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Ralph Wilcox

BAY MILLS TOWNSHIP

LAND USE PLAN

BAY MILLS TOWNSHIP PLANNING & ZONING COMMISSION

BAY MILLS TOWNSHIP

PLANNING AND ZONING COMMISSION

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Land Use Planning Assistance Was Provided

By

Eastern U.P. Regional Planning and Development

Commission

The preparation of this report was a joint effort by the Bay Mills Township Planning and Zoning Commission, the Chippewa County Planning Commission, and the Eastern U.P. Regional Planning and Development Commission. Initial resource inventory work was financed in part by the Chippewa County Board of Commissioners.

ACKNOWLEDGEMENT

First of all, we wish to express our sincere appreciation and thanks to the Chippewa County Board of Commissioners and the Chippewa County Planning Commission for their cooperation and financial help to complete this plan.

We are also very much thankful to the Eastern U.P. Regional Planning and Development Commission for all the technical assistance which made this useful work complete.

ENABLING LEGISLATION

Township Planning Act (Act No. 168 of Public Acts of 1959, as amended through October, 1966.)

An Act to provide for township planning, for the creation, organization, powers and duties of a township planning commission; and for the regulation and subdivision of land.

The following is a citation of Section M.S.A. #5.2963 (102) Purpose of Planning, Section 2.

The purpose of plans prepared pursuant to this act shall be to promote public health, safety and general welfare; to encourage the use of resources in accordance with their character and adaptability; to avoid the over-crowding of land by buildings or people; to lessen congestion on public roads and streets; to facilitate provision for a system of transportation, sewage disposal, safe and adequate water supply, recreation and other public improvements and to consider the character of each township and its suitability for particular uses judged in terms of such factors as the trend in land and population development. (C.L. 48 #125.322.)

INTRODUCTION

Land Use Planning deals with the complex interrelation of two basic resources, the land resource and the human resource. The land is a fixed, irreplaceable, non-expandable resource; population is an expanding and mobile resource. The present society is faced today with the challenge of accommodating more people on a fixed amount of land.

Man's relationship to the land resource is one of both dependence and dominance. Man depends upon land and associated environmental systems for all of the necessities that sustain life. At the same time, human society has developed to a high degree the ability to dominate and utilize the land resource. Land use planning is an attempt to establish and maintain a balance between the use and preservation of the land resource in order that it may provide a satisfying life for present generations and retain the ability to support future generations.

Life styles and social values rapidly and constantly change in our fast paced culture. Technological achievements are often far in advance of general understanding. Individually and socially, we need a method not only to anticipate change, but also, to effectively meet the resultant demands of change. Planning has achieved a measure of success in helping people to anticipate the future and provide for its needs because planning represents a systematic desire to achieve a degree of order and harmony from the seemingly unrelated aspects of our world.

The basic intent of the Land Use Plan is to recognize the land resource capability and suitability for different land uses in the township and the village. A general land use plan will be developed based on land resource

capability-suitability, which eventually will provide a base for a zoning map. This plan is expected to help make township development and land use decisions more rational.

OVERVIEW OF THE TOWNSHIP

LOCATION - PEOPLE - ECONOMY

Bay Mills Township is located in the northern side of Chippewa County along the Lake Superior shoreline. It runs east to west, about 24 miles in length, and 2 to 5 miles in width. The extreme east end (about a 3-square mile area) is separate from the main township land. Most of the area of the township lies within the area described T47N and R2W-R5W. The entire northern and eastern sides of the township is Lake Superior's shoreline. The western side borders with Whitefish Township and the southern side shares with Chippewa and Superior Townships of Chippewa County. The remote location and Lake Superior's beautiful coastline (of approximately 30 miles) make the natural environments extremely appealing. Shore Drive Road and Ranger Road are major hard surface roads in the township. Shore Drive runs along the entire waterfront, whereas, Ranger Road runs north to south and divides the township into two halves.

The economic base of the township is primarily recreation-oriented which has great potential for further development. Commercial fishing, a rehabilitation house, and pulpwood are other important economic factors in the township. A federally-owned Fish Hatchery, which was involved in a fire last year, is another economic contributor. A large portion of the labor force goes out of the township for work. A sizeable segment of the population draws their income from social security, welfare, and retirement benefits, etc.

The total population of the township was 414 in 1960, which remained

fairly stable until 1970, whereas, the population decreased in the county and the Region in the same decade. Since 1970, it has been increasing as has the county and the Region and rose to 427 in 1973. This slow increasing trend is expected to continue throughout the decade.

An analysis of the age structure reveals that children in the Under 5 years age group decreased 16 percent from 1960-70. The major increase took place in the 15-24 years age group (about 12 percent), and in the 55 and over, 23 percent which indicates that the older population is increasing rapidly in the township. It is primarily due to immigration of retired people who are building their retirement homes away from urban areas. Age distribution in 1970 indicates that 34 percent of the population in the township is 45 years or over, as compared to 27 percent in the county. The most productive population, 21-44 years, is 20 percent, as compared to 30 percent in the county. In conclusion, the younger population is decreasing, whereas, the elderly population is increasing significantly.

