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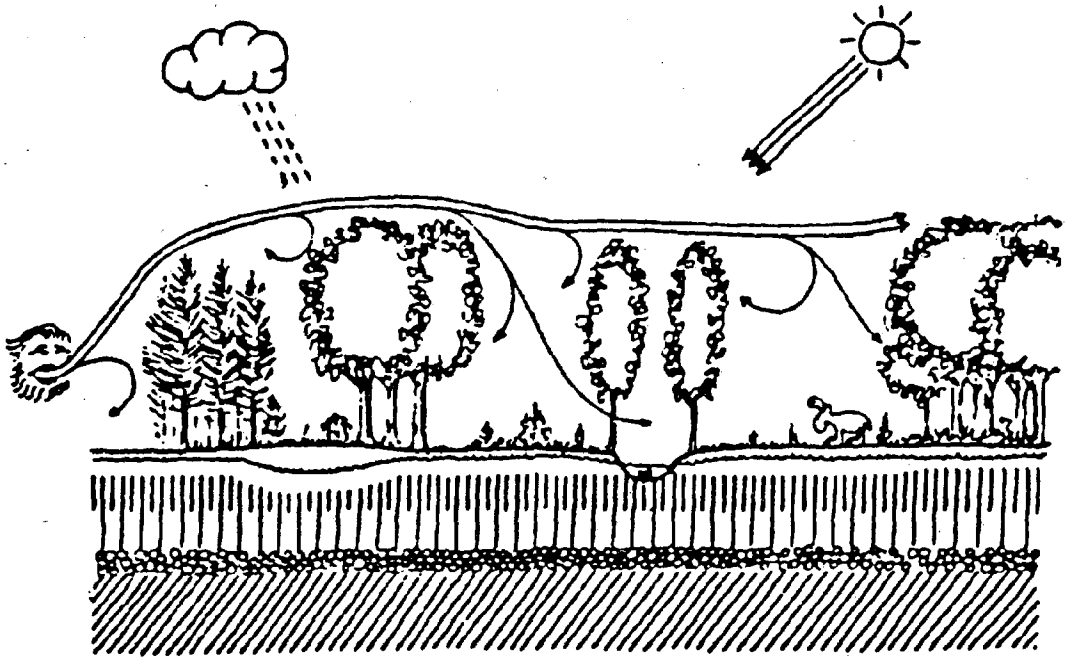
Moran Township Master Land Use Plan



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Moran Township
Mackinac County, Michigan

MORAN TOWNSHIP
MASTER LAND USE PLAN

HT168.M67M67 1988

DEVELOPED BY

MORAN TOWNSHIP PLANNING COMMISSION
P. O. BOX 355
ST. IGNACE, MICHIGAN 49781

AND

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1120 MAY STREET
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JULY, 1988

MORAN TOWNSHIP

MACKINAC COUNTY, MICHIGAN

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CHAPTER ONE

PLAN SUMMARY

The following document presents the methodology, data, and analysis utilized in the preparation of a master land use plan for Moran Township, the final product of which is discussed in Chapters Five and Six. The development of this master plan was a result of a referendum by the citizens of Moran Township in which the local public expressed a need and desire for a plan which the township could follow in guiding growth and development in an orderly and appropriate fashion. As a result, the Moran Township Board directed the township's planning commission to prepare such a plan for use in daily township planning decisions, resolving land development and land use conflicts, and guiding land use within the township in a manner compatible with the needs, desires, and interests of the local public.

Subsequently, the Moran Township Planning Commission directed its efforts toward the preparation and development of a master land use plan for the township. These efforts, and the finished plan, were guided by a variety of issues. Several key concerns served as the basis for the direction and nature of the plan.

Specifically, the plan had to provide measures for maintaining the very special Upper Peninsula rural environment throughout the township as it is this element which the local public regard with the highest priority. Similarly, protection of the township's natural and special environmental features which support the area's rural atmosphere as well as stand alone as irreplaceable natural features, provided a second primary guiding force.

A third key concern was the scenic quality of the township, for the benefit and enjoyment of the local residents and visitors, and the economic importance the scenic quality has upon the tourist trade which is so important to the local economy. Finally, development of the master land use plan was based upon the establishment of guidelines and procedures for proper land use and development without being unreasonably restrictive toward the private property owner. The intent of the land use plan would define present land use and development opportunities available within the township without creating overly limiting circumstances where the private property owner is unduly burdened and the township welfare not protected.

With these primary guidelines established, the Moran Township Planning Commission, along with the assistance of SEG Engineers & Consultants, Inc., set forth to develop a master land use plan for Moran Township. The preparation of the plan was based upon several tasks or phases including an inventory of existing physical and cultural conditions throughout the township, including a comprehensive survey of public attitudes and opinion, an analysis of needs and concerns, the establishment of appro-

priate land use goals and policies, and the actual plan development.

The master land use plan presented in this document is based upon the delineation of all privately owned township lands as to their potential and appropriateness for development based upon an array of variables including utilities, population centers, topography, vegetation, and environmentally sensitive areas. The plan recognizes the need to provide for increased population growth in the township and respond to the expanding tourist trade which is so important to the township's economic welfare.

In essence, the plan consists of land use categories or districts with each district delineating development potentials and guidelines. The Primary and Secondary Coastal Growth Districts delineate those township areas along the Lake Michigan coast which are most appropriate for higher and lower density development, respectively, and the development guidelines to be followed when developing in these areas. Similarly, the Primary and Secondary Inland Growth Districts operate in the same manner but delineate guidelines and respective district boundaries for non-coastal areas. A fifth development district is that of the Recreational/Visual Corridor District which established guidelines for development in the most traveled area of the township and most subject to visual deterioration, overdevelopment, and loss of natural character.

The plan also recognizes two conservation districts, the Primary and Secondary Open Space Districts, which delineate those township lands most suited for permanent and long term preservation policies pertaining to wildlife and natural areas including woodlands and marshes. Finally, the plan also establishes a Transitional Use District pertaining to current primary excavation activities and a Ozark Community District focusing on this special agricultural community within the township.

As the natural environment is such a critical element of the township as a whole, the plan also establishes township wide environmental guidelines, in conjunction with those guidelines contained within each district.

Through the use of this Master Land Use Plan, growth and development can be guided in a purposeful and appropriate manner in Moran Township. Planning decisions can be reached in a more efficient manner and in a manner more responsive to the needs and concerns of the township citizens.

CHAPTER TWO

LAND USE PLANNING AND MORAN TOWNSHIP

What is a Master Land Use Plan

Communities are in constant change. The rate at which this change occurs varies tremendously and is contingent upon a multitude of variables. While this change or evolution is inevitable, there does exist a significant constant concern: municipalities must plan for their future. Planning for the future is a broad and far reaching activity and can focus on a wide range of concerns, issues, and disciplines. One such focus is that of land use planning.

Land use planning is critical in order to determine the most appropriate use of a community's land resources based upon a pre-established set of goals and objectives. It is a process which examines a broad range of community characteristics in establishing a strategy for present and future land use. A master land use plan is a plan which establishes guidelines and policies for the location or placement of new and/or expanded land uses within a community. Primary functions of the plan are to identify the short term extent and degree of land development, ensure compatibility between adjacent land uses, conserve natural resources, and organize land uses in a manner which respects functional necessities and interdependent qualities.

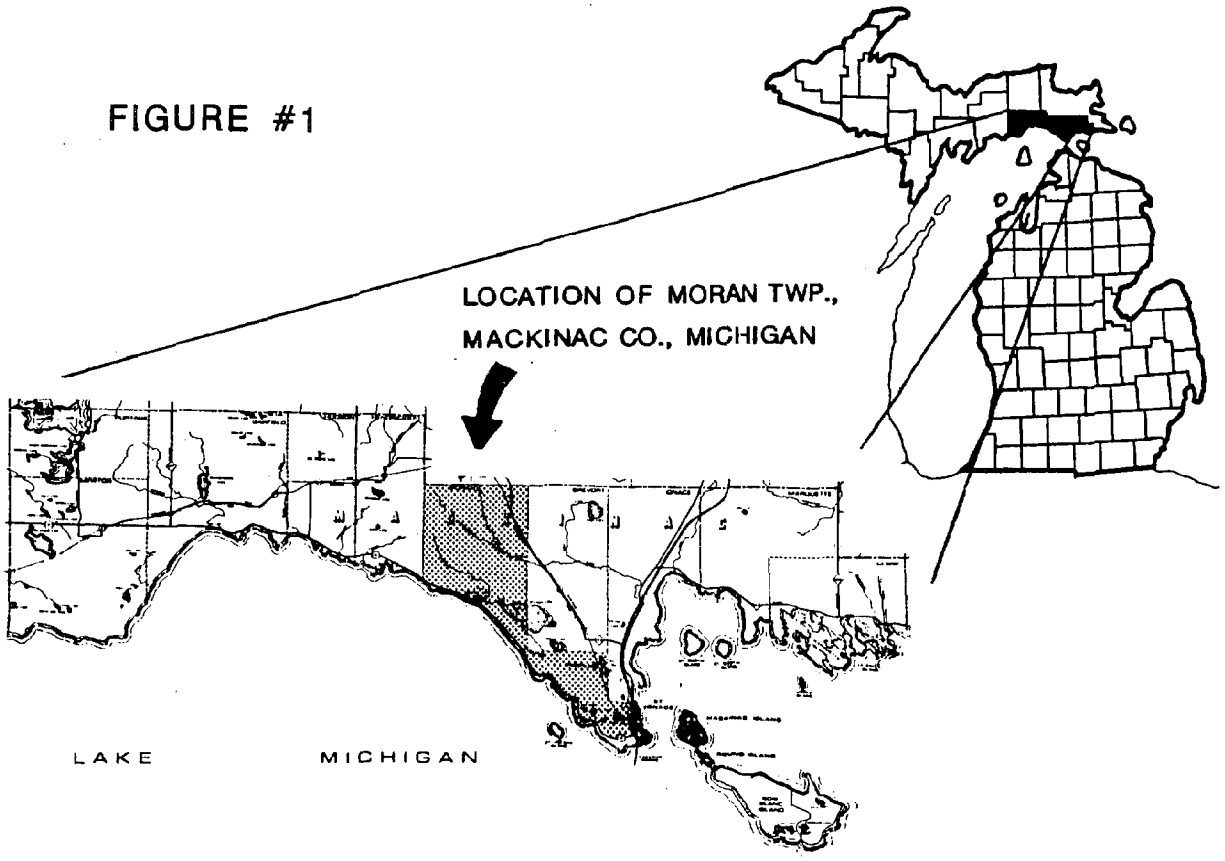
Above all, a master land use plan should reflect the needs and concerns of the citizens it is to serve. In summary, the function of this master plan is to provide recommendations for the use of lands within Moran Township based upon the needs and concerns of the local residents, accepted land use planning standards, and the continuance of the general health, safety, and welfare of the township, its residents and visitors.

Moran Township: The Need for a Master Land Use Plan

Since the advent of the car in the early 1900's, this century has witnessed an unmatchable transformation upon the face of the earth. We are but one in a line of several generations afforded the luxury of relative ease in travel and arriving at destinations within hours or days which would have been unthinkable in earlier times. With such ease of mobility and access, the automobile has allowed for unrestrained land development and, in regions of national, state, and municipal charm, incomprehensible increases in tourist activity. Even areas which were thought to be quite isolated and protected from such forces are now finding themselves surrounded by development pressures and the lack of an appropriate strategy to follow in responding to such pressures. Such is the case with Moran Township.

As greater awareness of the Upper Peninsula's character has increased, so has its draw upon the State's population and beyond. The Upper Peninsula's history, charm, scenic and recreational resources, association with the Great Lakes and other natural resources, and general atmosphere has attracted a growing tourist population as well as persons looking for permanent residence. As Moran Township, along with the city of St. Ignace, is located at the southern periphery of the Upper Peninsula, the Township has been directly impacted by these trends and most obvious along U.S. Route 2. The quality and quantity of the area's natural resources are threatened and the scenic quality along much of the local shoreline has already been sacrificed for the benefit of commercial and residential enterprises.

FIGURE #1



Accordingly, Moran Township is at a critical phase where land use planning for the present and future is fundamental if the natural and scenic qualities of the area are to be preserved while, at the same time, providing for future development within the area and the health, safety and welfare of the Township's residents and visitors.

Preparing a Master Land Use Plan

The development of a master land use plan may vary from one plan to another but certain key elements are nearly always present. These fundamental aspects of the preparation of a plan can be viewed as a three phased process which is sequential in nature, building upon the previous phase and utilizing the data within each.

A land use plan must be directly related to the character and composition of the area it is to serve. The plan must take into account the numerous facets of the study area which make it unique unto itself. Typically, the first phase of a land use plan involves the collection and organization of data specific to the study area. Such data includes information on, but not necessarily limited to, natural features including soils, topography, and vegetation and socio-economic features including housing characteristics and population trends. Through the establishment of this type of data base, one can generate an understanding of the nature of or character profile for the municipality under study.

Based upon the data generated in Phase 1, Phase 2 involves the careful study of this information in order to gain insight into the critical issues and concerns facing the study area. Once these have been recognized, Phase 3 involves the development of a set of goals to provide direction and clarity for the actual development of the land use plan itself.

The final phase of such a study involves the establishment of specific policies establishing the appropriateness of land uses for all regions of the study area. These policies are a result of an analysis of the findings in Phase 1 and Phase 2 and reflect the cultural needs and concerns of the area in light of existing natural and socio-economic conditions. In this fashion, a land use plan can be developed which is fully responsive to improving the health, safety and welfare of the area residents and visitors based upon the views of the local residents.

The actual master land use plan generally consists of a graphic plan for the municipality and accompanying text to support and clarify the graphic plan and its intentions.

Land Use Plan Study Scope

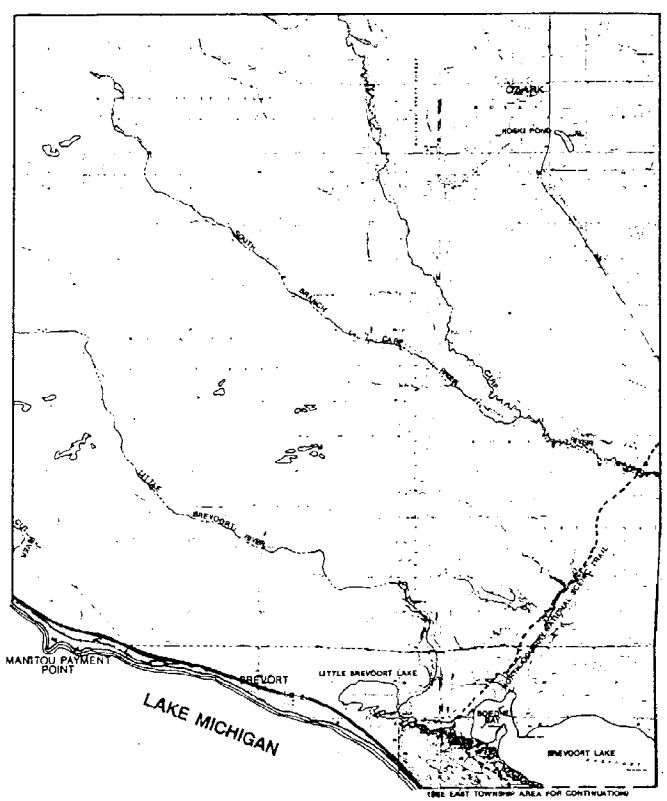
There are several unique characteristics of Moran Township which shaped this study's scope relative to the breadth of analysis. At initial review, the most evident of these characteristics is the Township's size. The vast majority of townships in the United States were established based upon a grid network providing for a hierarchy of land areas from one square mile sections to 36 square mile townships to 1,296 square mile counties. Generally, each county consisted of 36 townships each approximately six

miles long by six miles wide and generally referred to as a congressional township.

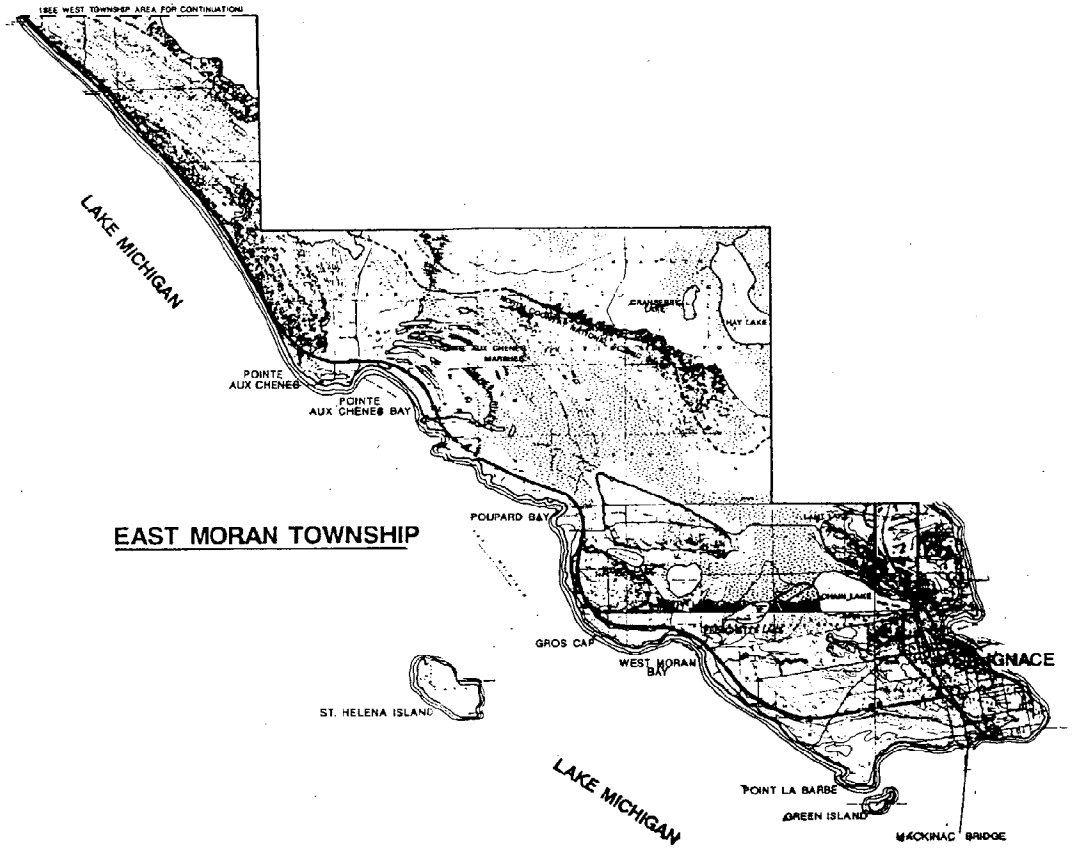
Moran Township, on the other hand, is referred to as a civil township as its boundaries are not wholly guided by the U.S. Public Land Survey Program but by political jurisdiction as well. Because of this, and the fact that the township abuts Lake Michigan, the shape of Moran Township is quite unique and covers over 125 square miles or more than three times the traditional land area of most townships. Figure 2 illustrates the shape and size of Moran Township.

A second unique characteristic of Moran Township is the fact that approximately 80 percent of the Township land is publicly owned as there are extensive tracts of state and national forest lands. As Figure 3 illustrates, the vast majority of those lands falling under private ownership are located toward and along the township's coastline. Accordingly it is these lands which are currently subject to the increasing pressures of development.

Finally, while Moran Township is very large in area, its population is quite low on a relative scale. Because of the low population and the fact that township-wide planning efforts did not take hold until recently, the existing data base is limited. Because of these township characteristics and the desire to produce the most effective and responsive plan with the project resources available, the study was directed at those primary regions of the township where there is the greatest degree of privately owned land, where pressure for development is most forceful, and where the potential for deterioration of the natural environment is greatest. These areas, referred as the North and South Study Zones, are illustrated in Figure 3. While these Study Zones served as the primary focus during the land use plan development, all privately owned land parcels within the township were examined and reviewed relative to their natural and cultural characteristics and their implications toward overall land use planning for the township.



