish more specific performance standards to guide elimination of nonconforming sewage systems in shoreland areas.

To accomplish the above objective several options were considered and debated by the shoreland rules committee. The committee decided that maintaining and enhancing the quality of the lakes were important and that a uniform and direct approach for eliminating nonconforming sewage systems would be the most effective. The proposed rule would also provide the most reasonable direct and economical means of achieving the desired objective. This approach seems to the most reasonable also when the cost of the other options are considered. With these rules the burden for evaluating the adequacy of the sewage system is with the landowner, if the local government so desires. Administratively the landowner would have the responsibility to have the existing sewage inspected by a approved sewage installer to certify the adequacy of the existing system before the local government authorizes any improvements to the property. In this manner the cost for administration can limited to spot inspections by the local government to ensure that proper evaluations are being conducted by the installers.

Subp. 4a. Shoreland management by townships.

The existing rule does not specifically address townships, primarily because Minn. Stat. Sect. 105.485 directs only counties and cities to adopt minimum shoreland standards consistent with statewide standards. Counties and cities are the primary planning and zoning authorities in the state with few exceptions. Townships have exerted their authority to zone in a number of instances, some with a great deal of success and others with very little success when measured against the purposes of the shoreland program. The problem with the zoning authority of townships is a issue of capability and accountability. The shoreland program is not a small undertaking for a local unit of government when you consider all components of the program. SUP # 2 found that

townships in general are not managing their shoreland programs as effectively as counties. Townships have frequently adopted only portions of a shoreland programs components leaving the county to continue administer the remaining portion or to duplicate that of the township. In most instances, rural townships do not have the financial capability to administer an ordinance meeting statewide standards. The multi- jurisdiction zoning that has occurred has caused problems for the public in securing the proper permits needed under the shoreland program. The confusion has resulted in poor shoreland development, unnecessary overlap, unnecessary litigation, and in a few cases left the lakes with little or protection from unwise development. The rule reasonably proposes to establish accountability for the future administration of the program. The rule would require a township to demonstrate to the county that the township ordinance is at least as restrictive as the county's and that the township has equal or greater capability, staffing expertise and financial capability, to administer the program. This is needed to help ensure that the integrity of the program is maintained and that if the program is to be administered by the townships on a broader basis that the capability exists to properly manage the lakes and rivers in it's jurisdiction.

This element of the rule does not create or pose additional costs to the local governments, in fact, the provision will serve to streamline the zoning processes of the counties and townships by minimizing undue duplication and administration. The shoreland evaluation encouraged the development of a process that would improve program accountability and the rule does just that.

Subp. 5. Joint exercise of powers.

This part incorporates minor changes to ensure consistency with other parts..

Subp. 6. Notification procedures.

In Item A the rule provides clarification of who actually is to receive the notices. The rule currently references the commissioner when in fact it is the commissioner's representative that is to receive the notices. The 10 day notice is maintained. The change from "received by" to "sent to" is a significant change. The change here and in the next item seem to be inconsistent with the information presented in SUP # 1 where local officials asked for more frequent comments from DNR on shoreland actions.

Item B is a significant change from the existing rule. The change from "received by" to "sent to" coupled with the change from "10 days" to "30 days" effectively and significantly reduces the ability of the commissioner to respond, within time frames establish by law, to decisions that are believed to violate the intent of the shoreland program. The committees intent was to provide more time for formalization of the record of decision. However a more appropriate time frame would be something less than 20 days. This change also creates a inconsistency with flood plain management and wild and scenic rule provisions which many of the local governments also administer.

Item C's provision is provided for clarification. The current rule does not specifically address notice requirements for townships. The attorney general's office has stated that the notice requirements apply to townships that have undertaken administration of the shoreland program. Since the matter has been issue of debate in the past it is reasonable to include the clarification thereby minimizing future conflicts.

Rulemaking considerations of Agricultural Lands and Small Business

As part of the agency's (Minn. DNR) administrative rulemaking procedures and responsibilities, Minn. Stat. Chapt. 14 requires that the proposed rules be evaluated for potential direct and substantial adverse impacts on agricultural land and for impacts on small businesses. The following discussion addresses this requirement.

Agricultural Lands

Minn. Stat. Sect. 14.11 Subd. 2 is the statutory reference for rule impacts on agricultural land. That subdivision refers to Minn. Stat. Sects. 17.80 to 17.84, which discusses the State's agricultural land preservation and conservation policy. Subd. 1 of Minn. Stat. Sect. 17.80 describes the policy in detail. It is the DNR's finding that these rules reasonably achieve the state's policy of preserving agricultural land and conserve the land's use within shoreland areas, since these rules provide a framework for the wise use and development of both agricultural and non-agricultural lands, thereby satisfying item (a) of the policy. The rules provide for the conservation and enhancement of soil and water resources in shoreland agricultural areas, through the agricultural provisions and other land use provisions, thereby satisfying item (b) of the policy. Finally, the framework of land use district

descriptions and allowable uses and accompanying development standards for all classes of shoreland areas found in the proposed rules satisfies policy item (c), since planned growth and development of urban and rural areas can be accomplished by local units of government utilizing the framework.