For educational purposes, the students from the township participate in the Brimley School System.

NATURAL AND CULTURAL VARIABLES AND DETERMINANTS

A. RESOURCE INVENTORY:

1. Slope Interpretation

The slope characteristics of an area help to give an understanding of the drainage, erodibility and practicality of construction. Figure 2 was developed using USGS quadrangle sheets at a scale of two inches to one mile. Slope was determined by measuring horizontal distance between contour lines and is calculated in percent. One percent slope means that there is a rise or fall of one foot in horizontal distance of one hundred feet. To be more simplified, only two broad categories were developed such as 0-10% slope and more than 10% slope. Figure 2 indicates with the exception of streams and banks, a crescent-shape escarpment exists in the township which has more than a 10% slope. At one point, this ridge rises approximately 1,045 feet in elevation which is the second highest point in the Region.

2. Soil Characteristics

Soils are an essential part of the area's natural resource inventory and are important in determining building foundation strength, effectiveness of septic tank sewage disposal, plant fertility, erosion hazards, and drainage conditions. All of these factors are crucial in determining the nature and extent of development that should occur within the township.

A general soils survey, which was done during the 1920's, is the only reliable soils information available for the township (Figure 3). This soils information consists of about 50 different soil types. Most of these soils are not generally understandable; therefore, with the close cooperation of the Soil Conservation Service (Mr. Dave Ottoson) each of

these soils were evaluated for their capabilities for residential and agricultural uses, and were also grouped together in general and understandable terms like sandy soils, clay soils, etc. Figure 3, which is an original soil survey, indicates that about 3/4 of the township's area has sandy soils and the remaining 1/4 has either clay soils or mucky soils and wet coarse soils. The area along the waterfront is mostly sandy except for the west end of Back Bay and Bay Mills Point, and generally, inland is low which has mucky soils. Almost all of the clay and mucky soils have severe limitations for agricultural use, as well as an on-site sewage system. The extreme eastern end of the township, which is separated from the main township land, also has clay soils.

3. Vegetative Cover

This figure contains three types of information: forest land, swampy area, and open land, which includes agricultural land. This information was taken from U.S. Geological Survey quadrangle sheets. Figure 4 shows almost the entire township is covered with forest, with the exception of about a one-square mile area along Ranger Road which is open land. The northwest corner of the township also consists of about a one-square mile area of swamp. There are a few other smaller sections in the northeast corner which also have swampy conditions. Almost all of the existing forest is second growth. Agriculture is very little, but forest is still an important economic factor for the area.

4. Bedrock Geology

Geologic factors play a major role in land use analysis. The depth of bedrock from the land surface is very critical for most of the land uses. Generally, it is considered that if bedrock is within ten feet of

the surface, that area is incapable for land uses like residential, commercial, and industrial, etc., particularly where public sewer and water facilities are not available. A geological analysis reveals that almost the entire township has very deep bedrock which has no significant relation to the land uses. Some areas in the western side along the waterfront do have bedrock closer to the surface; therefore, have sewer limitations for on-site sewer system and agricultural uses.

5. Land Ownership

This man-made determinant (Figure 6) consists of three types of land ownership: a) private, b) public (state and federal), and c) corporated. Out of the total 66-square mile area of the township, only 14.5 square miles are under private ownership, whereas, 50 square miles are under public ownership which also includes the Indian Reservation (federal). About a 1.5-square mile area is under corporate ownership.

6. Existing Development (Structures)

The information of this variable was gathered through a special survey, which was conducted by the Eastern U.P. Regional Planning and Development Commission and was updated by the Township Planning and Zoning Commission. This variable contains structural development information which is divided into four categories: 1) year-round residences, 2) seasonal homes (cabins), 3) public buildings (church, town hall, etc.), and 4) commercial/industrial. Figure 7 shows that most of the development is along the waterfront of Lake Superior which is a mixture of year-round residential, seasonal cabins, recreational and commercial. Ranger Road and Six Mile Road are two other areas which have also some mixed development. The Six Mile Road area, being closer to Sault Ste. Marie, is under the

pressure of year-round residences. Most of the shoreline, other than the public property, is under heavy development pressure. Inland lakes are also attracting new development which is mainly seasonal and recreational.

7. Transportation

The Base Map (Figure 1) contains road information and shows all of the county and state roads. Lake Shore Drive which runs east to west along the shoreline and Ranger Road are mostly hard surface. The remaining roads in the township are gravel roads which primarily follow old logging trails. The existing road system and its condition is inadequate to serve the future need. Particularly, Lake Shore Drive, which carries most of the traffic of the area, should be replaced by an all-weather road. Also, the fire line system should be upgraded.