WEST MORAN TOWNSHIP



EAST MORAN TOWNSHIP

FIGURE #2

REVISIONS	DSGN BY	SEG Snell Environmental Group, Inc. Engineers • Planners • Consultants	MORAN TOWNSHIP LAND PLANNING STUDY
	DRN BY		
	CKD BY		
	APPD BY		

IN FEET 0 4,000 6,000 8,000 NORTH

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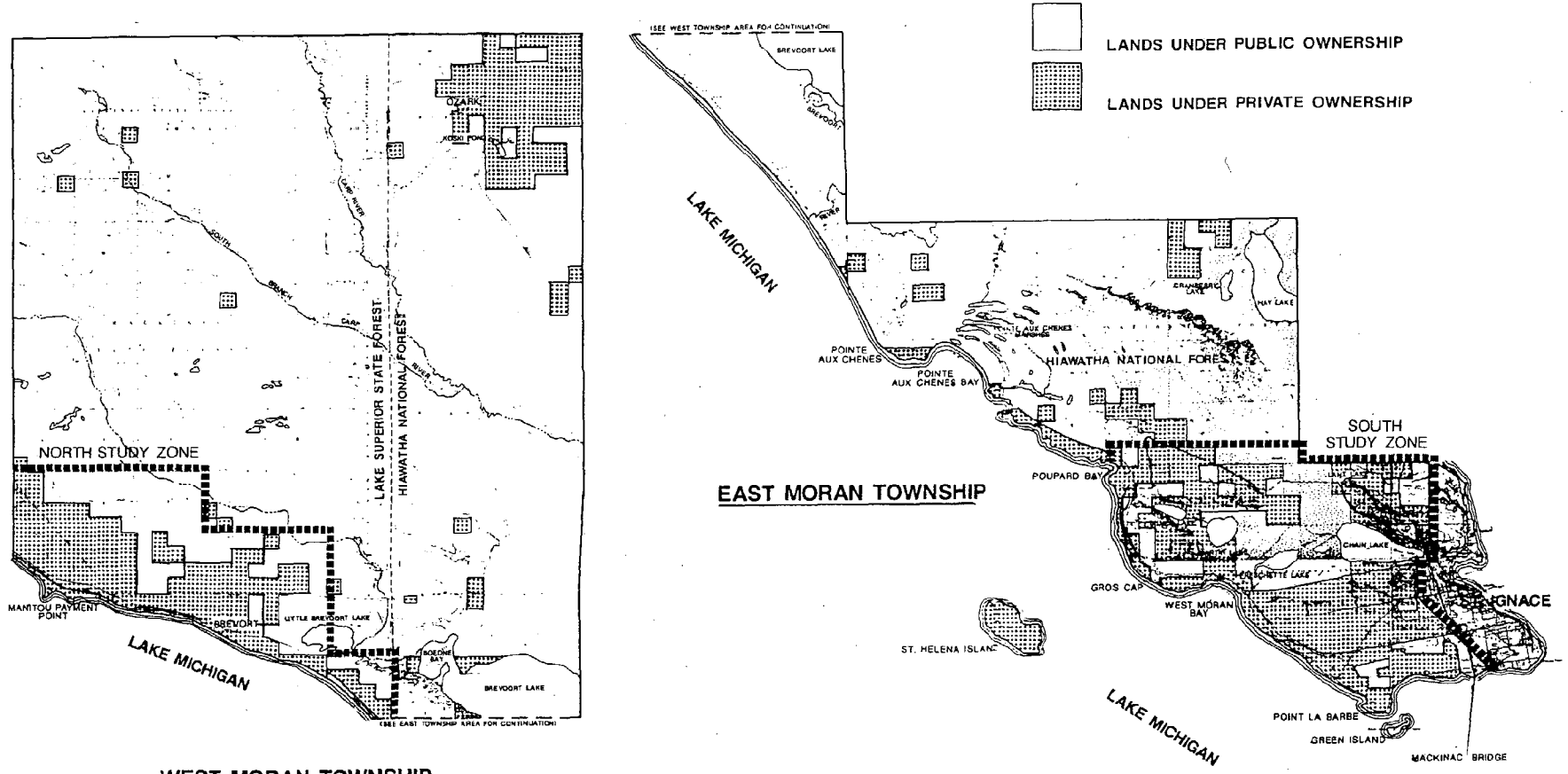

FIGURE #3

REVISIONS	DSGN BY	SEC Shell Environmental Group, Inc. Engineers • Planners • Consultants	MORAN TOWNSHIP LAND PLANNING STUDY	LAND OWNERSHIP AND STUDY ZONES	SCALE: IN FEET 0 4,000 6,000 8,000 NORTH
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	CHK'D BY				SHEET NO: OF
	APP'D BY				

CHAPTER THREE

PROFILE OF MORAN TOWNSHIP

Introduction

As the phrase implies, a "master land use" plan is a plan of action or strategy for establishing land use guidelines in order to meet the needs and concerns of the local public as present and future growth develop. These needs are determined through the analysis of the physical, social, and economic characteristics of the area and the responsibilities a township is accountable for. For the establishment of such a plan or strategy, each of the above factors must be explored and understood if a land use plan is to be practical, thorough, and specific to the community involved. This section of the report explores the physical characteristics of the township with a focus on the natural and cultural features.

The Natural Features

A primary factor affecting the appropriateness of a particular land use in a specified area of land is that parcel's natural characteristics. It is these elements, including soils, topography and vegetation, which present the opportunities and constraints a parcel or area exhibits towards a particular end use. While, at times, an area of land may exhibit the exact requirements necessary for a chosen land use, often times this is not the case. As a result, additional cost, both tangible and intangible, must be incurred by the land developer and the township. With this in mind, it is fundamental that priority for expansion of existing and new land uses be directed toward areas which offer limited constraints and minimize the extent of any economic, social and environmental costs. The following is a review of the primary natural features present throughout Moran Township and their ramifications toward future growth and expansion of existing and new land uses.

Topography and Surface Drainage - Overall, the topography throughout Moran Township reflects considerable variation as one moves throughout the area. While this variation in relief exists, much of the township is fairly level as evidenced by the large amounts of marshy areas throughout the township. This is particularly true in the northwestern half of the township above Brevoort Lake where, except for a few random areas including portions of Little Brevoort River, Silver Creek, and Carp River corridors, the land areas rarely exceed grades of more than 5%.

As one travels throughout the southeastern half of the township, the topography reflects considerably more variation. This is most notable within the land areas directly southwest of Hay Lake, north and south of Silver Lake and Martin Lake and the coastline area between Pointe LaBarbe and Cut River. The coastline topography varies considerably as well with some

shoreline areas fairly flat and level while others are characterized by excessive slopes and high bluffs. As one moves further from the Lake Michigan shoreline, there is an overall gradual rise in land elevation as one reaches the township's boundaries. This is particularly true in the northwestern half of the township where elevations range from 585 feet above sea level along the shoreline to 915 feet above sea level just north of Ozark. As the southeastern half of the township is more narrow, the rise in elevation is not as great and reaches 640 feet above sea level just west of Hay Lake. However, bluffs near Silver Lake exceed elevations of 770 feet above sea level.

The majority of surface drainage within the township collects within the expansive marsh network where subsurface drainage is poor. Many of these wetland areas drain into the multitude of rivers and creeks which meander throughout the township. Many of these rivers and creeks empty into inland lake prior to reaching Lake Michigan.

As Figure 4 illustrates, the South Study Zone is comprised vastly of lands with less than 10% grades. Of the four areas where grades reach 21% or more, three of these areas are the slopes associated with plateau areas in the vicinity of Silver Lake, Martin Lake and Chain Lake. The fourth area of excessive grades is along the Lake Michigan coastline near Gros Cap Rd. Much of the surface drainage within the South Study Zone collects in the four inland lakes throughout the zone, the largest of which is Chain Lake covering approximately 250 acres. Lant Lake, the smallest of the larger inland lakes within this zone, covers approximately 10 acres. Silver Lake, the next largest, covers approximately 50 acres.

The North Study Zone, as illustrated in Figure 5, is comprised almost entirely of level or mildly rolling areas with grades of less than 10% except along the Lake Michigan shoreline where nearly all grades exceed 21%.

While all coastline lands tend to have a greater susceptibility to erosion as a result of water and wind action, particularly during storm conditions, numerous areas along the coastline of Moran Township are particularly vulnerable to erosion and have been identified as such by the Division of Land Resources Programs of the Department of Natural Resources. These areas are identified in Figure 4 and 5 as well.

Geology - The geology of Moran Township resembles that of most of the eastern Upper Peninsula which is the product of continental glaciation and the natural aging process of the Great Lakes resulting in a reduction of their original sizes.

The eastern portion of Moran Township's surficial geology consists predominantly of sandy lake beds and bedrock formations at or near the surface. As might be expected, the sandy lake beds tend to exhibit high permeability rates and associated

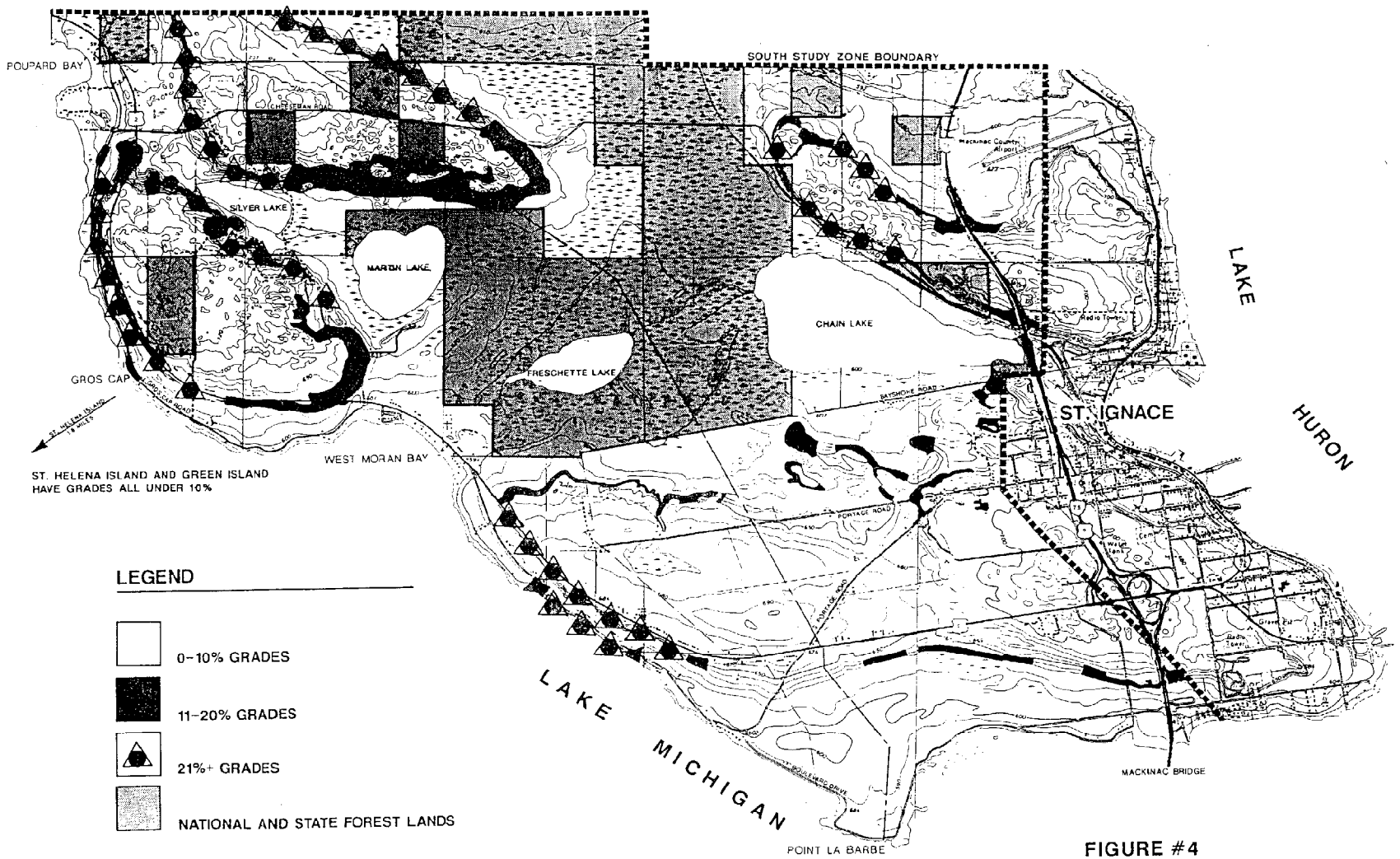

FIGURE #4

THIS FIGURE SERVES AS A GUIDE FOR IDENTIFYING 'CLASS FOUR LANDS' AS DISCUSSED WITHIN THE MASTER LAND USE PLAN DOCUMENT.

REVISIONS	MORAN TOWNSHIP LAND PLANNING STUDY	SOUTH STUDY ZONE TOPOGRAPHY	SCALE: PROJECT NO SHEET NO OF

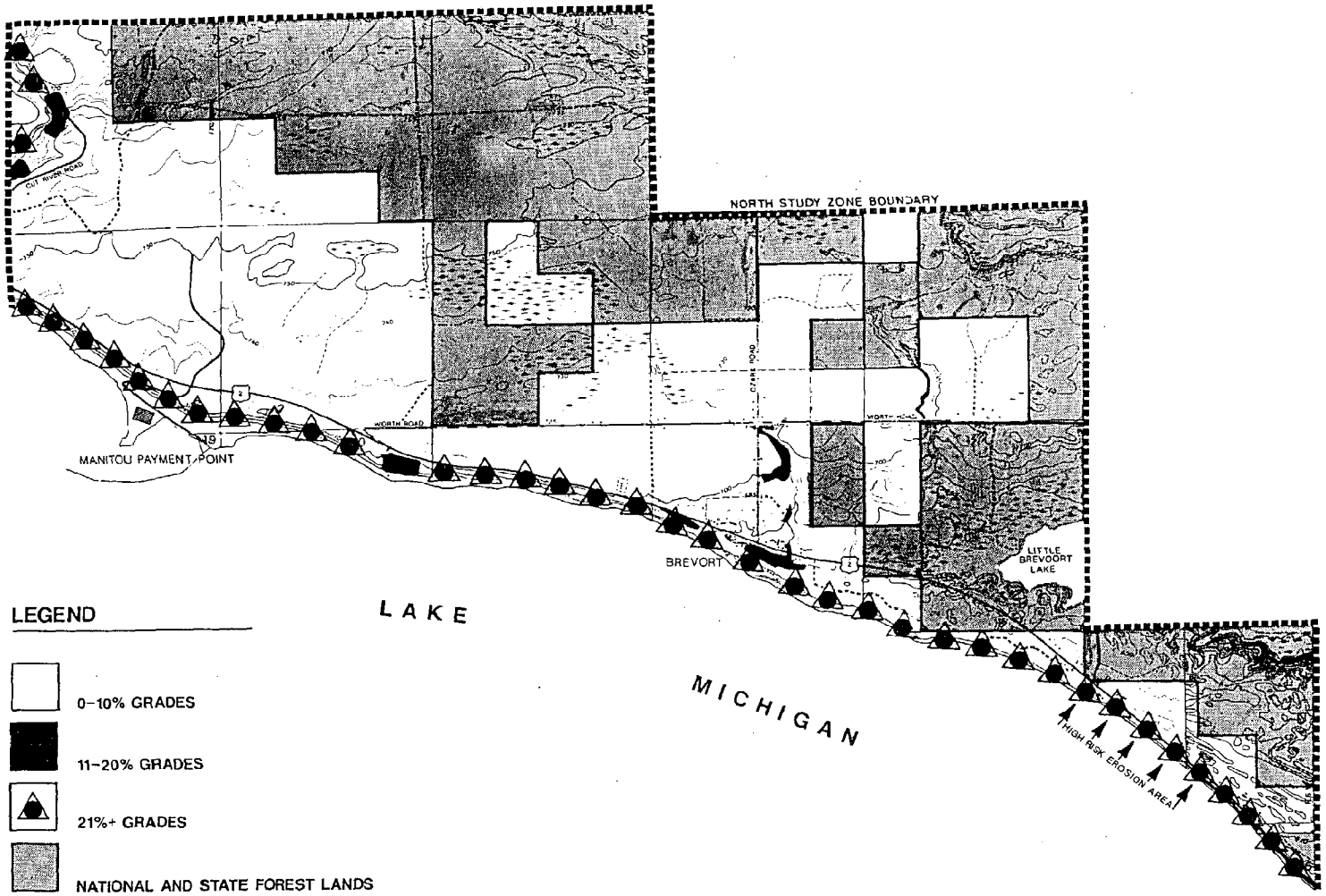

FIGURE #5

THIS FIGURE SERVES AS A GUIDE FOR IDENTIFYING "CLASS FOUR LANDS" AS DISCUSSED WITHIN THE MASTER LAND USE PLAN DOCUMENT.

REVISIONS	DSGN BY		SEG	MORAN TOWNSHIP	NORTH STUDY ZONE	SCALE:
	DRN BY		Snell Environmental Group, Inc. Engineers • Planners • Consultants	LAND PLANNING STUDY	TOPOGRAPHY	PROJECT NO:
	TRC'D BY					SHEET NO: OF
	CK'D BY					
	APP'D BY					

SCALE IN FEET 0 1200 2400 3600 NORTH

dryness. The western portion of the township consists predominantly of outwash and glacial channels as well as swamp like areas with a high degree of peat and muck materials.

The surface geology of the township also includes sandy lake beds along the Carp River Basin, bedrock in the area of Ozark south to the Carp River, and sand dunes south and west of Brevoort Lake.

Specific to those study zones within this report, the south and north study zones surficial geology are comprised of bedrock and outwash/glacial channels respectively. The Brevort area within the North Study Zone is characterized by a sand dune complex. The bedrock geology throughout the entire township, including the study zones, is comprised of Silurian Formations which are generally hard and resistant dolomites with evidences of embedded shale and gypsum.

Vegetative Cover - For a study of this nature, where the natural environment plays such a strong role, it is preferable to have fairly detailed data. While portions of this data were not readily available at the time this study was undertaken, previous research by the Eastern Upper Peninsula Planning and Development Commission, the U.S. Department of Agriculture and the Michigan Natural Features Inventory Program does provide additional insight for understanding the land cover character of Moran Township.

Keeping in mind the area's high scenic quality and extent of natural areas, it should not be surprising that the Township's land cover can be classified according to two covers, forested and marsh lands. While open grassed areas do exist, they are limited to those immediate areas where houses have been established with associated yards and other small scale randomly cleared areas and do not represent a significant land cover in respect to quantity or location.

Most of Moran Township consists of sandy glacial lake deposits and a large portion of this lake plain consists of flat and poorly drained lands characterized by highly variable swamp, bog, fen and marsh communities. Swamp forests including hemlock, northern white cedar, balsam fir, white spruce, trembling aspen, balsam poplar and scattered evidences of white and jack pine are evident throughout the swale areas. The drier ridges associated with these areas are characterized by Dry Northern Forest and Dry-Mesic Northern Forest including white pine, red pine, red oak, big tooth aspen, and paper birch.

Lands along the Lake Michigan coastline associated with the extensive sand dunes are characterized by Northern Hardwoods. Forest vegetation including beech, sugar maple, hemlock, black cherry and red oak although those areas of the low foredunes are vegetated by herbaceous and shrub vegetation only. As one moves inland to the more interior dunes near Round Lake and Hay Lake, forests of bigtooth aspen, red pine, and white pine are more

evident. The wet swales located between the high dunes along Lake Michigan and further inland support a variety of wetland type vegetation including cedar, tamarack, and hardwood-conifer swamps, fens, bogs and marshes. Figures 6 and 7 delineate wetland areas within the South and North Study Zones respectively.

As the peatlands throughout the township vary in peat thickness, so does the vegetation associated with those areas. Those areas of greater depth reflect a bog-like vegetation while those areas of a more shallow nature consist of conifer forests and swamps.