The methodology for achieving the polices of Subd. 1 are specified in Minn. Stat. Sect. 17.80 Subd. 2. As discussed above, the Department finds that the rules use and provide several methodologies compliant with items (a) through (f) of this subdivision.

Under the proposed amendments, local governments can continue to allow agricultural uses in shorelands. Even if districts are established in which agricultural uses are not allowed, existing agricultural uses can continue. Within 50 feet of water, agriculture is allowed when practical per SCS approved conservation plans.

Minn. Stat. Sect. 17.81 Subd. 2 defines, for the purposes of Minn. Stat. Sects. 17.80 - 17.84 and Minn. Stat. Sect. 14.11 Subd. 2, "action which adversely affects" in regards to actions which would have the effect of substantially restricting the agricultural use of land. It is the Department's finding that these rules do not constitute actions which adversely affects agriculture land uses, as specified in items (1), (2), (3) and (4) of Minn. Stat. Sect. 17.81 Subd. 2.

Based on the above findings, the Department of Natural Resources finds that its proposed revised rules for the management of Shoreland Areas, are exempt from the requirements of Minn. Stat. Sects. 17.82 - 17.84.

Small Businesses

Minn. Stat. Sect. 14.115 is the statutory reference dealing with small business considerations in rulemaking.

According to the definition of "small business" in Subd. 1, the Department finds that these proposed revised rules address small businesses since many businesses in the recreation service and tourism industry (small resorts, boat sales, rental, bait shops, etc.) as well as many non-recreation and tourism small businesses are within or operate within the state's shoreland areas subject to these rules.

Pursuant to Subd. 2, agencies proposing new rules must consider 5 methods for reducing impacts on small businesses.

Each of the 5 methods, as they relate to small businesses are discussed below.

(a) "The establishment of less stringent compliance or reporting requirements".

The proposed rules have no requirements dealing with the reporting of business activities nor do they deal with compliance aspects of reporting business activities.

The rules have specific zoning compliance standards for commercial, industrial and extractive uses, some of which according to Minn. Stat. Sect. 14.115 Subd. 1, could include small businesses. The rule further differentiates between those uses that need to be near shoreline and those uses that don't. The orientation of the rule is that if a use must be near water due to a key function, use or process needed to sustain the business, it is reasonable to allow such uses in the riparian zone of a shoreland. For example, a restaurant with many customers arriving by boat, or a boat rental business obviously may need to be next to the water. In contrast, a use that is not dependent on access to or use of the shoreland riparian zone for a function of its business does not need to be located in this area. Examples would be commercial uses and stores serving clientele from adjacent roads and parking areas. In light of the above and the requirements of item (a), above, less stringent zoning compliance requirements for small businesses were considered, and the results in the proposed rules are as follows.

With regard to zoning compliance, small businesses are treated no differently or exceptionally less or more restrictive than non small businesses. Depending on the exact nature of a small business or non small business, some may have a large potential for impacting the natural resource value of shoreland areas, whereas others may have minimal potential impacts. Therefore, it is reasonable that these regulations contain standards that equitably provide specific rule requirements, review procedures and associated performance criteria that protect and manage shoreland areas from potential environmental impacts of both small businesses and non small businesses, in shoreland areas.

(b) "The establishment of less stringent schedules or deadlines for compliance or reporting requirements".

Specific schedules and deadlines for compliance or reporting requirements of small businesses are not contained in these rules.

(c) "The consolidation or simplification of compliance or reporting requirements".

Reporting requirements for small businesses are not contained in these rules. As mentioned in the discussion of method (a), above, the rules provide for certain zoning compliance requirements of small businesses as well as non-small businesses in shoreland areas. Consolidation and simplification of zoning compliance requirements for all types of uses in shoreland areas, including small businesses, was constantly considered during the rule drafting process. The potentials for consolidation and simplification of zoning compliance requirements were weighed against the various statutory requirements relevant to these rules. The result is that zoning compliance requirements were consolidated and/or simplified whenever possible, while statutory requirements necessitated more complex rule requirements in several cases. It must be pointed out that these proposed rules in and of themselves will not be a tool used directly to regulate small businesses. Instead, local units of government, through the zoning authorities granted them by the state, will implement these rules through local land use ordinances, that can be based on consolidated and simplified agency prepared model zoning ordinances.

(d) "The establishment of performance standards to replace design or operational standards required in the rule".

The Department considered performance standards in many areas of the rule as they relate to shoreland area uses and development, regardless of whether small or non-small businesses constituted the development or use. The result is that performance criteria are proposed in the rule in those cases where they provide feasible alternatives to design standards and the Shoreland Management Act and other relevant statutory requirements can still be met.