B. DEVELOPMENT OF CAPABILITY CRITERIA:

Capability of a certain geographic area, for different land uses for human activities, depends on the proper combination of the physical features of the ecosystem of that area. For example, residential development requires good soil conditions, adequate ground water if public supplies are not available, and fairly level contour. On the other hand, residential development may create certain stresses such as pollution of ground water supplies with septic tank effluent, or downstream flooding caused by removing vegetative cover. All of these factors must be considered before determining if a particular area should be used for residential development.

For these reasons, the natural resource information presented previously can be used to develop capability maps of such land uses as septic tanks, residential, commercial-industrial, agricultural and recrea-

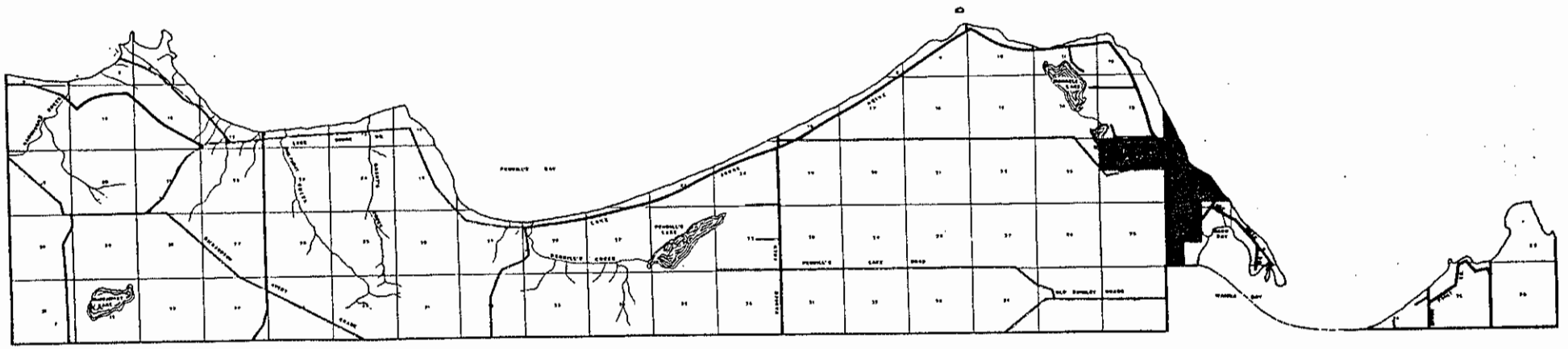
tional, etc.

In the case of Bay Mills Township, the development of residential and agricultural capability maps were considered necessary. The main reasons for limiting the capability maps to residential and agriculture are: 1) that this township is primarily rural, and 2) no significant industrial development is expected. It is highly probable that this township will remain rural. Rising prices of farm products, in the State as well as the nation, indicate that agricultural land will become more important. It would be particularly true in the eastern Upper Peninsula where good agricultural land is limited. Although agriculture is insignificant in the township's economy, it would still be useful to develop agricultural capability for future consideration.

"Capability" may be defined as the ability of the land to accommodate the previously mentioned land uses without creating significant problems for either the inhabitants of the area or the environment.

In order to develop residential and agricultural capability, physical characteristics of the area were rated in ranges of best, adequate, or incapable. These criteria were discussed and adopted by the Township Planning and Zoning Commission.