Soils: As with the previous discussion of vegetative cover, it is preferable to have fairly detailed soils data for a land planning study of this nature. However, even with the most detailed of data, any analysis of soil conditions in a study of this nature must be viewed as a general guide only and more analysis should be developed specific to each lot under consideration when development is considered.

In 1984, a soil resource inventory was prepared by the U.S. Forest Service examining the Sault Ste. Marie and St. Ignace Ranger Districts of which Moran Township is part of. According to the inventory, all soils within the South Study Zone tend to be poorly drained, the majority of which are of a loamy and sandy loam nature. Those soils in the more central portion of the Zone, between Martin Lake and Chain Lake, are of a wetland character with a higher degree of peat and muck. The vast majority of privately owned lands within the North Study Zone are characterized by well drained loamy sands somewhat more supportive of site development than in the South Study Zone.

It should be noted that there is a high degree of variability in soil structure throughout the township as illustrated by local well logs. While documented literature pertaining to Moran Township soils suggest a township composed of soils not particularly supportive of site development, the Brevort area reflects soils offering fewer limitations toward development.

Special Natural Areas - Driving throughout Moran Township, one could easily view the entire region as a "special natural area" due to the extensive expanses of woodlands, marshes, shoreline and other features. These resources are, in fact, very special due to the wildlife habitats they provide, the scenic quality they present, and the critical role they plan in shaping the overall character of the township.

However, within the context of this report "special natural areas" refer to features within the township that are of a more unique character and not nearly as visible. Because these special natural features are not typically as visible as other natural features, woodlands for example, they require that much more attention when land planning for the present and future in order to support their healthy continuance.

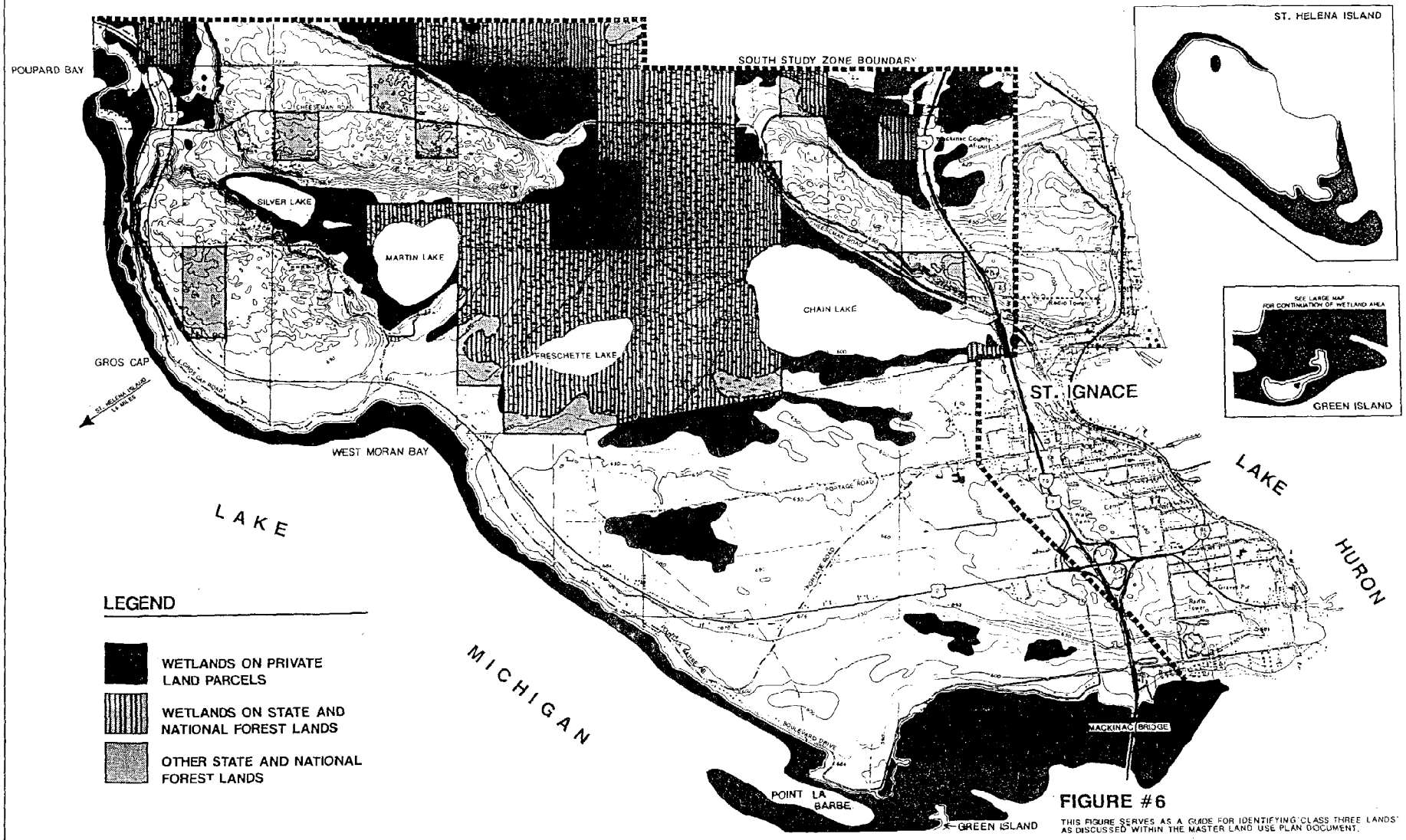

FIGURE #6

THIS FIGURE SERVES AS A GUIDE FOR IDENTIFYING 'CLASS THREE LANDS' AS DISCUSSED WITHIN THE MASTER LAND USE PLAN DOCUMENT.

REVISIONS	MORAN TOWNSHIP LAND PLANNING STUDY	SOUTH STUDY ZONE WETLANDS	SCALE PROJECT NO SHEET NO OF

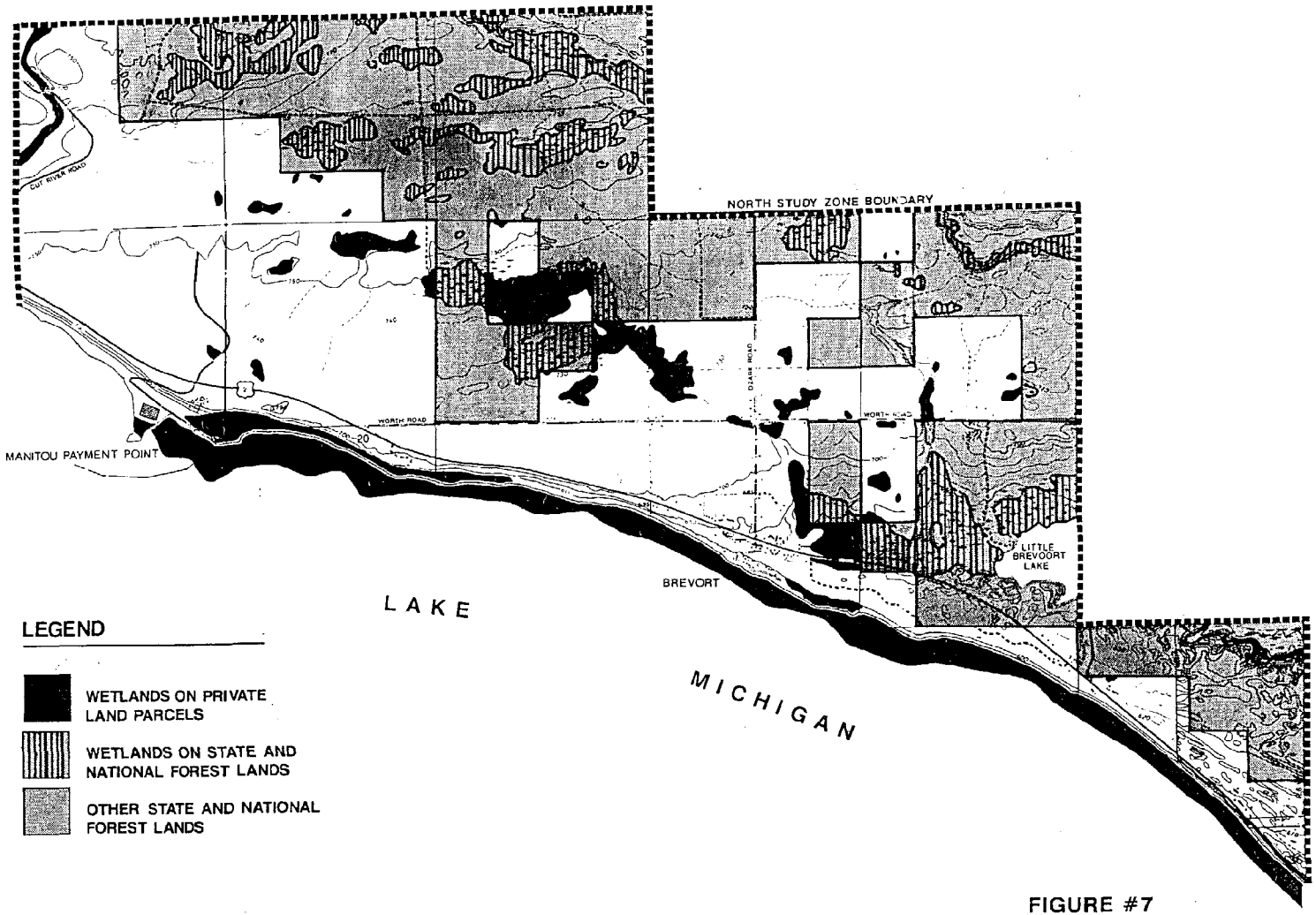

FIGURE #7

THIS FIGURE SERVES AS A GUIDE FOR IDENTIFYING "CLASS THREE LANDS" AS DISCUSSED WITHIN THE MASTER LAND USE PLAN DOCUMENT

REVISIONS	DSGN BY	SEG Snell Environmental Group, Inc. Engineers • Planners • Consultants	MORAN TOWNSHIP LAND PLANNING STUDY	NORTH STUDY ZONE WETLANDS	SCALE: 0 1200 2400 3600 NORTH	SCALE: PROJECT NO: SHEET NO OF

The Department of Natural Resources provides, through the staff of the Nature Conservancy, the Michigan Natural Features Inventory (MNFI) program which identifies these unique environmental features for the purposes of conservation programs and environmental planning. At the request of Moran Township Planning Commission, the Township Board contracted with the MNFI in 1986 to survey the Township. Moran Township was surveyed as part of the Michigan Natural Features Inventory program in which information was generated pertaining to Michigan's endangered, rare, or otherwise significant plant and animal species, plant communities, and other natural features.

The general findings of this survey, as they pertain to the South and North Study Zones within this report are illustrated within Figures 8 and 9. The vast majority of these special natural features contained within the study zones range in state ranking from "critically imperiled" (5 or fewer occurrences within entire state) to "rare or uncommon" (21 -100 occurrences within entire state). The complete study, including computerized mapping of all the known occurrences, is on file with the DNR and at the Moran Township Hall.

Groundwater - Based upon studies by the Water Resources Division of the U.S. Geological Survey, water availability within the South Study Zone is quite limited and highly mineralized. Availability of water in the North Study Zone is considerably higher although mineralization is a problem as well. Availability of groundwater within the glacial deposits throughout the entire township is low (generally less than 10 gpm) except in areas of sand and gravel deposits where availability may be very high (several hundreds of gallons per minute). It should be noted that those areas experiencing development pressures are also exhibiting signs of poor water quality.

Cultural Features

While decisions on the location of future land uses are heavily based upon the natural features of the physical environment as previously discussed, the cultural features of the physical environment also have a strong impact upon the decision making process toward future growth patterns within the township. An examination of the cultural features of the physical environment provides insight into the existing development patterns and conditions which have developed over the past years. While a master land use plan should not be dictated merely by past and present development conditions, these conditions must be considered if a successful land use plan is to combine the past, present, and future in a harmonious and orderly fashion.

Population, History and Economy - Prior to visitors from European lands, Mackinac County was inhabited by a number of major American midwestern tribes, most particularly the Ottawa and Chippewa tribes and, subsequently, the Huron Indians. The waters

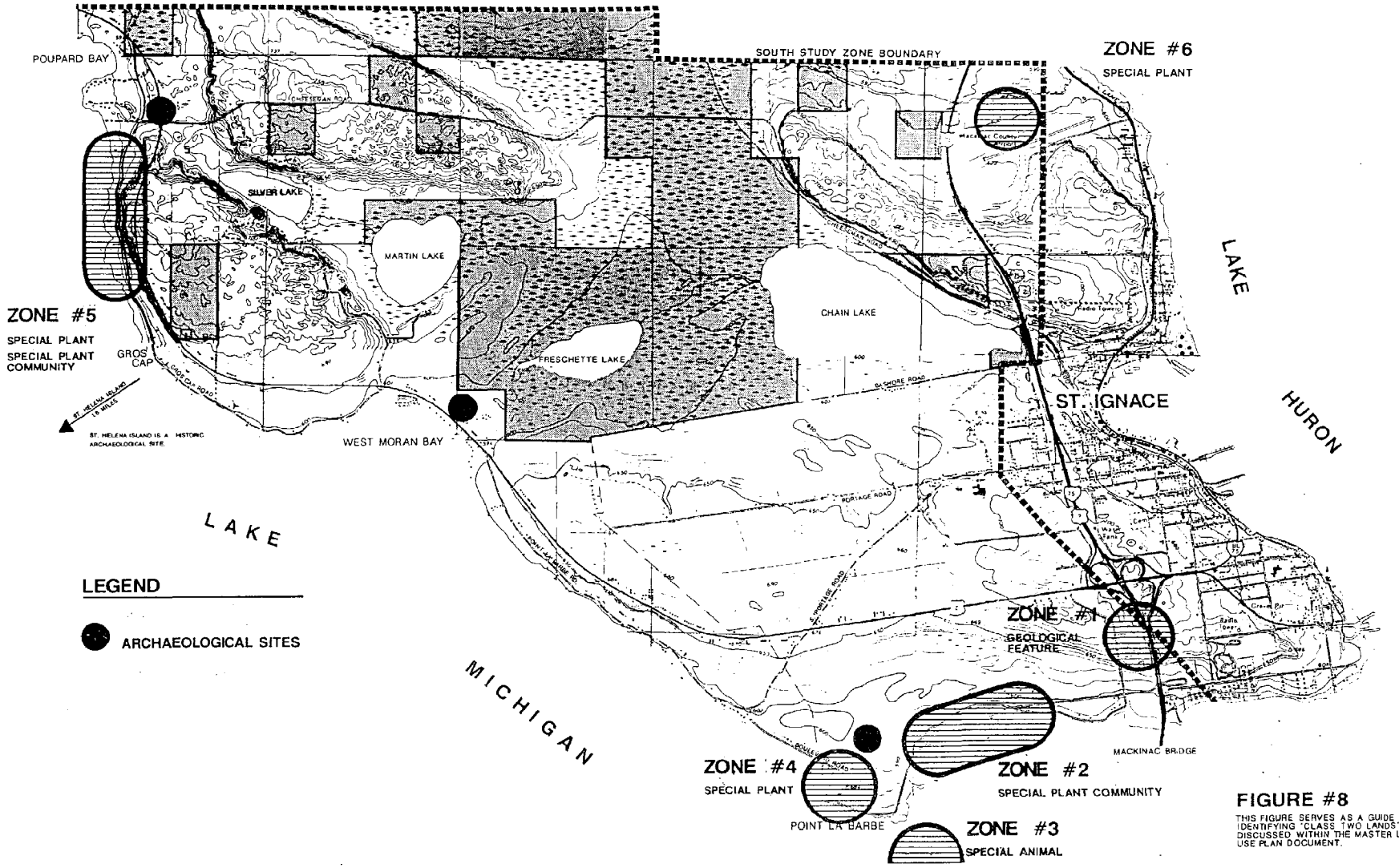

FIGURE #8

THIS FIGURE SERVES AS A GUIDE FOR IDENTIFYING "CLASS TWO LANDS" AS DISCUSSED WITHIN THE MASTER LAND USE PLAN DOCUMENT.

REVISIONS	SEC	MORAN TOWNSHIP LAND PLANNING STUDY	SOUTH STUDY ZONE SPECIAL NATURAL AND ARCHAEOLOGICAL AREAS

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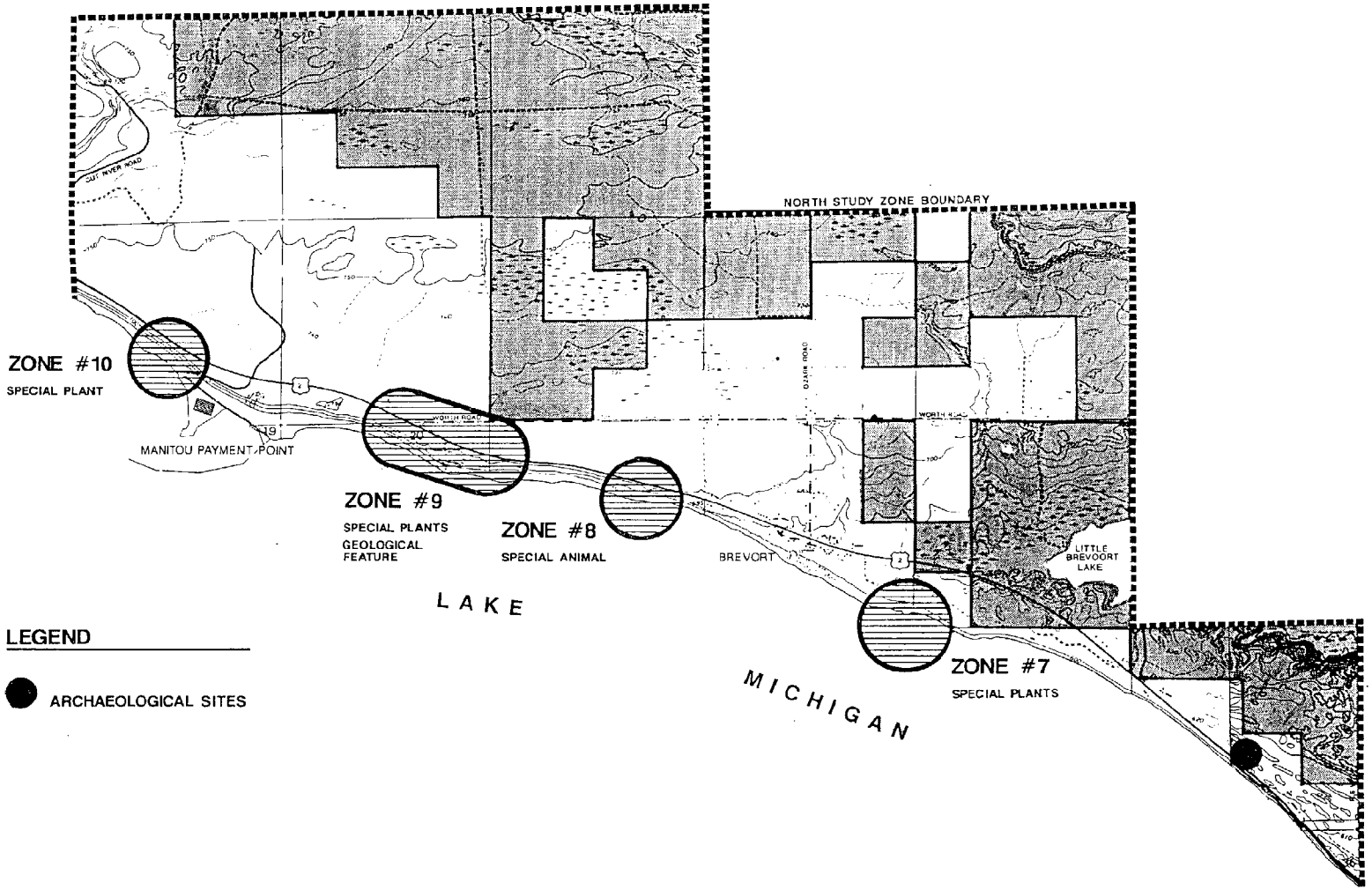


FIGURE #9

THIS FIGURE SERVES AS A GUIDE FOR IDENTIFYING 'CLASS TWO LANDS' AS DISCUSSED WITHIN THE MASTER LAND USE PLAN DOCUMENT.