(e) "The exemption of small businesses from any and all requirements of the rule".

The Department considered this method and found that the purposes, intent and legal requirements of Minn. Stat. Sect. 105.485 would not be met if this method were implemented.

Pursuant to Subd. 3, the Department has incorporated where feasible and prudent, methods to reduce impacts to small businesses and not be contrary to the statutory objectives that are the basis for this rulemaking. For example, in developing the rules relating to Commercial Planned Unit Developments (PUD) the Department utilized input from the

Shoreland Management committee and provided for a flexible and realistic PUD review process. Another example is the development of land use district uses in which small businesses could be located or allowed to remain consistent with the proposed framework of that section. Finally, water oriented commercial uses are allowed to have stairway and landing facilities in excess of non-commercial uses, since higher pedestrian traffic volumes can be expected.

Pursuant to Subd. 4, Small Businesses participation in rulemaking, the Department provided an opportunity for small businesses to participate in the process, since notices have been published and invitations sent to associations, groups, or agencies affiliated with small business concerns. The reader is referred to pages 3, 4 and 5 of this Statement of Need for a detailed explanation and justification of small business rulemaking participation.

This concludes the discussion of agency compliance with Minn. Stat. Sect. 14.11 and 14.115.

Fiscal Note

The forgoing rules will mandate local government to take actions that will result in the local government incurring costs beyond what is currently being expended for shoreland management. Therefore, this fiscal note is provided in accordance with Minn. Stat. Sects. 3.982, 3.98 subd. 2, and Minn. Stat. Sect. 14.11 subd. 1.

The first two years costs to local government and state government will be the greater than the long term administrative costs. The first two years will require the local government to review classification of lakes and rivers, draft ordinance amendments, conduct public hearings, publish ordinances, attend training sessions and workshops in administration of the amended ordinances, and perform increased monitoring of ordinance activities. The state will develop model ordinances, training and educational materials, conduct training sessions, assist local governments in developing amendments, and provide technical support to local governments in administration, monitoring and enforcement of the amended shoreland ordinances.

The estimated cost for the first two years of implementation is estimated to be $4,000,000. This anticipates that the 85 counties and about 120 cities that will have to amend existing shoreland ordinances will continue the current efforts of shoreland ordinance administration and the state will increase its current efforts in assistance to local

governments. The actual cost per unit of government will vary significantly throughout the state based on the sophistication of existing program and the number of rivers included in the river classification system. The cost could vary from $5,000 to $50,000 per unit of government. The cost to the state, which is included in the total estimate, is projected at $550,000 for the first two years.

The balance of the fiscal will be presented in accordance with Minn. Stat. Sect. 3.98 Subd. 2 as follows:

(1) Cite the effect in dollar amounts
* Local government - $3,450,000
* State government - $ 550,000
Total $4,000,000

(2) Cite the statutory provisions affected
* Minn. Stat. Sect. 105.484
* Minn. Stat. Chapter 394
* Minn. Stat. Chapter 462

(3) Estimate the increase or decrease in revenues or expenditures
* No change in state revenues is anticipated
* The increase in expenditures is reflected in items (1) and (4).

(4) Costs which may be absorbed without additional funds
* Local in-kind costs $1,500,000, reflects support from ongoing activities in shoreland management.
* State in-kind costs $380,000, reflects support from existing efforts in shoreland management.

(5) Long range implications

* An ongoing cost to local governments for ordinance administration, monitoring and enforcement. The actual cost to the local government will depend on the implementation strategies that are selected and the fee structure established in the ordinance.
* Enhanced water quality, protection of economic values of the shorelands, and protection and enhancement of environmental values of the lakes and streams and their shorelands.
* Reduction in the need for and costs of lake improvement and restoration projects.
* A lake and stream management program that will provide for a balance between resource development and resource protection and enhancement for the next 15 to 20 years.

* An on-going cost to state government to provide technical assistance, and training and education programs for local government.

Shoreland Update Report #1 indicates that the staffing allocation to shoreland management at the local and state level needed to be increased to effectively manage the lake and river shorelands. To put this cost in perspective with the economic value of shorelands, SUP #8 indicates that seasonal residents expenditures alone exceeded $170,000,000 annually in 1982. Assuming normal inflationary adjustments to 1988 that amount would exceed $200,000,000 annually. Of the 1982 expenditures about $26,000,000 was real estate taxes. These numbers do not include figures for permanent residences, resorts, commercial or industrial development along rivers and lakes. Economists suggest that in addition to direct benefits the side or indirect benefits of such expenditures can vary from 2.5 to 4 times the direct. Projecting this out would suggest that seasonal residents expenditures have an economic impact between $450,000,000 and $800,000,000 for the state as a whole. Based on this evaluation it does not seem unreasonable for the governments of Minnesota to spend 1 to 2% of this economic value to maintain and enhance the lake and river resources for future generations.