BAY MILLS TOWNSHIP



LEGEND

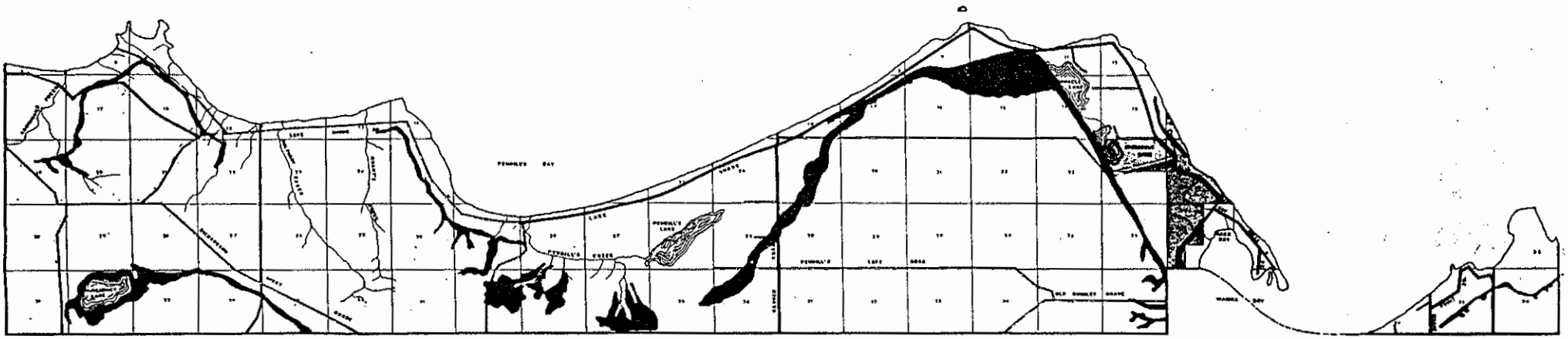
PAVED ROADS

GRAVEL ROADS

INDIAN TRUST

FIGURE 1

BAY MILLS TOWNSHIP



LAND CONTOUR

GREATER THAN 20 % SLOPE

LESS THAN 20 % SLOPE

LEGEND

PAVED ROADS

GRAVEL ROADS

INDIAN TRUST

SCALE

0 1 2

MILES

N

FIGURE 2

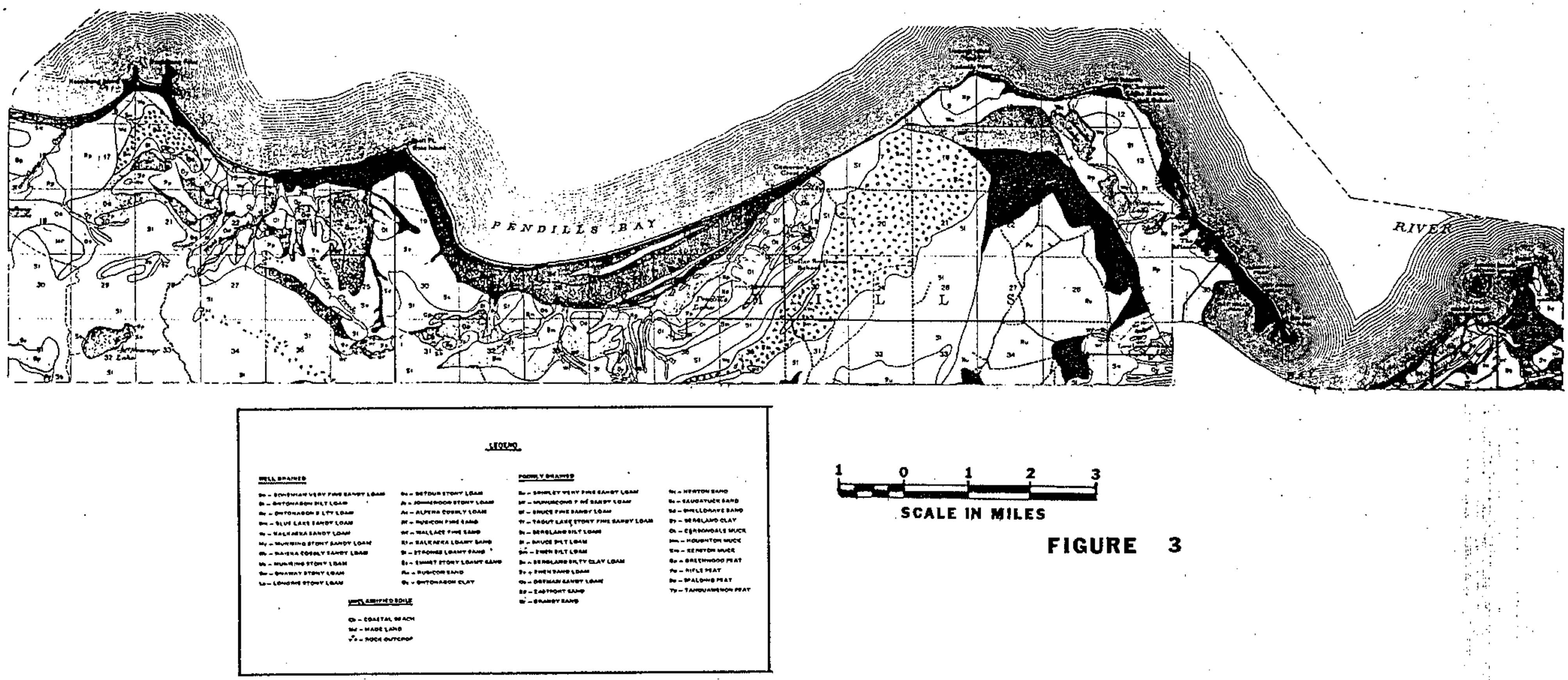
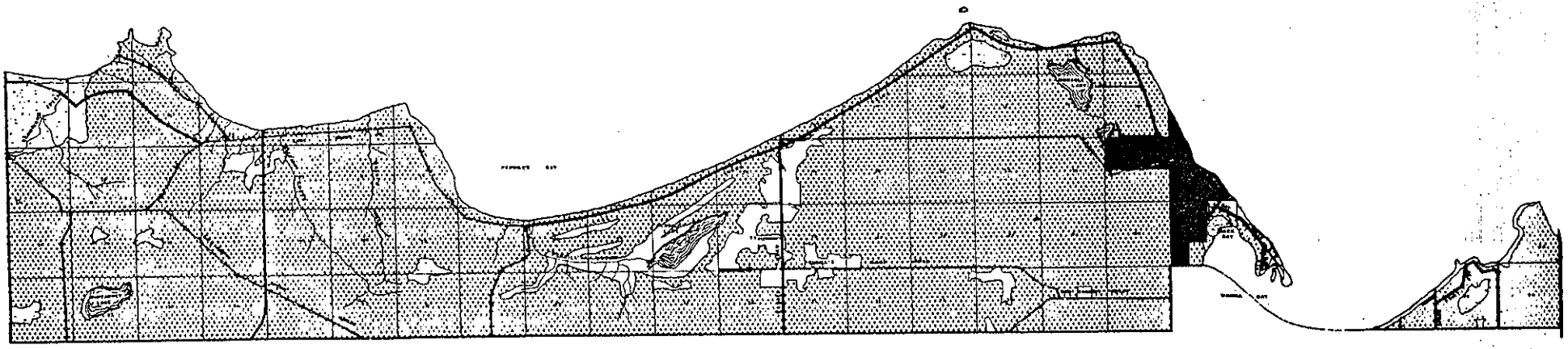