REVISIONS	SSEC Small Environmental Group, Inc. Engineers • Planners • Consultants	MORAN TOWNSHIP LAND PLANNING STUDY	NORTH STUDY ZONE SPECIAL NATURAL AND ARCHAEOLOGICAL AREAS	SCALE 0 1200 2400 3600 NORTH	SCALE: PROJECT NO: SHEET NO: OF

and lands of the area provided a haven for life with plentiful food sources and modes of transportation.

French traders also found this area to be a land of abundance and, as a result of the copious supply of furs and a very strong market, the French established a multitude of trading posts and forts and in 1671, the City of St. Ignace was founded as Pere Marquette established a mission. The French also established a trading post at Mackinaw City which became Fort Michilamackinac in 1715. Similarly, the British traders also had a quest for furs and followed the French traders to the region. The following years witnessed continual battles among the French, British and Indians and in 1780, under the control of the British, Fort Michilamackinac was moved to Mackinac Island. Though the U.S. took initial possession of the island in 1783, the British occupied the area during the War of 1812 and it was not until 1815 when the U.S. regained possession of the island.

The fur trade flourished for the arriving white settlers until the early 1800's when excessive trapping and hunting began to severely diminish the quantity of fur bearing animals and, as a result, attention turned toward the extensive woodlands and waters where the timber and fishing industry took hold and predominated through the 19th century.

As the coastline played such an important role within these industries, many of the township's towns and villages took hold during this time and grew in size. However, by the early 1900's, the quality timber resources were all but depleted. Similarly, as a result of the St. Lawrence Seaway opening allowing for lamprey to feed on the fishing industry's prime species, lake trout and white fish, the fishing industry was set back significantly. By the 1960's, due to this condition and, more importantly, unregulated and over fishing, the fishing industry had all but disappeared as well.

Moran Township's population was approximately 400 in 1920 and peaked at approximately 900 persons in 1960. Since the mid 1900's, the primary economic base within the township and greater Mackinac County has been the tourist industry fed by the extensive scenic, historical, and recreational resources throughout the area and greater eastern Upper Peninsula region. The tourist industry was given considerable support when the Mackinac Bridge opened in 1957 providing quick and convenient access to the area.

According to the 1980 U.S. Census, the township's population in 1970 was 779 and 823 in 1980, a 5.6% increase. Several characteristics of the 1980 Moran Township population, as determined by the U.S. Census, are as follows:

Cultural Heritage

89% White
10% American Indian
1% Other

Ancestral Characteristics

51% Mixed Ancestry
11% English
9% German
5% French
4% Irish
20% Other

Education Characteristics (years of school completed by persons 25 years old and over)

15% completed 0-8 years Elementary School
17% completed 1-3 years High School
45% completed 4 years High School
13% completed 1-3 years College
10% completed 4 or more years College

Age Distribution

5% 0-5 Years
16% 6-15 Years
18% 16-24 Years
42% 25-59 Years
19% 60+ Years

Mean Family Income

$16,741 White, 20% earn $25,000 or more
$15,249 American Indian, 14% earn $25,000 or more

Housing Type

84% Single Family, Detached
7% Multiple Family
9% Mobile Home
298 Total Housing Units, 25% Renter Occupied

Predicting population growth or change for a township or any other governmental unit is not an exact science as there are too great a number of variables which come into play. However, projections can be made which offer a reasonable basis for future planning.

According to the Michigan Department of Management and Budget, the projected population count for Mackinac County in 1990 is 10,300 and is expected to rise by less than one percent by the year 2000. On a larger scale, the projected population for the entire Upper Peninsula in 1990 is 323,400 and is expected to rise by less than 3% in the year 2000. According to the Eastern Upper Peninsula Regional Planning Commission, the most significant urbanized/population center in or near Moran Township, the City

of St. Ignace, is expected to grow in population by less than 5% between the years 1990 and 2000.

While changes in Moran Township's population can occur independently of local and regional trends, conditions exist which strongly suggest that any change in population within the township over the next ten years will closely resemble projections of the surrounding areas.

Existing Land Use - The most visible aspect of the cultural character of an area is man's utilization of the land and so is the case within Moran Township. As was previously discussed, Moran Township is very rural in nature and as a result, man's more intensive alteration of the dominant landscape is quite clear and visible.

For the purpose of clarity and simplicity, the Existing Land Use Maps, as illustrated by Figures 10 and 11, were based upon five general categories with more detailed classifications within each category where appropriate. These categories are listed below with brief descriptions of each.

1. RESIDENTIAL

   Nonsubdivided Areas: This classification delineates those areas which consist of residential properties aside from platted subdivisions. Lot sizes within these areas typically range in size from 40 acres to 160 acres but also include several small 10 acre lots as well as several large 320 acre lots. As one might expect from previous discussions, these lots are primarily wooded in character except for the structure and associated yard areas.

   Platted Subdivisions: Throughout Moran Township, only a handful of platted subdivisions exist, the majority of which are situated on the Lake Michigan coast or along an inland lake. Lot sizes within these subdivisions generally do not exceed one acre in size.

2. COMMERCIAL

   This classification delineates those areas of the township where commercial establishments are situated. Included within this category are retail and office services, campgrounds and resort facilities, restaurants and similarly related uses.

3. INDUSTRIAL

   Extractive Operations: This classification delineates that area owned and maintained by Sand Products Corporation for the purposes of sand and gravel excavation. This excavation operation can be viewed as part of a long term organized

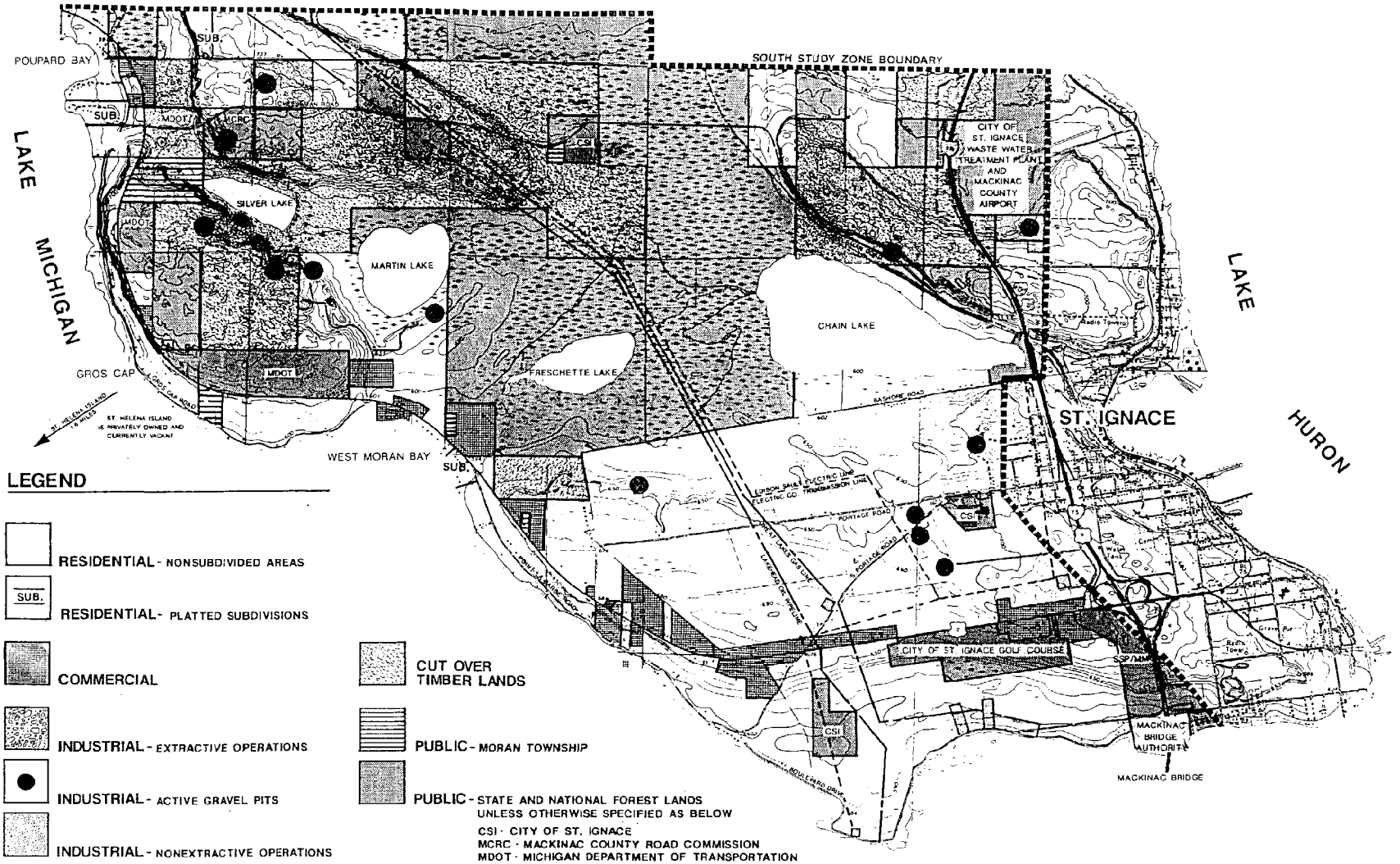
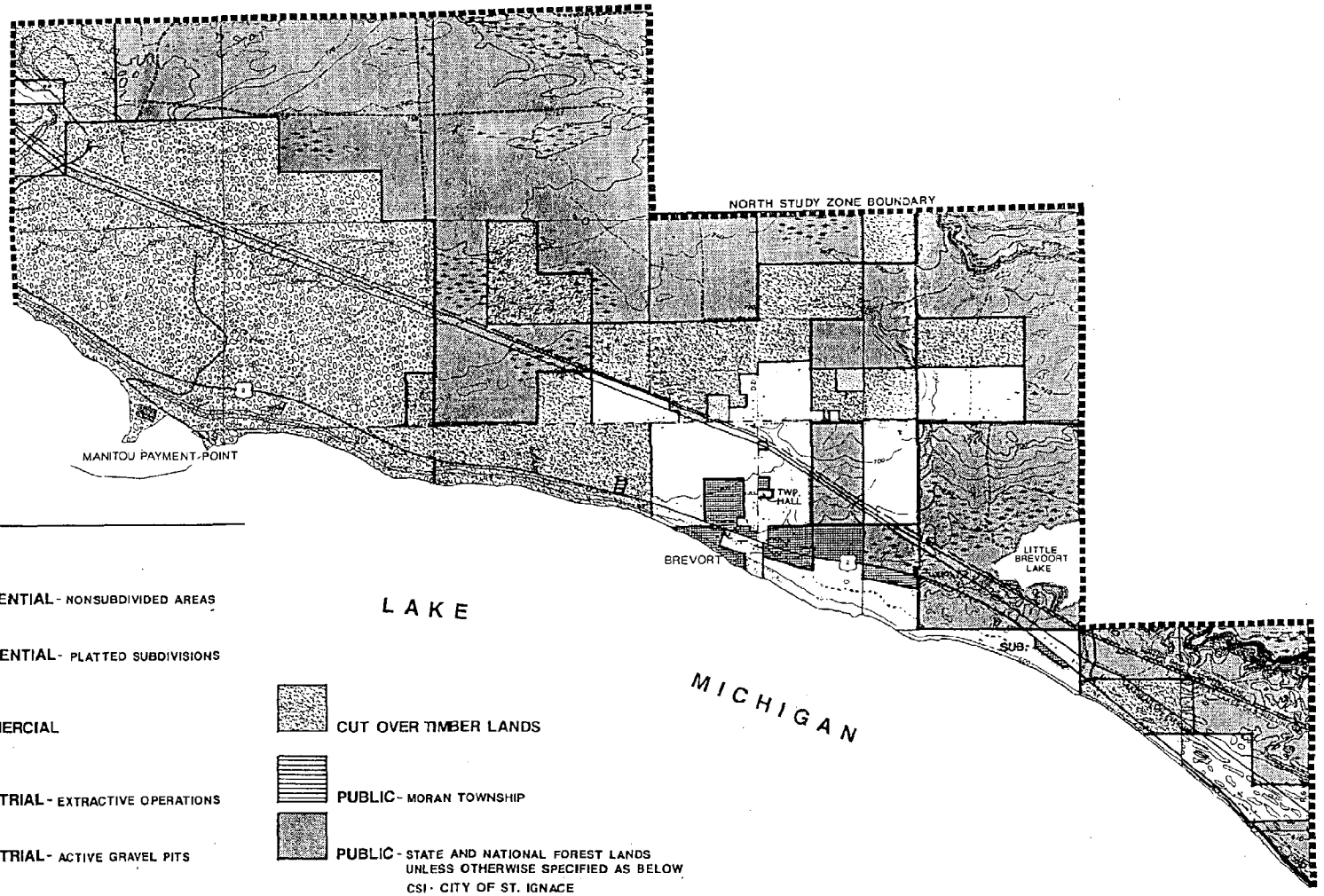


FIGURE #10

REVISIONS	OSEC	MORAN TOWNSHIP LAND PLANNING STUDY	SOUTH STUDY ZONE EXISTING LAND USE

SCALE
PROJECT NO.
SHEET NO. OF



LEGEND

- RESIDENTIAL - NONSUBDIVIDED AREAS
- SUB. RESIDENTIAL - PLATTED SUBDIVISIONS
- COMMERCIAL
- INDUSTRIAL - EXTRACTIVE OPERATIONS
- INDUSTRIAL - ACTIVE GRAVEL PITS
- INDUSTRIAL - NONEXTRACTIVE OPERATIONS
- CUT OVER TIMBER LANDS
- PUBLIC - MORAN TOWNSHIP
- PUBLIC - STATE AND NATIONAL FOREST LANDS UNLESS OTHERWISE SPECIFIED AS BELOW
  - CSI - CITY OF ST. IGNACE
  - MCRC - MACKINAC COUNTY ROAD COMMISSION
  - MDOT - MICHIGAN DEPARTMENT OF TRANSPORTATION
  - SSP/MM - STRAIGHTS STATE PARK/MARQUETTE MEMORIAL

FIGURE #11

REVISIONS

SEG Shell Environmental Group Inc. Engineers • Planners • Consultants

MORAN TOWNSHIP
LAND PLANNING STUDY

NORTH STUDY ZONE
EXISTING LAND USE

SCALE IN FEET: 0 1200 2400 3600 NORTH

SCALE:
PROJECT NO.
SHEET NO: OF

program for sand and gravel excavation for the purposes of commercial trade. This area covers over two square miles.

Active Gravel Pits: In contrast to "Extractive Operations" this classification identifies the locations of currently active gravel pits which are not necessarily state approved programs but have developed out of a "self-help" attitude by local persons in need.

Nonextractive Operations: This classification delineates those areas which are not extractive in nature but are, nevertheless, industrial in character and typically consist of utility easements and similarly related operations.

4. WOODLANDS

This category consists of those areas which had, in the past, been utilized for the harvesting of wood during the late 1800's and early 1900's. These areas have since started to mature into the forest stands witnessed within the township prior to the strong lumber industry and are generally vacant of all structures.

5. PUBLIC LAND

Approximately 80% of the lands within Moran Township are publicly owned, the vast majority of which are contained within the Lake Superior State Forest and Hiawatha National Forest. This category delineates these areas as well as the numerous other publicly owned land parcels outside of these forest lands.

As one might expect, nearly all commercial establishments are along U.S. Route 2 with a predominance of such facilities within the South Study Zone as compared to all other areas of the township. Most of these establishments cater to the tourist industry and consist of restaurants, supply depots, hotels/motels and tourist curio shops. Traveling west along U.S. Route 2, one is faced with a multitude of highly visible tourist establishments directly fronting U.S. Route 2 with minimal landscaping, excessive signage, and a general lack of sensitivity to the aesthetic elements and character of the area.

Once west of West Moran Bay, minimal development can be seen until one arrives in Brevort where tourist oriented establishments reappear. However, as can be seen by examining the Existing Land Use maps and previously discussed figures, the land development trend within the township is of a very strong rural nature with an abundance of natural areas and open space.

Archaeological and Historic Areas - Not nearly as visible as existing land use patterns, but nevertheless a strong element of the township's cultural character are the archaeological and historic sites within the area. These archaeological and

historic elements provide insight into the past activity area of the township and should be valued for their past and continued mark upon the area's landscape and the cultural quality that they embody.

Based upon data prepared by the Bureau of History of the Michigan Department of State, it is possible to locate the significant historical and archaeological features as they relate to the North and South Study Zones and have been illustrated in Figures 8 and 9. The archaeological sites include aboriginal and prehistoric burial grounds and the historical sites include the Ottawa Indian Village on West Moran Bay, High Rollway, Gros Cap Cemetery the Village of Gros Cap, and St. Helena Island.

Transportation - As might be expected due to the very rural nature of Moran Township and the degree of public forest lands, the vehicular network throughout the township is quite limited. Certainly, the most evident aspects of this network are U.S. Interstate 75 and U.S. Route 2. U.S. Interstate 75 runs north and south along the western and eastern boundaries of the City of St. Ignace and Moran Township respectively. I-75 provides access, by way of the Mackinac Bridge, from the Lower Peninsula to the Upper Peninsula and north to Sault Ste. Marie. Circulation east and west is provided by U.S. Route 2, a predominantly two lane highway reaching from St. Ignace, through Moran Township following the Lake Michigan coastline, and continuing westward to Escanaba and Iron Mountain. The highway is 5 lanes from the I-75 interchange westerly to Martin Lake Road, a distance of approximately four and a half miles. The vast interior of Moran Township is generally void of vehicular circulation except for a handful of paved and unpaved roads providing access to and from more remote areas of the township and beyond. The far south region of the township, that area south and west of Poupard Bay, reflects a greater degree of development and, as such, a more developed circulation network. There is currently no rail service within the township.

A special note should be made of the role the Mackinac Bridge commands across the state, nation, and local communities. Completed in 1957 at a cost of more than $100,000,000, the bridge is considered one of the greatest in the world and a tribute to man's engineering genius. Spanning nearly five miles across the Straits of Mackinac and its main towers more than 500 feet above the water, the bridge is a spectacular link between the Upper and Lower Peninsulas and serves as a primary tourist resource as well as a spectacular backdrop to the many other tourist and non-tourist elements in the area.