PENDILLS BAY
RIVER
LEGEND
WELL DRAINED
POORLY DRAINED
UNCLASSIFIED SOILS
COASTAL BEACH
MADE LAND
ROCK OUTCROP
1 0 1 2 3
SCALE IN MILES

FIGURE 3

BAY MILLS TOWNSHIP



VEGETATION

FOREST

SWAMP

OPEN

LEGEND

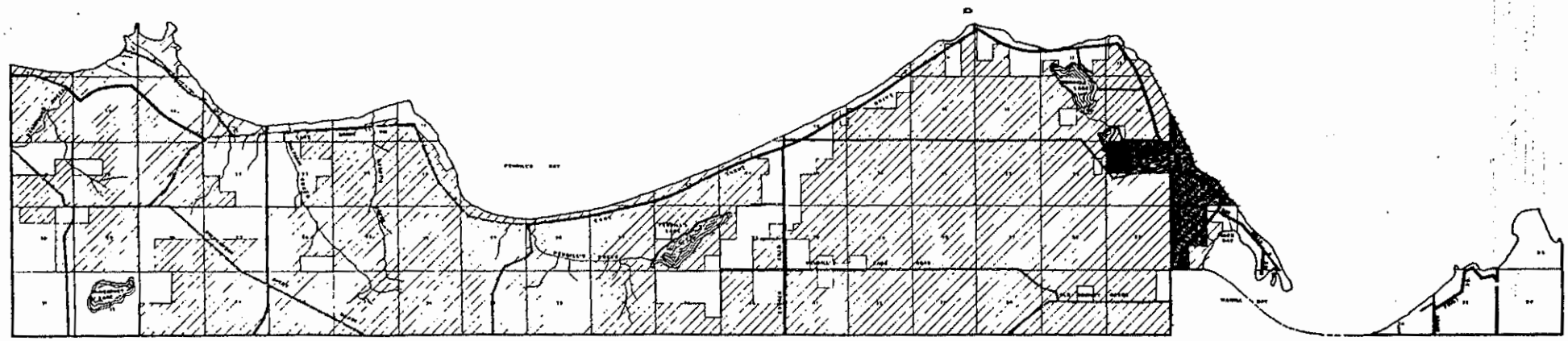
PAVED ROADS

GRAVEL ROADS

INDIAN TRUST

FIGURE 4

BAY MILLS TOWNSHIP



LAND OWNERSHIP

STATE

PRIVATE

LEGEND

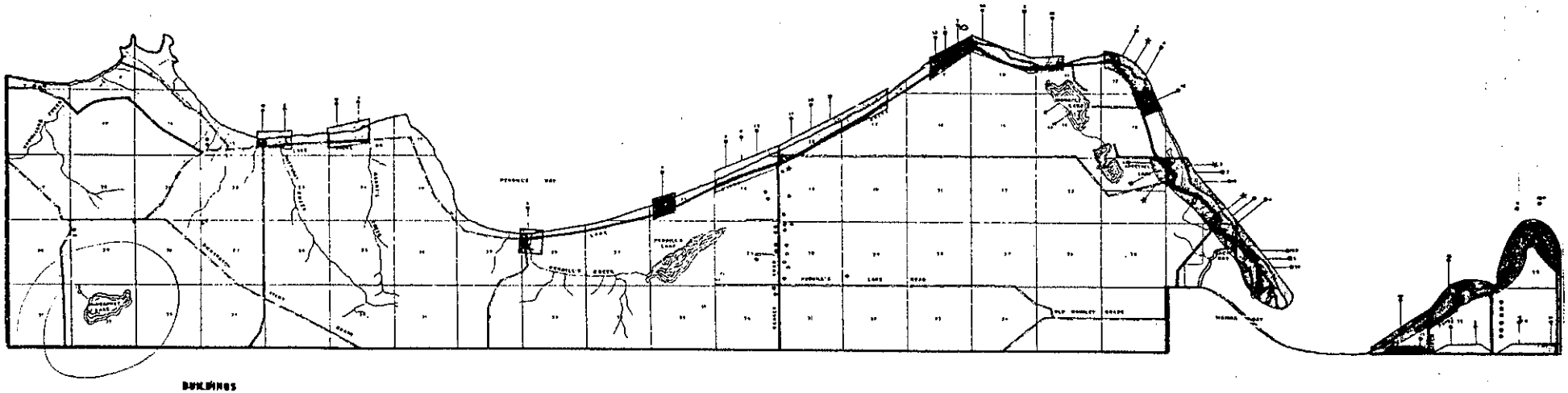
PAVED ROADS

GRAVEL ROADS

INDIAN TRUST

FIGURE 5

BAY MILLS TOWNSHIP



BUILDINGS
HOME
CABIN
COMMERCIAL/INDUSTRIAL
PUBLIC BUILDING

LEGEND
PAVED ROADS
GRAVEL ROADS

FIGURE 6

make a category for Seasonal + full time
+
Single or multi family
list Commercial Business (all)

CAPABILITY CRITERIA

PHYSICAL ELEMENT	RESIDENTIAL WITHOUT PUBLIC SEWER AND WATER	AGRICULTURE
SLOPE:		
0 - 5%	B	B
5 - 10%	A	A
10 + %	I	I
DEPTH OF BEDROCK:		
Bedrock near or at the surface	I	I
Bedrock 10 or more from the Surface	A	-
SOILS CLASSIFICATION:*		
Clay Soils	I	A
Sandy Soils	A	I
Muck Wet Sands	I	I
Bedrock Soils	I	I
Stoney Soils	I	I
FOREST SWAMP AREAS:	I	I

B = BEST
A = ADEQUATE
I = INCAPABLE
- = DOES NOT APPLY

To develop a residential capability map, the first step was to identify those areas that are incapable of supporting residential development such as slope 10% and over, swampy areas and bedrock closer to the surface. Areas with only severe soil limitations are rated as moderately capable and the areas where soil has a slight and moderate limitation for the on-site sewage disposal are marked as capable. Figure 7 indicates that about 1/2 of the total area is capable to support on-site sewage disposal systems. Only

1/4 of the area is not capable for this purpose, mainly because of swampy conditions, steep slope and bedrock limitations. The remaining 1/4 area is moderately capable. More than 1/2 of the shoreline is capable, and because of the esthetic value, it is a highly desired area which would increase the development pressure in this area. Six Mile Road, Lake Shore Drive, and Birch Point are the areas which are expected to have significant future development. The remainder of the township is not expected to have any significant development, mainly because of public ownership and remoteness.

For the agricultural capability map, areas with swamp, bedrock and slope and severe soil limitations are marked not capable for agricultural development. Areas where only severe soil limitations exist are rated as moderately capable and the rest of the area where only moderate and slight soil limitations exist is considered as capable. Figure 8 indicates that there is very little area which is capable for agricultural use. Most of the area is either moderately capable or not capable.

C. LAND USE GOALS AND OBJECTIVES:

Historical and physical knowledge of the area forms the basis for a logical starting point upon which objectives and goals can be developed.

The first chapter of this report provides necessary background information concerning people, location and dimension of the study area, population summary and the economic overview of the township. Chapter II provides natural and cultural variables and determinants which are critical in establishing area goals and objectives. This chapter also includes capability-suitability information to be used as a guide for goals and objectives formulation by the township officials. Thus, to be realistic, township goals should match or clearly reflect township potentials.

The physical information mentioned above should assist township leaders and citizens since it portrays a clear picture of the present situation, as well as its future potentials.

The following is a brief summary of the conclusions which were drawn from the previous chapters and should be considered during the formulation of township development goals and objectives.

1. A moderate amount of development is expected within the township.
2. Population is expected to keep up the past slow increasing trend.
3. New development is expected mainly along the principal roads.
4. Township does not have significant potential for agricultural development.
5. Forestry and recreation-oriented, commercial developments are expected to play an even more significant role in the local economy in the future.
6. About 1/2 of the shoreline is capable, but because of its environmentally critical nature, proper zoning regulations must be adopted.
7. Township, as a whole, has a very natural environment which must be preserved.
8. Future industrial development is expected to be limited to forest, fish process, etc.
9. Commercial fishing is expected to continue to play an important impact role.

SUGGESTED GOALS:

1. Natural features of the township should be protected through proper land use (waterfront, forest land, and recreational areas.)
2. The land use density should reflect the capability of the physical environment to accommodate septic tanks and other leaching devices. Zoning regulations should be related to the township land use plan.