As one travels across the Mackinac Bridge toward Moran Township, the bridge is an adventure unto itself and provides the driver with splendid panoramic views of Lake Michigan, Lake Huron, the Straits of Mackinac, Mackinac Island, and the foothills of the Upper Peninsula. Similarly, as one travels along the township

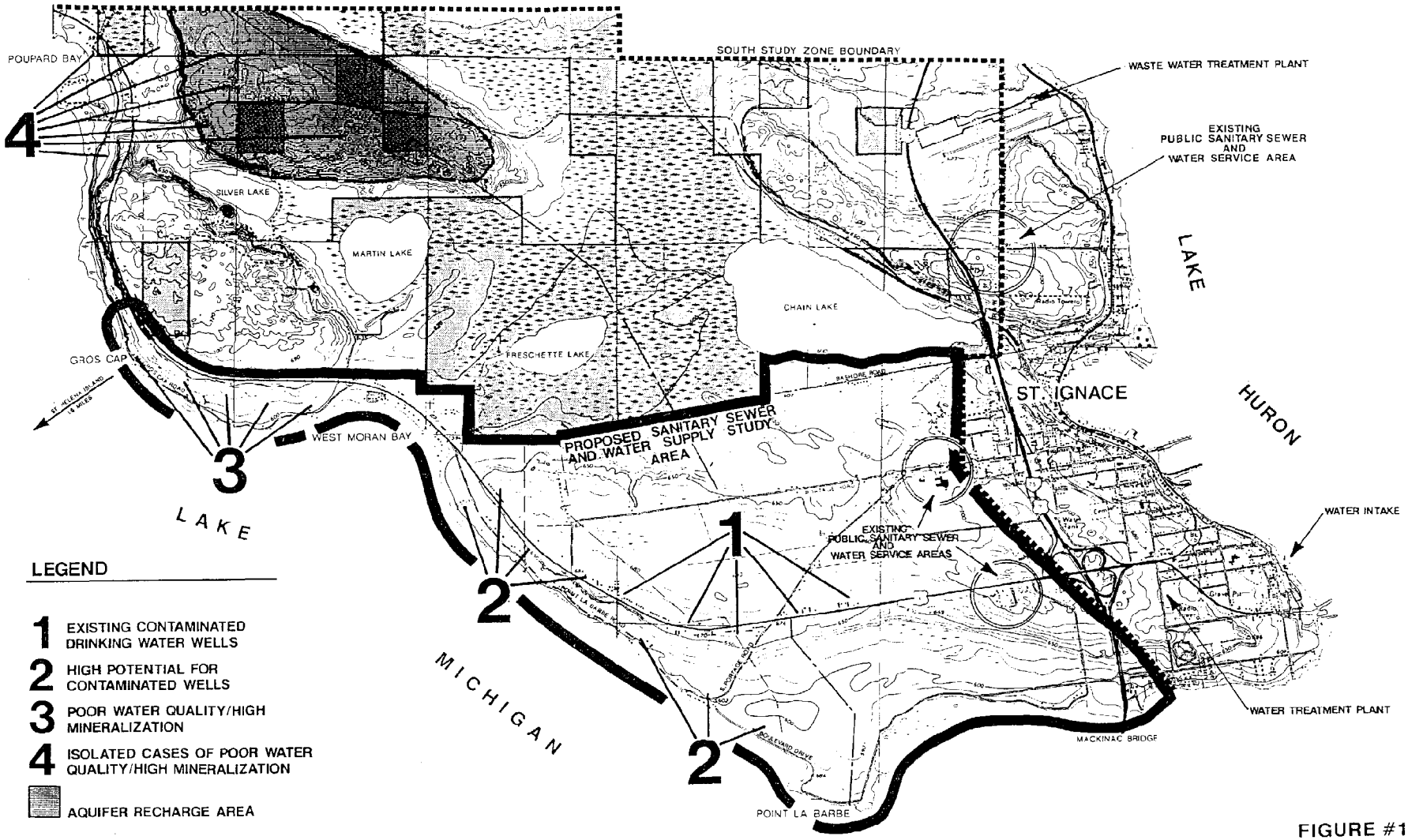


FIGURE #12

MORAN TOWNSHIP
LAND PLANNING STUDY

SOUTH STUDY ZONE
GROUNDWATER/UTILITIES

NORTH

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THE NORTH STUDY ZONE HAS EXHIBITED NO KNOWN WELL OR SEPTIC FIELD PROBLEMS

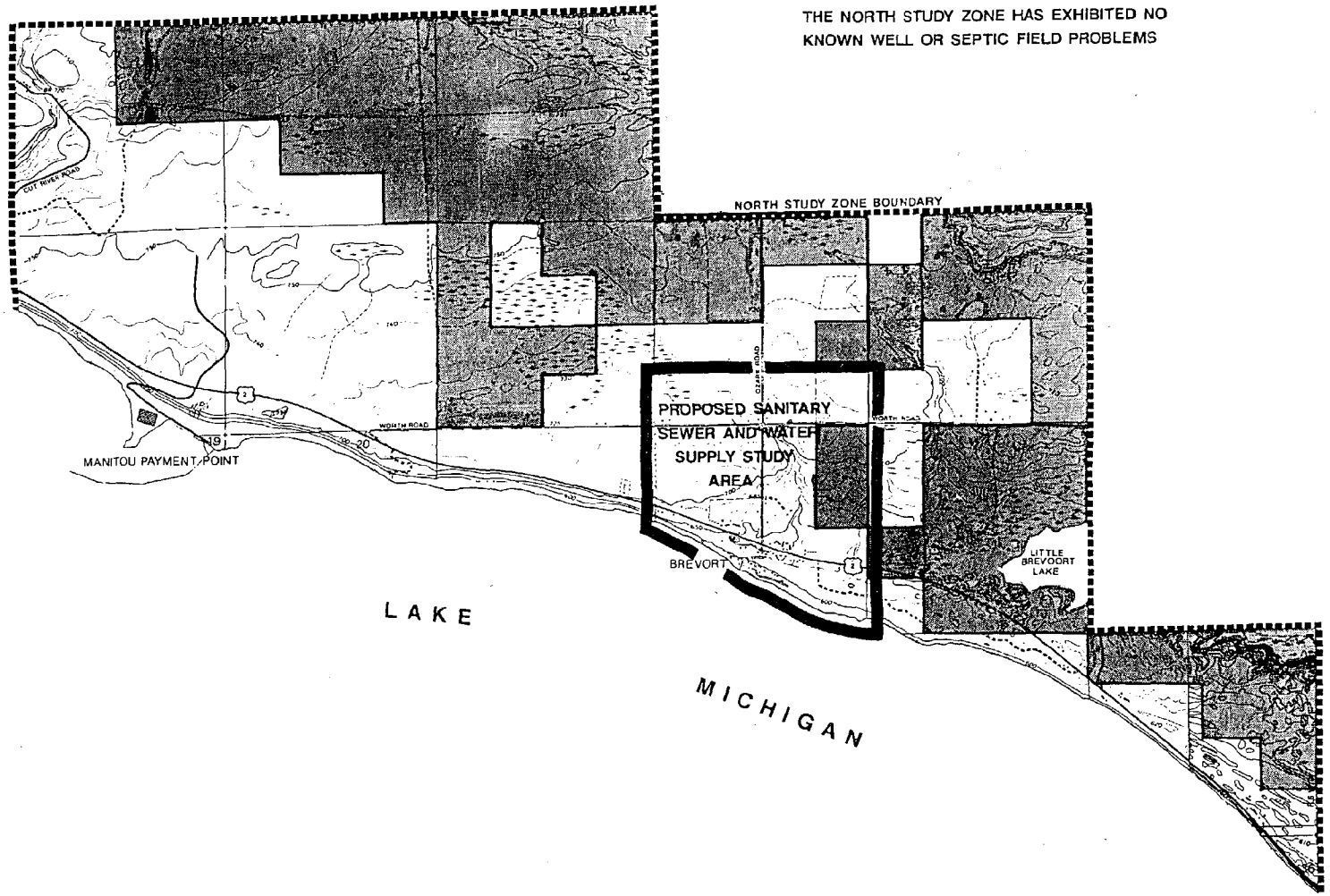

FIGURE #13

REVISIONS		SEC Snell Environmental Group, Inc. Engineers • Planners • Consultants	MORAN TOWNSHIP LAND PLANNING STUDY	NORTH STUDY ZONE GROUNDWATER/UTILITIES	SCALE: 0 1200 2400 3600 NORTH PROJECT NO: SHEET NO: OF

coastline, one is provided with a grandiose view of Mackinac Bridge and the splendid grace it commands.

Utilities - Given the nature of the township, it should not be surprising to find that the vast majority of residents are without any public water and sewer services and rely on private wells and septic fields. In fact, throughout the entire township, the only areas to have such public services directly abut the City of St. Ignace and even these areas are small in size.

The City of St. Ignace Golf Course along U.S. Route 2 and the local surrounding area, LaSalle High School on Portage Road and the local surrounding area, and the area just to the north of the far east end of Chain Lake are served by the City of St. Ignace's public water and sewer systems. These areas are illustrated in Figure 12.

As Figure 12 illustrates, the issue of quality of drinking water is of great concern as there have been a considerable number of private wells which have been found to be contaminated as well as areas which would appear to have a high potential for future contamination. As recent as the summer of 1987, the Luce-Mackinac-Alger-Schoolcraft District Health Department announced plans to carefully monitor underground water supplies and possibly restrict the drilling of noncommunity wells which would terminate in the Mackinac Breccia due to the formation's inability to yield safe water.

Figures 12 and 13 also identify the Land Use Plan's proposed sewer and water study areas which will be discussed in greater detail in chapter six.

Nearly all residents have electrical service and the 1980 U.S. Census reports nearly 43% of all households use oil or kerosene as a heating source, 26% use liquid or bottled gas, 21% use wood, and almost 10% use electricity.

Other Cultural Elements - Though not a part of Moran Township, the land uses and areas abutting and/or surrounding the township are of great concern in preparing a land use plan. A land use plan must recognize adjacent land use forces as they have direct ramifications upon the township's periphery and more central areas.

Certainly, the most significant of these forces is the City of St. Ignace as this is the most urbanized area within the region and bounds Moran Township along its eastern edge. As previously mentioned, St. Ignace's population is expected to increase from approximately 2,600 in 1980 to between 2,800 and 3,200 by the year 2000. The officially adopted land use plan for the City of St. Ignace proposes residential land uses along the majority of the area which interfaces with the township except in the area of the county airport which is proposed for public institutional use.

The central business district of St. Ignace is located along the waterfront of Lake Huron and expansion of this district, to whatever degree it may occur, is somewhat restricted to the north and south. East and west expansion is limited due to Lake Huron and the steep escarpment respectively.

Nearly all properties within Moran Township which are not privately owned are part of the Hiawatha National Forest and Lake Superior State Forest and is the most abundant land use along the northern limits of the township. As a national forest, the intent of these lands is not for development but managed for wildlife, recreation, timber production and research, and other conservation programs.

CHAPTER FOUR

NEEDS ASSESSMENT

Introduction

Having established an understanding of the general character of Moran Township, the next phase of this land planning study is the identification of those particular issues and needs which must be addressed within the plan. Upon an assessment of these needs, a program of land planning policies and goals can be established and guide the master land use plan. Several data sources were utilized in determining the particular land planning needs of the Moran Township community and are reviewed below.

Moran Township Planning Commission

Through several meetings with the township planning commission, numerous issues were discussed which provided insight into those concerns most apparent among the commission members. While these concerns ranged considerably in scope, they all have direct implications for land use planning and the preparation of a master land use plan for the township. Below is a summary of the key concerns expressed by the Commission as land planning needs and issues which must be addressed.

1. Flexibility within a land use plan for Moran Township is a necessity. Based upon the lifestyles and attitudes within the township and the Upper Peninsula in general, the land use plan must support the independent qualities of the township residents and the cultural character of this extremely rural area.

2. A critical concern of the Commission is the present and future effect the tourist trade will have upon the character of Moran Township. Most particularly, this concern focuses upon the evolution of the U.S. Route 2 corridor and the aesthetic/scenic qualities contained within.

3. Another primary concern of the Commission is the protection of the township's natural environmental features, protection of the more sensitive areas including wildlife and natural areas, and maintenance of the area's rural character.

4. The Commission expressed considerable concern over the increasing lack of safe drinking water found in private wells throughout much of the eastern portion of the township. Accordingly, public utility service and cost efficient land development would seem critical.

Citizen Input Survey

An additional tool utilized in determining the particular needs and concerns of Moran Township was a citizen input survey mailed to all families within the township. This 22 question survey, a copy and results of which can be found in the appendix, was designed to gain insight into the attitudes and concerns of the residents of Moran Township specific to land use issues and land use planning.

Approximately 600 surveys were mailed with a nearly 35 percent response rate.

Below is a summary of the primary findings of the citizen input survey.

- 70% of all respondents travel on U.S. 2 at least weekly.

- 82% of all respondents feel the area's scenic natural resources, open spaces, and the rural atmosphere are primary characteristics which keep them living in the township.

- Approximately 3/4 of all respondents were in favor of land use controls and programs to protect the township's sensitive environmental areas.

- 53% of all respondents feel U.S. 2 should be protected from intensive development while 35% feel otherwise.

- 67% of all respondents feel commercial facilities should be situated conveniently to serve local residents although there was considerable disagreement as to the need for expanded retail facilities.

- 56% of all respondents support the development of elderly housing complexes and 75% of all respondents are in favor of increased single family home construction.

- 88% of all respondents feel the overall quality of life is good in Moran Township.

- Approximately 1/3 of all respondents feel development has replaced areas of natural beauty and the same portion feel the area has become less tranquil.

- 69% of all respondents support the expansion of small industrial facilities within Moran Township.

These findings and other results from the survey provided well needed insight into the attitudes of many Moran Township residents.

Data Review

Upon reviewing the data generated during this study, along with the input received from the Citizen Input Survey and Planning Commission, it becomes clear that there are a number of key issues within the township which must be addressed.

Certainly, a paramount concern is that of protection of the natural environment and maintenance of the rural character that exists throughout the township. Contrary to this concern, however, is the need for Moran Township to adequately prepare for the future growth of the township and, as a result, greater development and alteration of the natural landscape. It would appear that the township's future growth may not necessarily be one of population as much as it may be commercial and tourist trade development. With this in mind, the Master Land Use Plan must address the dynamics of preserving the natural environment while providing for increased development and population growth.

A second and related issue which must be addressed is the visual character of the township. A vital portion of Moran Township's overall character is its natural environment and scenic resources and though efforts may be successful in limiting destruction of the natural environment, the visual quality of the area is not necessarily safeguarded as well. As U.S. Route 2 is the primary thoroughfare along the township's coast and can be expected to attract the majority of nonresidential development interests, it becomes critical that the issue of visual quality be examined both for the residents and drivers on U.S. Route 2 as well as the tourists approaching the township from Mackinac Bridge.

A third critical concern is that of public utilities. Presently, much of the township's southern residential areas are experiencing significant problems with safe drinking water due to excessive mineralization and human contamination. Contamination due to human waste may well be symptomatic of the lack of proper conditions for septic fields and as such, a situation exists where both public water and sewer facilities are needed. This situation gains greater intensity as one contemplates the future growth and development that may occur within the township.

CHAPTER FIVE

LAND USE GOALS AND OBJECTIVES

Having reviewed the physical and cultural data generated up to this point, including the information obtained through the citizen input survey and discussions with the Moran Township Planning Commission, it is possible to develop a set of goals and policies for guiding the development of the land use plan in a manner responsive to the needs and concerns identified. Within this context "goals" serve as end products which the master land use plan is aimed at providing while the planning policies are the means to which these goals are reached. A number of policies may be established as a means of reaching a single goal and a single policy may support more than just one goal.

The benefit of these policies is considerable and reaches far beyond their ability to support a desired goal or product. The adopted policies aid the public in understanding the intent of the master land use plan, the planning process utilized in developing the plan and resolving conflicts. Also, the policies act to maintain consistency of criteria and guidelines used as a basis for decision making. The utility of these policies acts to instill efficiency and coordination within the decision making process as this process becomes more streamlined and based upon a single adopted procedure.

The prescribed goals and policies are based upon the fundamental intent of the master land use plan; to establish a land utilization strategy which maximizes the resource opportunities within the township, respects the constraints presented by these resources, and supports a healthy and safe environment while meeting the land use needs of its current and future residents and visitors.

Within this framework, the following goals and policies were established by the Moran Township Planning Commission to guide the development of the master land use plan.

Goal #1 - The Master Land Use Plan

The master land use plan shall provide a clear and orderly strategy for meeting the current and future land use needs of the township residents and be compatible with the physical and cultural qualities of the township.

Planning Policies:

1. The land use plan shall be established to support and maintain the present rural upper peninsula character of the community.

2. The land use plan shall avoid establishing overly excessive conditions upon which a property may or may not be developed yet, at the same time, provide sound land planning principles in support of local attitudes. The land use plan shall provide a degree of flexibility, where appropriate, without sacrificing effectiveness.

3. The land use plan shall provide continuity in land utilization throughout the township and provide an orderly and practical basis for land use.

4. The land use plan shall provide for the adequate protection of the township's environmental, cultural and historical features.

Goal #2 - Residential Development

The master land use plan shall provide housing opportunities for individuals and families in a manner which respects the differing housing needs among individuals or families and encourages healthy, pleasant and safe living environments.

Planning Policies

1. Densities of residential areas shall be contingent upon existing and anticipated township public facilities with particular concern for availability of utility services.

2. The land use plan shall provide opportunities for all living arrangements including single family structures, townhouses, apartments, mobile homes, and rural homesteads.

3. As residentially developed lands typically occupy the greatest percentage of developed land within a township, measures shall be taken to protect all natural and sensitive environmental areas and minimize development where appropriate.

4. Contrary to the often adopted attitudes and misconceptions over mobile homes and mobile home parks being nothing more than visually obtrusive and poor substitutes for the many other housing alternatives, Moran Township believes that individual mobile homes and mobile home parks are a realistic and worthy housing alternative, a housing need is met by such a housing stock, individuals and families have a right to choose a housing alternative best suited to their needs, and, under proper guidelines and procedures, this housing alternative has a place within the township.

5. Residential development shall be provided in a manner which supports the overall rural character of the township through measures including efficient utilization of land areas, encouragement of platted subdivisions within more inten-

sively developed areas, and discouragement of residential strip development.

6. Residential development shall be provided so as to minimize public utility costs and maximize anticipated and constructed public facilities.

7. Residential development shall be contingent upon safe and appropriate methods of sewage disposal and drinking water sources, specific to each development area. Improper methods of sewage disposal will not be tolerated including backyard dumps and landfills. Also, gas, electric and recreational services and facilities shall be provided in a manner to support the daily needs of the township residents.

8. All residential development occurring along the U.S. Route 2 corridor shall not interfere with the scenic vistas and visual aesthetic elements provided to pedestrians and vehicular passengers along U.S. Route 2.

Goal #3 - Non-Residential Development

The master land use plan shall provide opportunity and guidance for the provision and expansion of commercial, office and industrial facilities within the township in a manner compatible with the rural character of the township so as to better meet the needs of township residents and visitors and increase the township tax base and employment opportunities.

Planning Policies:

1. All non-residential establishments shall be encouraged to maintain a visual image supportive of the rural and environmental character of the township.

2. Non-residential development shall be encouraged to locate near existing or anticipated population centers.

3. Development and expansion of non-residential growth shall be contingent upon adequate drinking water sources and supplies and adequate sewage disposal.

4. Moran Township recognizes the existing presence of temporary land uses; including sand and gravel excavation, and emphasizes the necessity for a long term end use plan for such parcels and discourages such temporary land uses from being visual obstructions upon the landscape during and upon termination of the temporary use.

5. All temporary land uses of an excavation nature shall be guided by concern for the health, safety and welfare of the township and shall be visually screened and measures taken to control sediment runoff and other environmentally harmful elements.

6. Non-residential growth shall occur in a fashion which does not interfere with the general flow of traffic within residential areas.

7. Strip commercial development shall be discouraged as this form of development is not in the best interests of health, safety and welfare within the township.

8. As non-residential growth often alters the natural landscape to a greater degree than residential growth, special attention shall be directed toward maintaining the existing rural character of the township, support the visual aesthetic quality of the natural local landscape, and minimize excessive and obtrusive signage, lighting and related elements.

9. Improper methods of sewage disposal will not be tolerated including back lot dumps and landfills.

10. All utility easements within the township shall be operated in a manner compatible with the health, safety and welfare of the township. Where appropriate, the clearing of vegetation and use of herbicides shall be strongly discouraged and prohibited where possible.

11. The Planning Commission shall require all industrial enterprises to submit data describing all toxic elements, including hazardous and radioactive materials, utilized on site before determining appropriateness of the land use.

12. All non-residential development occurring along the U.S. Route 2 corridor shall not interfere with the scenic vistas and visual aesthetic elements provided to pedestrians and vehicular passengers along U.S. Route 2.

Goal #4 - Open Space and Natural Areas

The master land use plan shall maintain, support, and enhance the rural character of Moran Township and maintain, support and enhance those special environmental features which provide the township residents and visitors with abounding scenic vistas, maintain outdoor recreational facilities, provide food, shelter, and cover for the area wildlife, and maintain a strong natural environmental element compatible with the greater Upper Peninsula region.

Planning Policies:

1. All development shall be examined as to its effect upon the natural surrounding environment and the overall rural character of the township.

2. Recognition shall be given to the highly complex and sensitive nature of the natural environment and the direct and indirect ramifications which can diminish and debilitate these areas as a result of poorly planned development.

3. Geographically depressed areas including marshes and wetlands are critical to the natural and cultural environments of the township as they serve to replenish ground water resources, store flood waters, and provide wildlife habitats. Therefore, the township shall protect these resources to the highest extent possible.

4. Draining, filling and development within or near water courses shall be carefully regulated by the township to ensure protection of valuable and sensitive environmental features and minimize pollution and flooding potentials.

5. Moran Township encourages preservation and conservation of all natural areas and woodlots so that they might support usage by future generations of Moran Township.

6. Special attention shall be directed at the Route U.S.-2 corridor in light of the heavy traffic it receives and the quantity of persons exposed to the township's rural and natural features along this corridor.

7. Protection of the township's natural heritage shall be encouraged by the township including possible land purchases by public agencies, land purchases by private conservation groups, conservation or special easements, and cooperative efforts between pertinent public offices and/or private property owners.

8. Extension of utility services through special environmental areas shall be strongly discouraged.

Goal #5 - Public Utilities

The master land use plan shall establish a practical guide for the development and expansion of public utilities to meet the present health, safety and general welfare needs of the township and the anticipated needs for the near future.

Planning Policies:

1. Moran Township recognizes the numerous benefits of the City of St. Ignace's proximity to the township, the municipal services it provides, and the value of working with the City of St. Ignace for expansion of these municipal services into the township.

2. Development of utility services and locations shall be based upon existing and anticipated areas of development.

3. Development of utility services shall occur at a rate which will not act to cause unlimited growth rates but shall guide growth at a desirable rate.

4. On site waste disposal shall be regulated to ensure proper operating septic fields and measures established in cases of inoperative or substandard fields.

5. On site water supply sources shall be regulated to ensure minimum operating standards, health standards, and maintenance standards.

CHAPTER SIX

THE MASTER LAND USE PLAN

It is at this point the planning process utilized within this study culminates with the establishment of a land use plan for Moran Township. The earlier sections of this document discussed the overall need for a land use plan for Moran Township and the natural and cultural characteristics and conditions of the township. This was then followed by a discussion of the land use needs of the township based upon discussions with the Moran Township Planning Commission, results of the citizen input survey, and a review and analysis of the various data gathered during the study. Having identified the needs of the community, it was then possible to establish appropriate goals and planning policies to guide the development of the land use plan. The final portion of this document presents the land use plan for Moran Township and alternatives for implementing the plan. The master land use plan is in both written and graphic form and, in conjunction with the established goals and planning policies, serves as a single and concise guide for future growth and development within the township.

LAND DEVELOPMENT DISTRICTS

As was discussed at the onset of this project, the land use plan to be generated by this study was not to be based upon a high degree of specifics, regulations, or assorted limiting parameters, except where appropriate. More specifically, it is not the intent of this plan to specify individual land uses most appropriate for a specific area of the township, i.e., office, commercial, multi-family residential, low density residential, industrial, etc. The focus of this land use plan is that of intensity of development and not so much the type of development. The purpose for this focus is twofold.

First, it is clear from past experiences within Moran Township and among its residents that within the cultural setting which the township exists, restrictions of land use placed upon properties privately owned is an extremely sensitive and controversial issue, more so than usual, and can have the effect of instilling more conflict than intended to resolve. Many of the residents of Moran Township have come to the township to enjoy the rural and unpopulated character of the municipality and escape the quicker pace and regulated life style of their past areas of residence.

Secondly, it must also be kept in mind the degree and type of future development within Moran Township is highly unpredictable as the forces and variables involved are complex and extremely difficult to track. Moran Township does not want to establish a land use plan designating specific land uses for specific land areas as this could create considerable unforeseen conflicts

including the limiting of potential development opportunities as well as encouraging over development in certain areas of the township.

On the other hand, it is not the intent of Moran Township and the Planning Commission to take a passive attitude and role in guiding development and growth within Moran Township and it is for this reason that this document was prepared. The intent of this document is to establish a land use plan based upon intensity of development which each region is most appropriate to support. It shall be the role of the enforcing ordinance, to be discussed in the following chapter, to ensure compatibility among land uses within each region.

The various land use districts established for Moran Township as part of the Master Land Use Plan are based upon numerous factors including existing or anticipated utility services and population centers, natural environmental features and an area's physical ability to provide or discourage development. Figures 14, 15, and 16 illustrate the Master Land Use Plan map for Moran Township and consists of land use districts. Below is a description of the intent of each land use district.

Primary Inland Growth Zones

The intent of these zones is to designate those land areas which currently reflect characteristics supporting their appropriateness for higher density development. This "appropriateness" is based upon numerous variables including existing population centers, existing or anticipated public utility services, existing circulation networks, and other cultural and natural elements. These zones are intended to absorb the majority of residential growth within the township specific to those families looking for suburban and urban type living environments. Lots are to be typically no larger than several acres and as small as reasonably possible for the proposed development. Maximum densities within these zones and respective developments shall be based upon the status of public utility services within these developments. Residential uses shall range from single family detached homes to duplexes, townhouses, and apartment complexes. The establishment of office, commercial, industrial and other support facilities in conjunction with these and other developed areas shall also be a function of these zones. As a multi-use zone, the Primary Inland Growth Zone shall require appropriate buffering to protect residential areas from excessive noise, odors and visual blight.

Approval of all developments within the Primary Inland Growth Zone shall be contingent upon a variety of conditions including, but not necessarily limited to, the following:

- specified lot coverage ratio maximums

- appropriate bufferings and screening between land uses
- appropriate separation of residential and non-residential vehicular circulation
- development density contingent upon degree of existing and proposed utility improvements

Secondary Inland Growth Zones

The intent of these zones is to designate those land areas which are best suited for absorbing that portion of the township growth which is looking for a rural living environment where public utilities are non-existent nor are they anticipated prior to other areas receiving such services. However, should utilities be constructed within these zones, these areas may evolve into Primary Inland Growth Zones should the need be present. As utilities currently do not exist in the Secondary Inland Growth Zones nor are they anticipated in the near future, lot sizes shall be larger than those of the Primary Inland Growth District. Similarly, these zones are intended for single family residences and less intensive uses.

Approval of all developments within the Primary Inland Growth Zone shall be contingent upon a variety of conditions including, but not necessarily limited to, the following:

- specified lot coverage ratio maximums
- appropriate bufferings and screening between land uses
- approved methods for water supply wells and sewage disposal based upon county health standards and technical data pertaining to the parcel's soil, topography and related elements.
- guidelines for exterior lighting and signage including size, materials and locations.

Primary and Secondary Coastal Growth Zones

The Primary and Secondary Coastal Growth Zones parallel, respectively, the philosophies of the Primary and Secondary Inland Growth Zones except for special considerations which must be accounted for due to the nature of the Lake Michigan coast within Moran Township. Specifically, the coastline is a continuous environmentally sensitive area which must be recognized and taken into consideration. Also, U. S. Route 2 follows the coastline throughout Moran Township and offers residents and visitors splendid visual vistas which capture the environmental character of the township including Lake Michigan, its shoreline, and associated natural areas. It should be noted that a good portion of the lands within those two zones are currently developed and, as such, the Primary and Secondary Coastal Growth Zones establish guidelines to ensure any further development maintains the current character and visual quality of these areas.

Accordingly, the maximum densities for the coastal growth zones shall be somewhat reduced in contrast to their respective inland growth zones. Just as important, approval of all developments within these coastal growth zones shall be contingent upon a variety of conditions including, but not necessarily limited to, the following:

- maintenance of existing views
- establishment of landscape buffers abutting U.S. 2
- maximum height limitations
- minimal disturbance of the natural environment
- maximum limits of paved areas
- guidelines for signage including size, materials and location
- guidelines for exterior lighting including size, materials and location
- compatibility with neighboring parcels

Visual Corridor/Recreation Coastal Zone

The primary intent of this zone is to designate that area of the township which plays such a critical role in establishing the overall character and charm and scenic wonder of the township as a whole and, along with this designation, protect those features which make this zone so unique. It is this area of the township which residents and visitors are first exposed to as one comes from the Lower Peninsula and, as such, serves as a visual introduction to the entire region. Similarly, from U. S. Route 2 within this zone there exists beautiful panoramic views including Lake Michigan, the shoreline, Green Island, St. Helena Island, Mackinac Bridge and more.

This zone is also partially served by City of St. Ignace public utilities and, in conjunction with the Mackinac Bridge/U.S. Route 2 corridors and the zones proximity to the City of St. Ignace, is in a unique position to preserve the visual quality and character of Moran Township while acknowledging the role this area plays within the land development market. Development within this zone shall be limited to less intensive uses with a dominance of undisturbed natural open space. Low density residential and resort developments with an emphasis on non-intensive recreational facilities would maintain this area's natural beauty and scenic charm while still respecting the potential development forces.

All developments will be subject to strict parameters and shall be guided by, at a minimum, the following considerations:

- maintenance of existing views
- extensive retention of existing natural landscape
- utilization of landscape buffers

- maximum limits of paved areas
- guidelines for signage including size, materials and location
- guidelines for exterior lighting including size, material and location in order to maintain visual aesthetics of the Mackinac Bridge and local area.

Ozark Community

The intent of this zone is to designate and protect that land area associated with the community of Ozark in a manner which will support the current character and lifestyle of the region. The history, nature, and charm of this community is unique unto itself within a larger highly unique township. The nature of its location protects this community from most present and near future development trends. However, a policy supported by the Ozark community and township as a whole protecting this agricultural based region and the cultural and natural environment associated with this community is critical. The intent of this zone is to maintain existing agricultural and open spaces and ensure all future land development is based upon strict accordance with preservation practices and maintenance of the current visual experience throughout the Ozark community.

Transitional Use Zone

At present, this zone is under ownership by a sand and gravel excavation enterprise and can be anticipated to remain as such for the near and distant future. However, it should be understood that excavation type land uses are transitional in nature and are by no means representative of the final end use. Accordingly, the intent of this zone is to designate that land area which use is transitional by nature and establish policies of reclamation so these land areas do not remain as visually obtrusive elements. Policies of operation shall include, but not necessarily be limited to the following:

- submittal of three year plans by land owner identifying proposed areas of excavation and techniques and safety measures

- submittal of three year environmental impact statements explaining the expected excavation limits and effect upon the environment

- submittal of excavation master plan identifying end use and final reclamation by land owner

- establishment of strict landscape buffering and screening by land owner

- submittal of erosion control plans by owner

- approval of all activities and plans by the township and all other public offices with appropriate jurisdiction

- compliance with all pertinent state and national statutes pertaining to mining and excavation including the State Sand Dune Mining Act

POPULATION CENTERS AND PUBLIC UTILITIES

An intent of this master plan is to guide growth and development in a compact manner and thus limit unnecessary costs for public services and minimize area wide impacts upon the natural environment. Certainly, when one considers appropriate locations for population centers, accessibility to public services, particularly sewer and water, is a dominant concern that must be evaluated accordingly.

It is prudent and proper planning to take advantage of existing public services when available and appropriate and in this respect, the City of St. Ignace has the potential to afford Moran Township with such services. The establishment of a Primary Inland Growth District adjacent to the City of St. Ignace is based upon this premise and further supported by logical expectations for a natural tendency toward higher growth in this area as growth typically occurs near areas which provide and offer retail trade and services.

Moran Township should work closely with the City of St. Ignace in developing a plan where city utility services can be extended further into the township area within the Primary Inland Growth District and the Visual Corridor/Recreation District. The need for adequate sewer and water facilities has already been established and as illustrated in Figure 12, the Moran Township Master Land Use Plan calls for an in-depth study of feasible alternatives for providing sewer and water services to the South Study Zone area as present and future growth within this area could become substantial. The township must be prepared to meet the health, safety and welfare needs of its future residents.

The Master Land Use Plan also recognizes the key role that the Village of Brevort plays within the township. It is the township's westernmost settlement and consists of resorts, restaurants, motels and limited retail facilities. Though very rural in character, the goods and services that the village does provide supports this village as a future population center for the western coastal region of the township. Situated upon U.S. Route 2 and supported by Ozark Road and Worth Road, accessibility in the Brevort area is quite good and would facilitate higher density development.

Again, the issue of public utilities cannot be ignored and this plan calls for an appropriate sewer and water study of the

Brevort area as highlighted in Figure 12. While extension of the City of St. Ignace utility services to this area would be highly impractical and cost prohibitive, alternatives should be considered including community wells and sewage lagoons.

THE U.S. ROUTE 2 CORRIDOR

U.S. Route 2 is a fundamental lifeline for the Township of Moran and the entire Upper Peninsula. The access this thoroughfare provides is matched only by the splendid and unique panoramic vistas and sights it provides for Township residents and tourists, depicting the essence of the Upper Peninsula character and beauty. Not only are the visual rewards provided by U.S. Route 2 unique to the State of Michigan but unique unto the entire nation as well. Because of the special attributes of U.S. Route 2, and the key role it commands within Moran Township, a fundamental element of this Master Land Use Plan is the protection of this corridor as a primary access thoroughfare and the scenic vistas it provides.

As a primary element of the area's tourist industry is the scenic landscape including the Mackinac Bridge, surrounding water bodies, islands, and woodlands, the township must take measures to ensure that the quality scenic vistas and sights provided by U.S. Route 2 are not lost due to development pressures and site development characteristics. Similarly, measures must also be taken to accommodate development along U.S. Route 2 without the loss of efficient vehicular traffic flow or increases in pedestrian or vehicular safety hazards.

All development along the U.S. Route 2 corridor should be contingent upon, although not necessarily limited to, the following conditions:

- Maintenance of all existing views from U.S. Route 2 to surrounding key scenic elements including local islands, water bodies, and the Mackinac Bridge.

- Consistency in signage along U.S. Route 2 including maximum limitations on sign heights, size and location.

- Avoidance of billboards along the corridor.

- Maintenance of existing vegetation and earthforms to the highest degree feasible.

- Avoidance of excessive numbers of parking lot drives or similar access drives onto U.S. Route 2 to ensure safe and efficient vehicular and pedestrian movement and minimize congestion.

THE NATURAL ENVIRONMENT

Given the previous discussions on the nature of Moran Township's natural environment and the critical role it plays in defining the overall character of the township, providing a very rural atmosphere considered extremely important by the residents of the area, and providing the necessary habitats for an abundance of varied wildlife, a particularly strong element of this master land use plan is the provision for maintaining, protecting, and supporting the township's environmental features to the greatest degree possible.

The Master Land Use Plan also includes two conservation oriented districts and are described below.

Primary Open Spaces

The intent of these areas is to designate specific land areas which, due to their special and unique features, dictate a policy of maintaining these areas in their existing condition and minimizing all types of development on a permanent basis. Generally, these areas reflect both natural and cultural elements which, by their nature, present significant obstacles toward land development while at the same time capture the environmental and visual character of Moran Township. These areas are characterized by woodland and wetland areas, water bodies, and particularly sensitive shoreline areas.

Secondary Open Spaces

The intent of this zone is to designate specific land areas which currently support the rich rural and scenic quality of Moran Township and should remain unaltered on a long term basis. Should growth and development trends absorb the established primary and secondary growth zones, Secondary Open Spaces could become available for development should the demand exist. Secondary Open spaces consist of natural and scenic areas worthy of protection but not as significant as those areas within Primary Open Spaces due to various circumstances including location, size and adjacent conditions. Should development occur within this zone at a future time, the intent is that these areas be developed along the same principles as the secondary growth zones.

Though this study has had, as its primary focus, the privately owned lands within the North and South Study Zones, attention was directed toward the scattered privately owned parcels within the township yet outside of the specified study zones. The intent of this land use plan is to designate all of these parcels as Primary Open Space Districts for a number of reasons.

Those privately owned parcels in the western portion of the township outside of the North Study Zone are generally charac-

terized by weak soils, high water tables, and wetland type environments. Accordingly, due to the environmentally sensitive nature of these parcels and the fact that septic fields would be apt to be inoperative under such conditions, development of these parcels would seem unfeasible. That these parcels are also surrounded by public forest lands suggests the extension of a limited development policy.

Those privately owned parcels in the eastern portion of the township outside of the South Study Zone have somewhat similar characteristics as those parcels discussed above. A good portion of the parcels are contained within major wetland regions including the Pointe Aux Chenes Marshes whose sensitive nature has already been discussed. These parcels as well as those outside of these wetland areas are also surrounded by public forest lands with limited or non-existent vehicular access.

ADDITIONAL CLASSIFICATION OF LANDS

The maintenance, support, and protection of the township's natural environment requires far more than the establishment of the two open space districts but programs must be established which have bearing upon individual land parcels and developments irrespective of what land use district they may be within. For this reason, five classes of land areas have been established and encompass all lands within the Township. These classes of lands are based upon the natural features of the township as were uncovered and documented through this study.

As part of the Master Land Use Plan for Moran Township, and in conjunction with the guidelines established by the Master Land Use Plan maps in Figures 13 and 14, development of each and all land parcels shall be contingent upon the guidelines established for each parcel based upon the class of lands it is categorized under.

Class One Lands

Class One lands consist of all lands abutting Lake Michigan and extends from the water's edge to a distance 1,000 feet landward. Development of any parcels within these areas shall be guided by the Master Land Use Plan map as well as comply with the following conditions as determined by the Township or appropriately designated body. Development along all water bodies within this 1,000 foot zone shall also be guided by these conditions.

1. Acquisition of all necessary permits as required by local, state and federal offices including the DNR and U.S. Corps of Engineers.

2. Design and implementation of shoreline stabilization measures.

3. Submittal of site plan by owner identifying, at a minimum, layout of all elements, aesthetic characteristics, construction techniques, maintenance of existing vegetation, grading plan, utility access, and required excavation and filling.

4. Submittal of an environmental impact statement by the landowner examining elements pertaining to the proposed project's effects upon the following:

   - existing vegetation
   - existing wildlife
   - erosion and sedimentation
   - traffic circulation and congestion
   - noise levels
   - visual character of the area
   - ground water
   - surface runoff
   - modification of skyline

5. Minimum building setbacks from U.S. Route 2 and the Lake Michigan coastline.

6. Establishment of a greenbelt along the Lake Michigan coastline.

7. Maximum limitations on degree of vegetative clearing permitted.

Class Two Lands

Class Two Lands consist of all lands containing special natural features as indicated in Figures 8 and 9 and extends 1,000 feet beyond the bounds of the natural feature's limits. These lands include archaeological and historic sites as well. Development of any parcels within these areas shall be guided by the Master Land Use Plan map as well as comply with the following conditions as determined by the Township or appropriately designated body.

1. Development of an environmental impact statement focusing upon the proposed project's effect on the specified natural feature(s) in the area including aspects of:

   - soil composition and alteration
   - erosion
   - limits of construction
   - alteration of existing water courses and runoff flow
   - alteration of habitat characteristics
   - flooding
   - analysis of unavoidable adverse impacts

2. Establishment of buffer measures to minimize negative impacts.

3. Establishment of new habitats to offset loss of existing habitats, if appropriate.

4. Project review by Michigan Natural Features Inventory or similar public body identifying the proposed development's environmental ramifications and alternative mitigating measures.

5. Documentation of alternative site plans examined to minimize impact upon all natural features and rationale for chosen alternative.

Class Three Lands

Class Three Lands are those areas of the township containing, adjoining, or contributing to wetlands as established by Figures 6 and 7 and any future determinations of additional wetland areas. Development of any parcels within these areas shall be guided by the Master Land Use Plan map as well as comply with the following conditions as determined by the Township or appropriately designated body.

1. Acquisition of all necessary permits as required by local, state, and federal offices including the DNR and U.S. Corps of Engineers.

2. The proposed development will not affect the normal flow of surface and ground water.

3. The proposed development will not have any indirect effects upon the quality of wetlands in adjacent regions due to erosion, runoff flow alteration, and other consideration.

4. Filling or dredging of any wetland areas shall be kept to a minimum and not exceed the limit necessary for normal day to day operations of the proposed development.