3. Improve the economic base of the township by developing all of our resources.

4. Protect rural life style in the township.

LAND USE PLAN

Although the development of capability maps is a major factor in determining the location of the township's future growth, they do not constitute a land use plan. A plan should join together physical and cultural data with township goals and objectives in order to guide development in a rational manner.

The purpose of this land use plan is to offer a hypothesis about the way that Bay Mills Township could develop, and give the limitations that have been set forth in the preparation of the capability maps. This plan should be used as a guide for decisions on how best township goals may be met (Figure 9).

This land use plan was developed assuming that there would be no public investment to provide public water and sewer facilities in the foreseeable. Should public funds become available, this plan will be modified. The land use categories are:

1. Waterfront Corridor
    - A. Intensive Use
    - B. Extensive Use
    - C. No Development (Preservation)
2. Forestry/Recreational District
3. General Business
4. Indian Reservation

1) Waterfront Corridor

The shoreline of Lake Superior and inland lakes is the most important feature of the township. It also plays a very significant economic factor. The area is most wanted for residential, and recreation-oriented commercial development. At the same time, however, it is also environmentally a very delicate area. Not all of the shoreline area is capable for high density. Because of the physical and environmental conditions of the shoreline, it must be regulated to protect it from irrational uses. Certain areas of Lake Shore Drive are more critical environmentally than others as they are marked A Zone, B Zone, and C Zone (i.e., A zone is recommended for intensive use, B zone for extensive use, and C zone for least use). Shoreline Drive is the main thoroughfare which supports the heavy traffic flow. To protect the land from misuse and unplanned development along this highway, the waterfront corridor is extended about 500 feet wide along the southern side of this main road.

2) Forestry/Recreation District

Forestry and outdoor recreation are significant economic factors in the township. It is obvious that the forest, as a tangible resource and a great opportunity for an increasing interest of outdoor recreation, is an essential ingredient to sustain life. Therefore, a separate district is established to protect it from exploitation. This district contains most of the existing forest area. Physical features of this district include areas with high slope, wet land and rock closer to the surface which are generally appealling to the recreationists.

3) General Business District

Although no heavy commercial development is expected in the foreseeable future, there are two spots that are quite suitable for such uses. The intersection, Lake Shore Drive, and Bay Mills Road, and the area on the south side of Lake Shore Drive near the northern tip of the township known as Iroquois Beach, where already some commercial developments exist. Being convenient to the main residential and recreation-oriented development is quite suitable to fulfill the local, as well as tourist traffic's needs. Dollar Settlement and Ranger Road, and Lake Shore Drive's intersection are other commercial areas.

4) Indian Reservation

It is a community, itself, and is self-governed. A special planning group is doing comprehensive planning for the reservation with the local input of its inhabitants. Only informal coordination between the Indian Reservation and the Township exists at this time.

If properly implemented through the reasonable application of township zoning, this land use plan should yield the following long-term benefits:

1) Development will occur in those areas that are capable
2) It will also help to protect the environment, particularly the shoreline which is environmentally more sensitive
3) If this plan is followed, it will help to maintain the rural life style in the township
4) It will also help to develop an economic base of the township by recognizing its resource potential - recreation

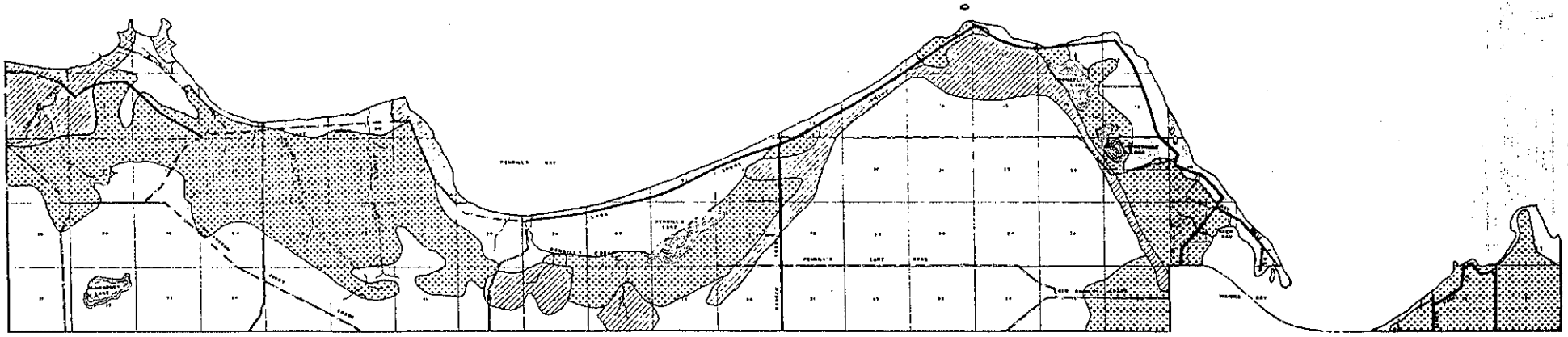
5) Proper implementation of this plan will provide a possibility of better emergency services

6) Hopefully, this plan would be appropriate to accommodate the development for the next 10-15 years, without degrading its area's resources.