5. Submittal of Site Plan for review by appropriate township and state offices.

Class Four Lands

Class Four Lands are those lands which are characterized by any number of special environmental elements which are not addressed in the previous three land classes but are equally deserving of special consideration when land planning and development is occurring. Class Four Lands include, but are not necessarily limited to, the following environmental elements:

- areas exhibiting grades of 12% or more
- high risk erosion areas
- river and stream banks
- bluffs and cliffs
- sand dunes
- islands

Development of any parcels containing one or more of these elements shall be guided by the Master Land Use Plan map as well as comply with the following conditions as determined by the township or appropriately designated body.

1. Maintenance of an unaltered buffer area between the proposed development and the environmental element under consideration.

2. Maintenance of existing vegetation in area of the environmental element under consideration.

3. Compliance with specially developed setbacks and construction limits.

4. Submittal of site plan to the township delineating limits of building, grading and clearing.

Class Five Lands

Class Five Lands are those areas which do not fall within any of the previous classes and generally consist of non-wetland woodlands. Development of parcels within these areas should be contingent upon clearing of woodlands to the smallest degree necessary for the day to day operations of the proposed development.

Class Six Lands

The Moran Township Master Land Use Plan recognizes that, though the Township as a whole is very unpopulated and extremely rural in character, there are areas within the Township where development has occurred and taken hold. This has occurred on a lot by lot basis as well as the development of lots clustered in close proximity to one another (such as a subdivision). Class Six lands consist of those areas within the Township which have already been developed upon and accepted within the Plan as existing conditions and not necessarily subject to the development guidelines previously discussed in Class One to Class Five Lands unless improvements are made to these existing developed lots.

Class Seven Lands

Due to the abundance of sand and gravel at or near the ground surface throughout various regions of the Township, a large number of lots have been used for the purposes of extracting these resources, often leaving these areas in a condition characterized by visual blight and erosion. Both during and after extraction activities, these areas often present significant safety hazards due to slopes, machinery, and related elements.

The Plan recognizes the value of these resources and Class Seven Lands are all areas utilized for extraction purposes presently and in the future. Utilization of these areas for extraction purposes shall comply with the following conditions as determined by the Township or appropriately designated body.

1. Control of sediment laden runoff.

2. Visual screening of extraction activity.

3. Regrading of site upon completion of excavation activities to insure site is restored to afford future development of the site without excessively high site development costs.

4. Submission of plans delineating final use of land.

5. Approved safety measures including measures to minimize access by outside persons or parties and maximum slope and grade limits.

OTHER ENVIRONMENTAL PLANNING CONSIDERATIONS

As part of the Master Land Use Plan, St. Helena Island and Green Island are designated as Primary Open Spaces as well. These islands may well provide the safest environment for local wildlife as accessibility is quite limited and public facilities do not exist. The character of these islands, consisting of wetlands, dry lands, woodland, sandy beaches, surrounding water bodies, and the lack of human interference supports a healthy wildlife environment. The visual role that these islands play as one comes across the Mackinac Bridge and drive along U.S. 2 also suggests a non-development policy toward these areas.

There are several other significant natural features which should be noted at this time. The Great Lakes Marsh complex at Pointe

Aux Chenes is one such feature covering several square miles and consisting of several natural communities including mature white pine stands providing nesting sites for osprey and bald eagles. The marsh complex also includes swamp forests and Dry Northern Forests. The Great Lakes Marsh complex is characterized by numerous small linear shaped water bodies which are all hydrologically connected and part of a larger wetland system including Hay Lake and the Summerby Swamp.

The Brevoort Lake sand dune complex is an equally significant feature. High quality Dry-Mesic Forests are situated on these steep, yet stabilized dunes between Brevort River and Pointe Aux Chenes. Due to the extremely steep dune topography, a variety of forest types is evident with mesic species on the north facing slopes and Dry-Mesic and Dry Northern Forests on south facing slopes.

It should be noted that the proposed North Country National Scenic Trail extends westward from St. Ignace into Moran Township, as illustrated in Figure 10, and runs along the north side of Chain Lake, continuing on just south of Hay Lake and Brevoort Lake and then northeast into Brevort Township. As a critical recreational element to the Township of Moran and its residents and visitors, special attention should be directed at insuring this trail and adjacent land uses support the character and intent of this congressionally mandated recreation program.

Accordingly, considerations must be directed at these special features when land planning and land development decisions are being contemplated as their continued healthy existence is contingent upon preservation policies and effective development guidelines.

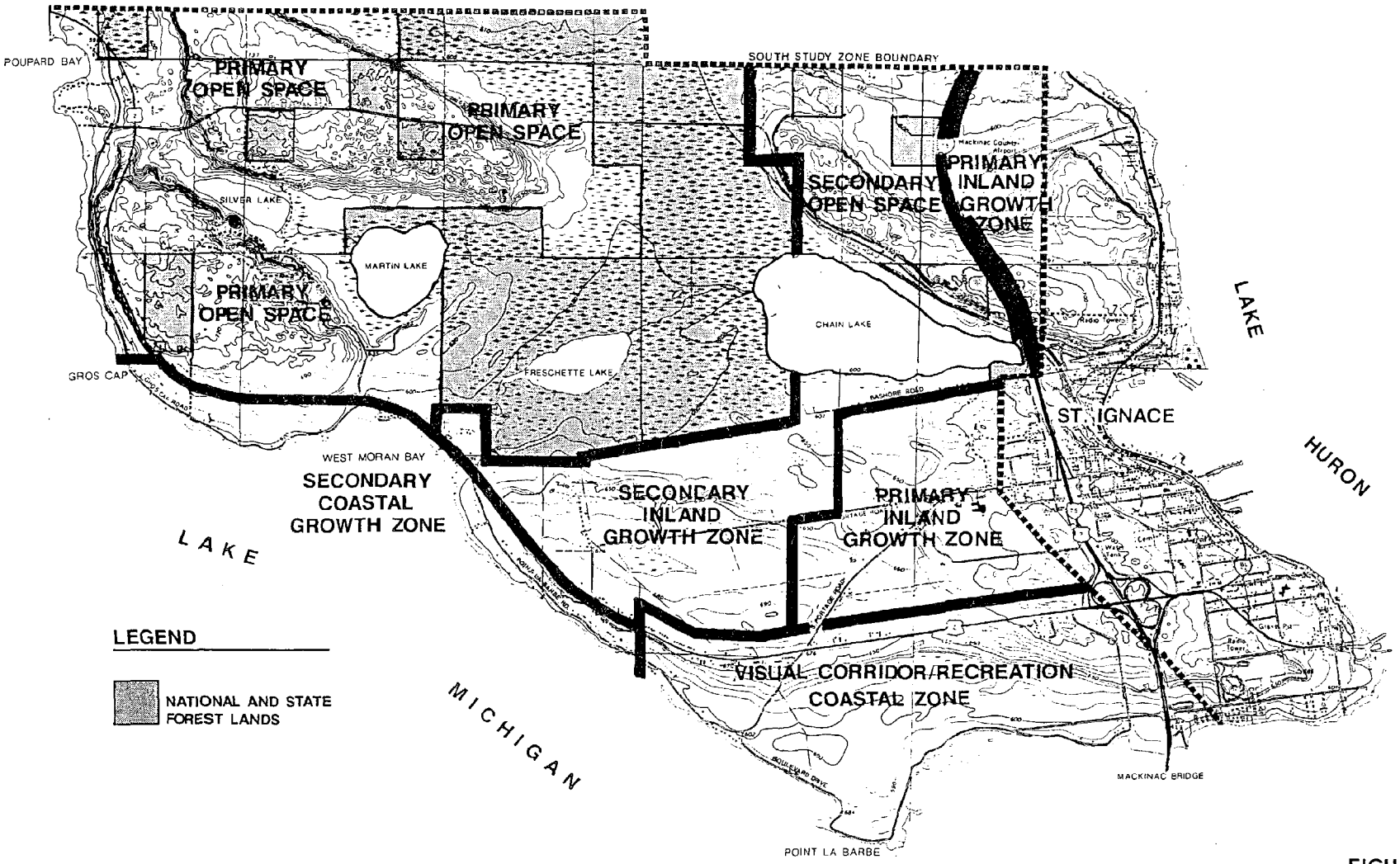

FIGURE #14

REVISIONS		MORAN TOWNSHIP LAND PLANNING STUDY	SOUTH STUDY ZONE LAND USE PLAN	SCALE: PROJECT NO. SHEET NO. OF

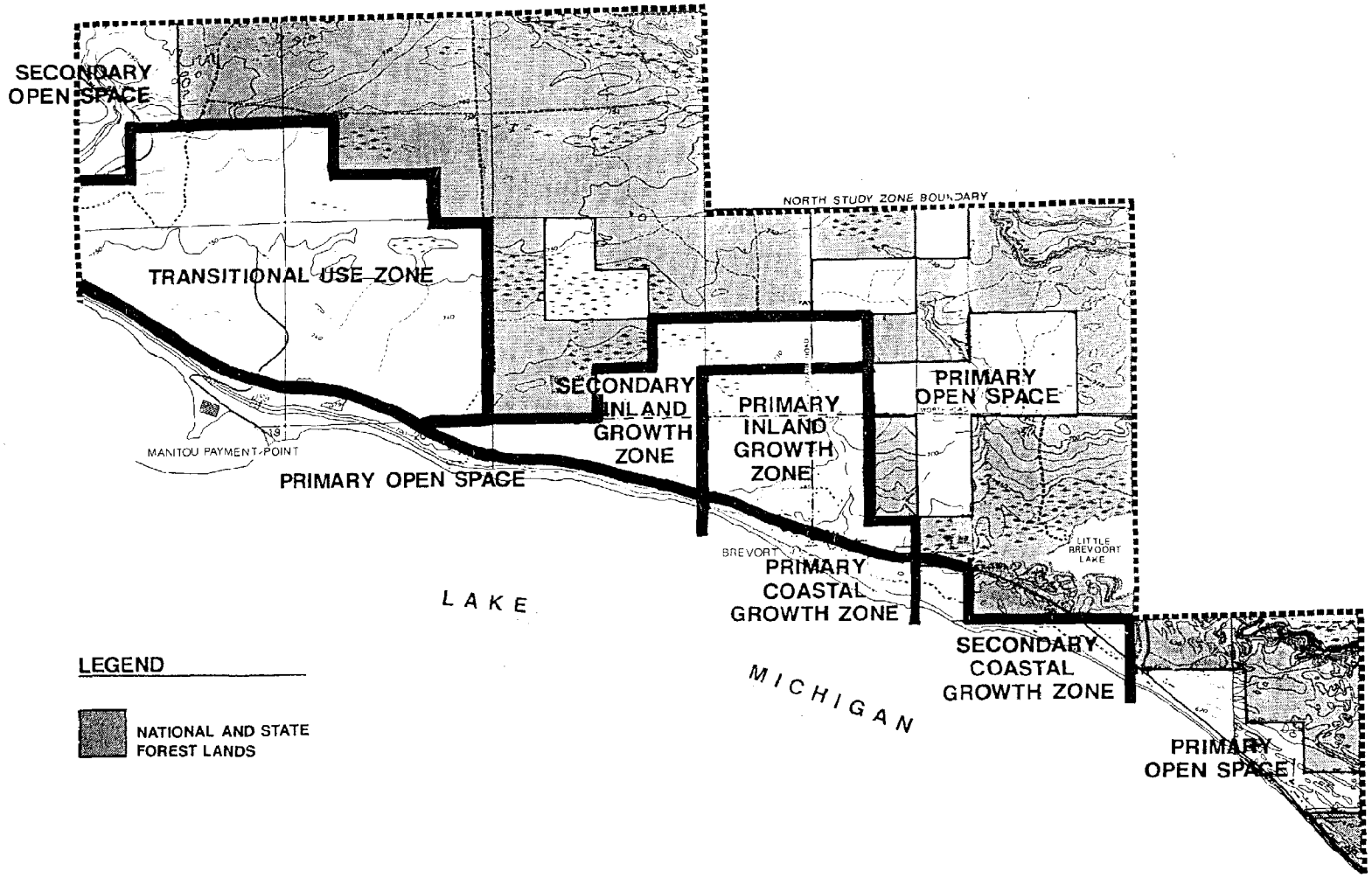

FIGURE #15

REVISIONS	SEC	MORAN TOWNSHIP LAND PLANNING STUDY	NORTH STUDY ZONE LAND USE PLAN	SCALE: PROJECT NO SHEET NO 01

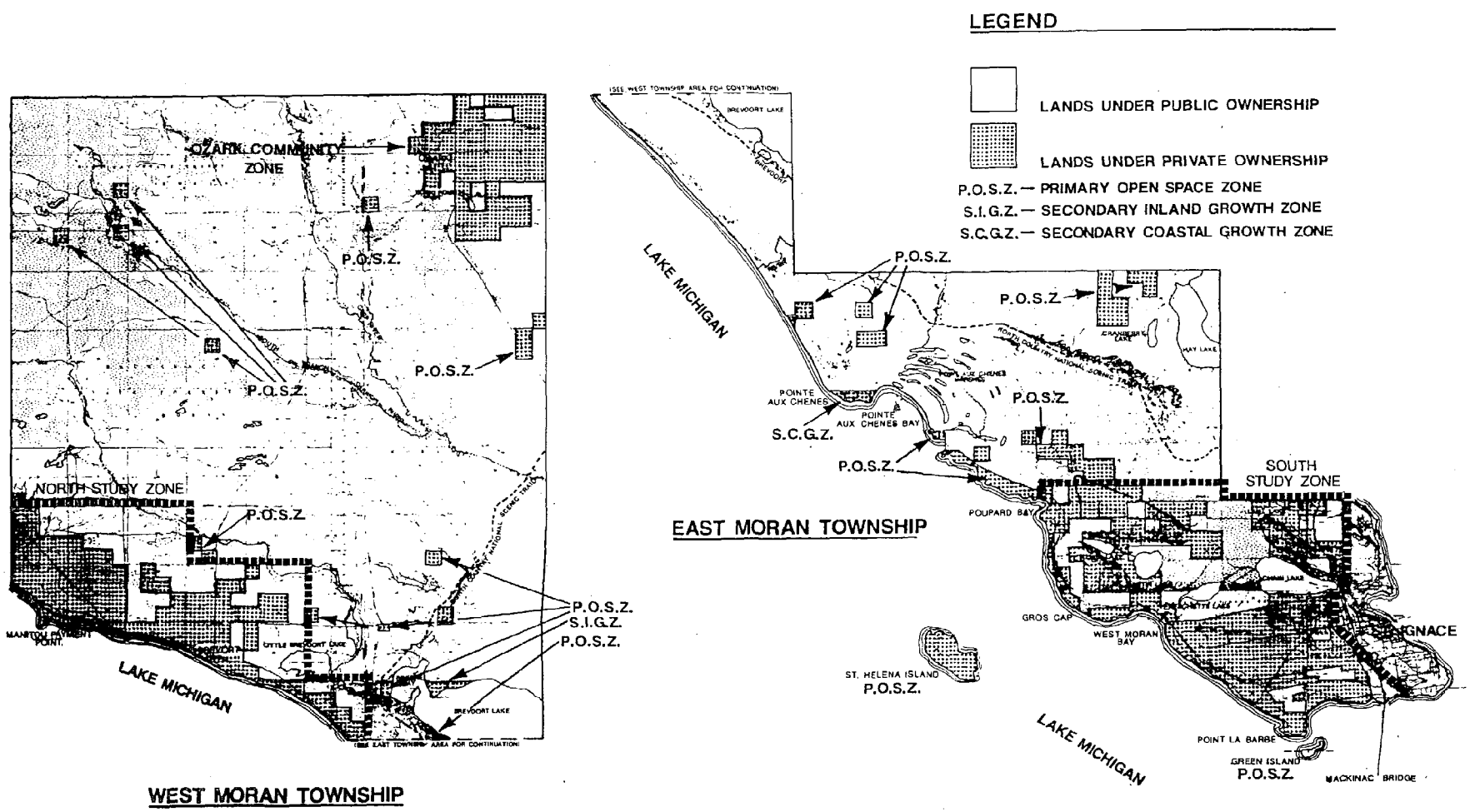

FIGURE #16

REVISIONS	SSEG Snell Environmental Group, Inc. Engineers • Planners • Consultants	MORAN TOWNSHIP LAND PLANNING STUDY	LAND USE PLAN	SCALE: PROJECT NO: SHEET NO: OF

CHAPTER SEVEN

IMPLEMENTATION

The overall intent of this master plan was to identify and develop the most appropriate land use strategies for meeting the land use needs of the township in a manner which supports the health, safety, and welfare of the current and future township residents. These strategies are embodied within this plan both graphically and in text.

However, without the implementation of these strategies, this master land use plan becomes nothing more than a document upon a shelf. A master land use plan is a statement of policy and is ineffective unless acted upon. There are a number of avenues which Moran Township can follow to implement this land use plan.

Before implementation can occur, it is critical the appropriate township governmental bodies recognize, support, and adopt this master land use plan. According to current Michigan statutes, the Planning Commission shall prepare and adopt a basic plan to future growth and development within the unincorporated portions of the respective township. Once this plan is adopted by the Planning Commission, it is considered official and used by the Commission as a guide for future planning and resolving of conflicts.

It is the Township Board, however, which has the actual authority and power to implement the master land use plan through the passage of ordinances and expenditures of public funds and, as such, is critical for the Board to review and officially adopt the master plan as well. Upon adoption of the plan by both township bodies, implementation activities can be of four basic methods, the most effective of which are land use controls.

Land Use Controls

Zoning is certainly the most effective manner of implementing the township master land use plan is the adoption and enforcement of a Township Zoning Ordinance.

In 1943, the State of Michigan passed the Township Zoning Act (P.A. 184 of 1943, as amended; MCLA 125.271 et seq.) which vests the legislative authority to enact or amend a zoning ordinance within the Township Board. The Michigan acts include a statement defining the purpose of zoning, a portion of which reads as follows:

> "to meet the needs. . . for food, fiber, energy, and other natural resources, places of residence, recreation, trade, and service. . . to assure that the use of land (is) situated in appropriate locations and relationships; to limit the inappropriate overcrowding

> of land and congestion of population. . . to facilitate adequate and efficient provision for transportation systems, sewage disposal, water, energy, education, recreation, and other public service and facility requirements. . ."

In meeting this end, a zoning ordinance typically prescribes and controls the use of land through the establishment of land use districts, each district based upon various land development characteristics. These characteristics often include the following elements:

- area and size of lots and the degree to which a lot can be developed
- location, height and bulk of buildings
- uses permitted within buildings
- conservation and/or preservation measures
- density of populations and intensity of development

It is important to note that a zoning ordinance cannot be exclusionary and is so stated under the Township Rural Zoning Act.

> A zoning ordinance or zoning decision shall not have the effect of totally prohibiting the establishment of a land use within a township in the presence of a demonstrated need for that land use within either the township or surrounding area within the state, unless there is no location within the township where the use may be appropriately located, or the use is unlawful (Sec. 27a., P.A. 184 of 1943, as amended).

Zoning ordinances are intended to serve for approximately 5 year periods before being completely reviewed and revised in accordance with evolving conditions within the township. Aspects of the zoning ordinance can be revised at any time, however, based upon legally prescribed procedures.

A township may enact a Subdivision Ordinance through the authority of the Subdivision Control Act P.A. 288 of 1967. The Subdivision Control Act permits townships and other municipalities to enact ordinances with the intent of controlling the properness and degree of land subdividing and improvement to the land including sanitary sewer, water supply, and streets.

Also on the township level, a township has the authority under the Michigan Environmental Protection Act, to require environmental impact statements before permitting any new land uses. Similarly, the township may also establish minimum environmental protection standards within the zoning ordinance.