* * *

THIS LAND USE PLAN IS JUST A GUIDE FOR REASONABLE USE BY REASONABLE PEOPLE

BAY MILLS TOWNSHIP



RESIDENTIAL CAPABILITY

CAPABLE

MODERATELY CAPABLE

NOT CAPABLE

LEGEND

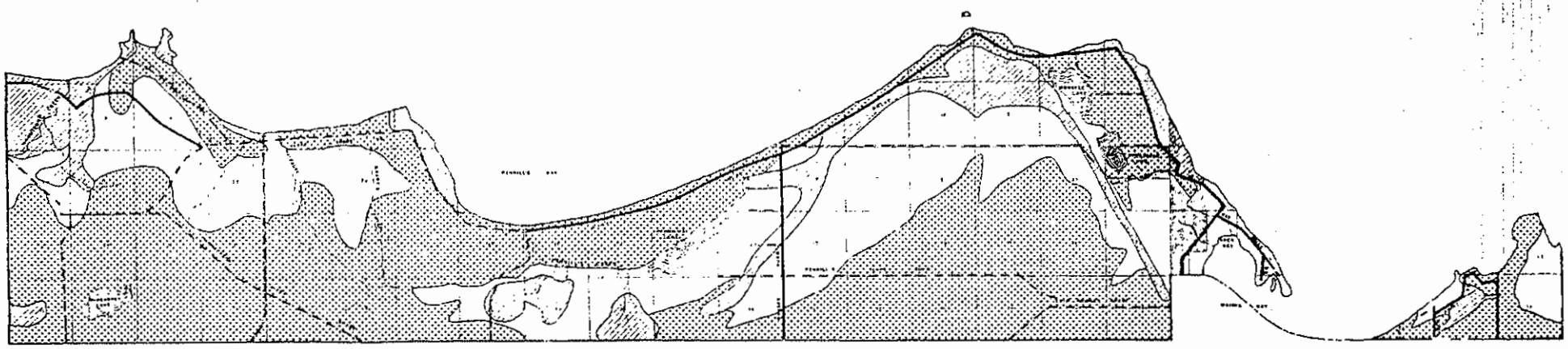
PAVED ROADS

GRAVEL ROADS

INDIAN TRUST

FIGURE 7

BAY MILLS TOWNSHIP



AGRICULTURAL CAPABILITY

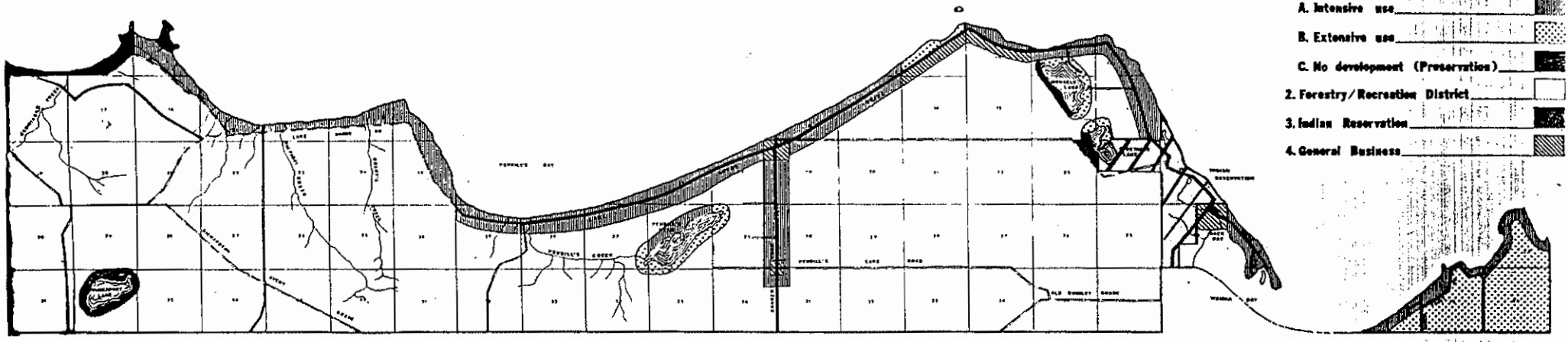
- CAPABLE
- MODERATELY CAPABLE
- NOT CAPABLE

LEGEND

- PAVED ROADS
- GRAVEL ROADS
- INDIAN TRUST

FIGURE 8

BAY MILLS TOWNSHIP



LAND USE PLAN

1. Waterfront District
   - A. Intensive use
   - B. Extensive use
   - C. No development (Preservation)
2. Forestry/Recreation District
3. Indian Reservation
4. General Business

LEGEND

PAVED ROADS

GRAVEL ROADS

SCALE

0 1 2

MILES

N

FIGURE 9