Still another local method of land use control, with an emphasis on the environment, is the Farmland and Open Space Preservation Program established by Act 116 of 1976. The Act under which this

The Department of Natural Resources provides, through the staff of the Nature Conservancy, the Michigan Natural Features Inventory (MNFI) program which identifies these unique environmental features for the purposes of conservation programs and environmental planning. At the request of Moran Township Planning Commission, the Township Board contracted with the MNFI in 1986 to survey the Township. Moran Township was surveyed as part of the Michigan Natural Features Inventory program in which information was generated pertaining to Michigan's endangered, rare, or otherwise significant plant and animal species, plant communities, and other natural features.

The general findings of this survey, as they pertain to the South and North Study Zones within this report are illustrated within Figures 8 and 9. The vast majority of these special natural features contained within the study zones range in state ranking from "critically imperiled" (5 or fewer occurrences within entire state) to "rare or uncommon" (21 -100 occurrences within entire state). The complete study, including computerized mapping of all the known occurrences, is on file with the DNR and at the Moran Township Hall.

Groundwater - Based upon studies by the Water Resources Division of the U.S. Geological Survey, water availability within the South Study Zone is quite limited and highly mineralized. Availability of water in the North Study Zone is considerably higher although mineralization is a problem as well. Availability of groundwater within the glacial deposits throughout the entire township is low (generally less than 10 gpm) except in areas of sand and gravel deposits where availability may be very high (several hundreds of gallons per minute). It should be noted that those areas experiencing development pressures are also exhibiting signs of poor water quality.

Cultural Features

While decisions on the location of future land uses are heavily based upon the natural features of the physical environment as previously discussed, the cultural features of the physical environment also have a strong impact upon the decision making process toward future growth patterns within the township. An examination of the cultural features of the physical environment provides insight into the existing development patterns and conditions which have developed over the past years. While a master land use plan should not be dictated merely by past and present development conditions, these conditions must be considered if a successful land use plan is to combine the past, present, and future in a harmonious and orderly fashion.

Population, History and Economy - Prior to visitors from European lands, Mackinac County was inhabited by a number of major American midwestern tribes, most particularly the Ottawa and Chippewa tribes and, subsequently, the Huron Indians. The waters

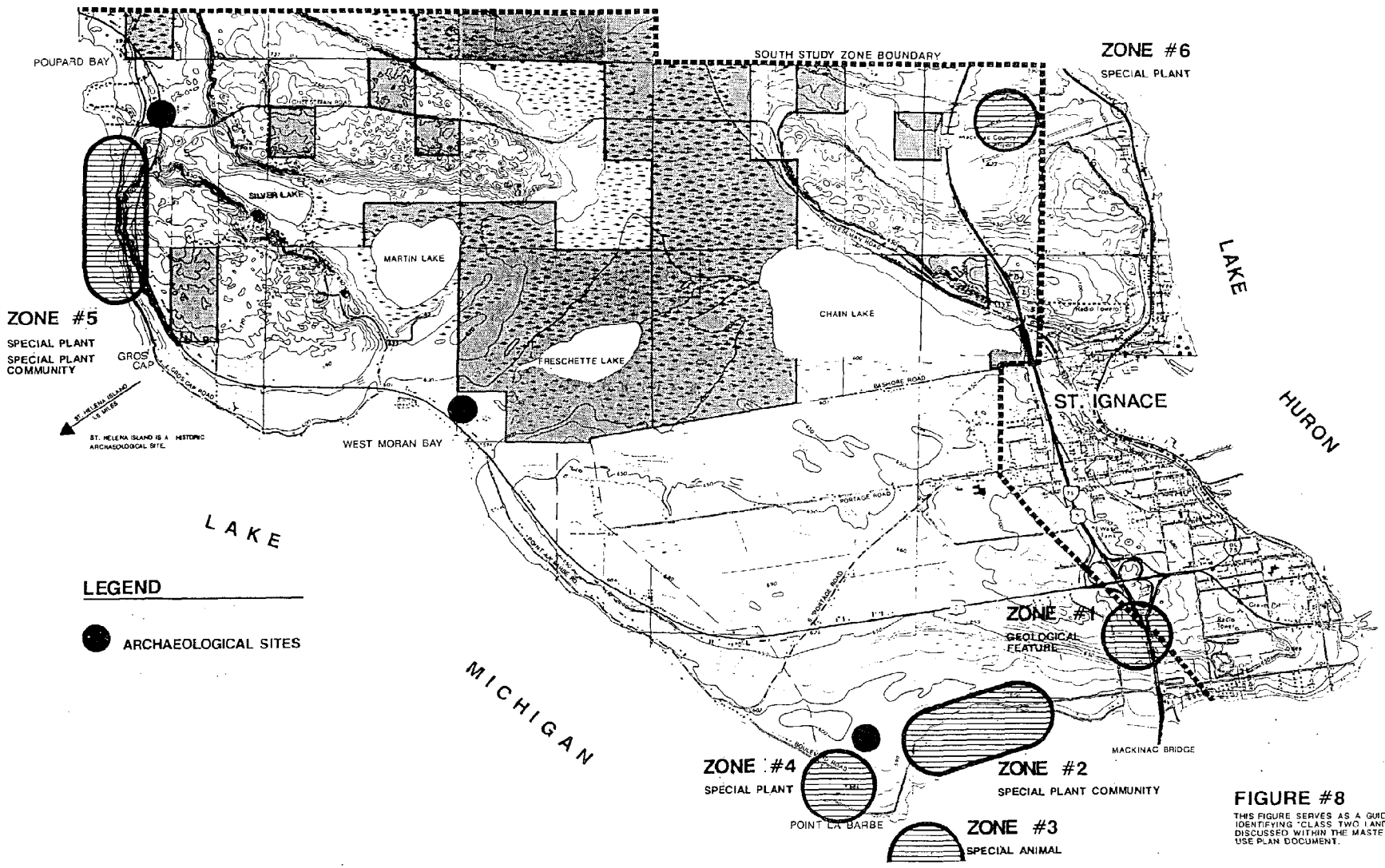

FIGURE #8

THIS FIGURE SERVES AS A GUIDE FOR IDENTIFYING "CLASS TWO LANDS" AS DISCUSSED WITHIN THE MASTER LAND USE PLAN DOCUMENT.

REVISIONS	MORAN TOWNSHIP LAND PLANNING STUDY	SOUTH STUDY ZONE SPECIAL NATURAL AND ARCHAEOLOGICAL AREAS	SCALE: PROJECT NO: SHEET NO OF

SCALE IN FEET: 0 1200 2400 3600 — NORTH

program is administered was originally designed to alleviate the rapid conversion of agricultural land within the state to more intensive uses which was taking place at the time. The Act also provided for the preservation of privately owned open space land. The Act defines open space land as land that conserves natural or scenic resources, enhance recreational opportunities, the preservation of historic sites and idle potential farmland of not less than 40 acres in size.

Act 116 enables individual land owners of such open space land to enter into a development rights easement with the unit of government in whose jurisdiction the property is located. The easement is designed to ensure that the land remains in a particular use for an agreed-upon minimum period of 10 years. The easement may be perpetual. In return for the restrictive covenant, the land owner is entitled to certain property tax benefits.

To enroll in the program, the property owner must file an application with the Township. Upon approval, the Township prepares an appropriate easement which, after signing by the land owner, is subsequently recorded with the register of deeds of the county.

Under an open space easement, the land owner deeds the development rights on his property to the state for the period the contract is in effect. This means that no structure may be built on the land affected. No improvements are allowed nor can any interest in the land be sold except for scenic access or utility easements which will not impact the open space qualities of the land. Prior township approval of any improvement to the land would be required.

Open space land covered by a development rights easement benefit the owner in terms of a reduction on property taxes. Under the agreement, land and improvements are appraised for assessment purposes on the basis of fair market value including that of the development rights. This is the value at which the property is normally determined by the local tax assessor and represents the market price of the land if it were free to be developed at its highest and best use. The evaluation includes also an appraisal of the development rights. The tax base is the difference between the fair market value of the land and the value of the development rights.

Of course, the greatest single action a township can take to guide land use is through the purchase of private property. In this fashion, the township can control the type of development to occur on should the township sell a given parcel and, in the same fashion, preserve areas for open space and nondevelopment. Unfortunately, this option can be quite expensive and cost prohibitive.

The Michigan Wetland Protection Act (Act 203) of 1979 was passed to regulate activities in Michigan wetlands. No dredging or filling or construction can take place in wetland areas without a permit from the MDNR. Wetland under the Act is land "characterized by the presence of water of a frequency and duration sufficient to support and that, under normal conditions does support wetland vegetation."

The Michigan statute applies to all wetlands contiguous to inland lakes, ponds, streams and rivers. They also include the wetlands of 5 acres or more in size that are not contiguous to surface water bodies and located in counties with populations of 100,000 or more. Noncontiguous wetlands cannot be regulated in a county of less than 100,000 population unless a wetland inventory was completed. On the basis of these criteria, the Wetlands Act does not apply to the noncontiguous wetlands in Mackinaw County.

Act 203 was designed to protect rather than preserve wetland, and controls provided for by the Act serve to regulate wetland alteration. Regulatory objectives of the Michigan statute include the protection of wildlife habitat, duck nesting areas, aquifer recharge areas and the function of wetlands as nutrient and sediment traps for the protection of lakes and streams. The Act's regulatory program is designed to prohibit or control by permit all fill, excavation and structural development in wetlands.

Also, the Shorelands Protection and Management Act, P.A. 245 of 1970 (MCLA 281.631 et seq.) allows all townships afforded under this act to adopt zoning regulating land areas within 1,000 feet of the Great Lakes as well as lands further inward if prone to flooding. These regulations may cover three particular areas; shoreline erosion, floodplains, and environmentally sensitive areas such as wetlands and flood risk areas.

Financial Aids

A second tool available for implementing the master land use plan is the financial support provided by numerous state and federal grant programs. These programs typically provide funds for public improvements including utility services, schools, highways, housing projects, parks and recreation areas, and similar projects.

Local Government Programs

Constant references to this master land use plan by township staff when making decisions and resolving conflicts is a passive, yet very effective, manner of implementing the plan. This plan must be used as a tool of reference and valued for the insight it provides. Realizing this plan's value and its utilitarian quality for local planning efforts is the easiest method of implementation.

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On a local and more active level is the development and utilization of a Capital Improvements Program. In essence, the program is a budget for municipal expenditures extending 5 years or so into the future. Using this document and the Master Land Use Plan, the Township Board may gain insight into its financial needs over the coming years and areas where public funds might best be spent.

Within the framework of local government planning, it is critical that Moran Township work closely with all other local municipal governments in a cooperative manner so that each municipality might better reach its land use goals and support one another through their individual and mutual planning efforts.

Citizen Involvement

This master land use plan has been developed specifically for Moran Township and though it may be adopted by both the Moran Township Planning Commission and the Moran Township Board, it will never be fully effective if not backed by the local public with their support and involvement. It is the residents of Moran Township which make it, in part, such a unique township and as such, their participation in the planning process is critical and should always be encouraged. Accordingly, all pertinent planning data available to the Planning Commission and Township Board should be available to the general public as well so that they may be well informed and capable of providing valuable input into the planning process based upon factual information. Similarly, the township should utilize all facets of communication including newspapers and radio to notify residents of particular issues and provide factual insight into these issues.

Finally, well orchestrated opportunities must be established for the public to voice their concerns, attitudes and insights into and about the issues facing Moran Township today, tomorrow, and the future.

Revisions to the Master Land Use Plan

It should be noted that, under normal circumstances, a Master Land Use Plan is a worthy guide for future land use up to a period of five to ten years upon its completion. The need for revisions is variable and depends upon the nature of growth, development trends, economic conditions and numerous other elements occurring within the township. Certainly, a Master Land Use Plan is not intended to serve indefinitely for as a community changes over time, so must its strategies for land use.

Based upon trends and conditions within Moran Township during the coming years including land development, population growth, tourist trade, zoning issues, and similarly related elements, the township and its Planning Commission should become aware of the Master Land Use Plan's degree of appropriateness and effectiveness. Should the township feel that the Master Land Use Plan no longer serves the township in the manner it was intended to, then revisions to the plan are necessary and recommended.

When the need for revisions has been established, the Planning Commission must review the data base generated and documented within this report as well as examine other data pertaining to the township which may have bearing upon the future land use strategies of the township. It is necessary for this data to be updated to reflect existing conditions and trends at the time when revisions are being considered. The data review should include, but not necessarily limited to, a review of rezoning actions, the cumulative effect of such items as utility extensions and new road construction and evolving trends in land development. An updating of population projections, projected land use needs and data relating to the commercial, residential, and industrial base of the township should also be examined.

Upon the development of an updated data base, the Planning Commission should continue through the land planning process culminating in a revised Master Land Use Plan. As with the preparation of this document, the township residents should be provided ample opportunity to express their views, attitudes, concerns and suggestions pertaining to future land use strategies within the townships and these comments should serve as a tool to help guide revisions to the Master Land Use Plan.

APPENDIX A

MICHIGAN DEPARTMENT OF PUBLIC HEALTH

M. S. Reizen, M.D.
Director

MEMORANDUM

TO: Frank Chenier, Geological Survey Division
Department of Natural Resources

DATE: 10-14-80

FROM: Ronald J. Holben RJH

SUBJECT: Developed areas along US-2 northwest of St. Ignace

The Luce-Mackinac-Alger-Schoolcraft District Health Department has expressed concern about problems they are experiencing in obtaining adequate water supplies in the area between St. Ignace and Point Aux Chenes along Lake Michigan. They are considering discussing this problem with the city of St. Ignace and Moran Township officials to encourage the extension of municipal water into this area. Part of the support documentation which they would like for their presentation is a report which outlines the general geology of the area. Please provide this geology report. It is requested that the report include any chemistry problems, any quantity problems, and the depth that "good" water can be found.

If you have any questions, please see me.

RJH:sj

cc: Luce-Mackinac-Alger-Schoolcraft Health Dept.,
St. Ignace and Newberry

NATURAL RESOURCES COMMISSION
JACOB A. HOEFER
CARL T. JOHNSON
E.M. LAITALA
HILARY F. SNELL
HARRY H. WHITELEY
JOAN L. WOLFE
CHARLES G. YOUNGLOVE

STATE OF MICHIGAN

WILLIAM G. MILLIKEN, Governor

DEPARTMENT OF NATURAL RESOURCES

HOWARD A. TANNER, Director

201 State Office Building
Escanaba, Michigan 49829

December 2, 1980

TO: Ronald J. Holben, District Sanitarian
Michigan Department of Public Health

FROM: Donald R. Brackenbury, Geologist
Michigan Geological Survey Division

SUBJECT: Developed areas along US-2 northwest of St. Ignace
Mackinac County

Geology of the St. Ignace area is somewhat "unique" and is, by nature, a difficult place to find a large amount of good quality groundwater.

Millions of years ago, the area was covered by a thick series of shale, salt, gypsum, limestone and dolomite layers. This series is called the "Salina" group. Above this group there rested limestones, dolomites and sandstones of the Bass Islands, Garden Island, Bois Blanc, Sylvania and Detroit River groups or formations.

Sometime after the Detroit River limestones were deposited and before the Dundee limestones were laid down, salt washed out of the Salina formation in the vicinity of the Straits of Mackinac; and the overlying bedrock in the affected area caved in. Later deposits of the Dundee formation cemented much of the broken rock back together. Evidence of this giant cave-in is the recemented breccia of Castle Rock and St. Anthony's rock of the St. Ignace area and Skull Cave on Mackinac Island.

Other evidence of this giant cave-in is seen in the area surrounding St. Ignace. The higher hills appear to be mostly capped with this recemented limestone or dolomite, while the lowland areas appear to be eroded shaley areas. In new road cuts you can see broken limestone layers running directly into green and red shale layers.

We don't know the original thickness of the Salina group near St. Ignace; but in Lower Michigan it is as much as 1,000 feet and more.

MICHIGAN
THE GREAT LAKE STATE

R1026-1 1/79

The big cave-in probably occurred before all the salt was washed out, so there is probably still a large amount of salt mixed up in the jumbled mess. These isolated salt blocks are the cause of part of the water problem in the area. The fact that the area has been broken up and recemented is also part of the problem. Water well drilling is almost a hit-or-miss proposition in the St. Ignace area. Well drillers have to employ many tricks-of-the-trade to get acceptable water; and then, too often, the well still cannot be used because of the poor water quality. Salt, bacteria, gasoline or fuel oil contaminations, caving walls of the well or just no water at all, are some of the problems we have dealt with in the past. In some areas the broken up rock has not been recemented back together; and raw, untreated, unfiltered surface water or sewage effluent enters cracks and crevices in the rock and migrates slowly into water wells. It may take years before the effects are seen. A well that has been considered a good producer for years suddenly becomes a bad well when a slug of contaminated surface water finally comes through.

Another problem with well drilling in the area is the lack of good marker beds. These are normally certain identifiable layers of rock or shale that can be found in many wells and can be mapped over a fairly large area. Identification of these marker beds aids the driller in finding the better aquifers and avoiding the bad ones. In this area very few wells will hit the same identifiable marker bed. A good well may be drilled 10 feet away from a dry hole. There is little consistency in water well attempts in the Salina shale.

Below the Salina group lies the Niagaran series of dolomite and limestone beds. In the Upper Peninsula this series is considered to be a good water producer. The Niagaran was not brecciated like the Salina because it was below the salt beds and so was relatively unaffected when the big collapse occurred. The Niagaran series does contain cracks, crevices and fractures which act as water "veins." Oil, gas and salt brine are found in the upper Niagaran and lower Salina groups in the Lower Peninsula. In the Upper Peninsula we haven't found any oil or gas yet, other than a few scattered isolated traces. The upper Niagaran usually contains fresh water. As far as the lower Salina is concerned, we have both fresh and salt water; but without any good marker beds, we cannot predict anything positively.

The Niagaran series consists of roughly 250 feet of Engadine dolomite, 100 feet of Manistique dolomite and 225 feet of Burnt Bluff limestone. Below this lies the Cabot Head shale and other formations with their mineralized waters. In the St. Ignace area, the Engadine dolomite could be a fair water producer, as seen in the 500 to 600-feet deep wells near Castle Rock and Rabbit Back Peak. The water is hard and has some sulphate but very little salt.

The Engadine is found at around 250 feet from the surface at the east and west end of Brevort Lake and gets deeper as you go south and east of there. From a number of cross sections utilizing some oil test wells in Cheboygan and Emmett Counties plus water wells within 20 miles of St. Ignace, I have a general idea about where the Engadine will be encountered. The following are some of my guesstimations: At Point LaBarbe it should be found at 830 feet ± 75 feet; at K.O.A., 875 feet ± 75 feet. It should be found at 700 feet ± 50 feet at the Mystery Spot, Gros Cap School and the Gros Cap cemetery because of their low surface elevations; but at about 800 feet at the Silver Lake Express train ride and the roadside park north of there. Lehto's should find the Engadine at about 600 feet ± 50 feet and Paul Bunyan's a little less than that. The Pte. Aux Chenes Subdivision, Totem Village, and Fort Aux Chenes all should hit the Engadine at about 475 feet ± 50 feet.

We may have found two separate aquifers in or near the top of the Engadine dolomite. This was shown by two deep wells near Rabbit Back Hill. The Lozon Motel well, drilled in 1968, is 535 feet deep. It has a carbonate hardness of 930 PPM and sulphate hardness of 840 PPM, along with 67 PPM chloride. The new 518-feet deep well at Hyslop's has a carbonate hardness of 540 PPM and sulphate hardness of 310 PPM and only 36 PPM chloride. Although the two wells are only about 100 yards apart and their total depths differ by only 17 feet, there is enough difference in their water qualities to suggest that they have encountered two separate aquifers.

Another thing to be considered is the footage figures previously given. They are rough estimates of depth to the top of the Engadine dolomite at each specific location. The quantity of water needed may require a few hundred feet of open hole in the limestone or dolomite bedrock. This means that where I have quoted 800 feet to the Engadine, the hole may have to be 1,000 feet deep to get enough water, and then there are no guarantees. One or more test wells should be drilled to get a better idea of the geology and the water quality and quantity available. The new well should have enough casing or pipe cemented in to hold out the salt water or possible caving action of the shale. Note: The deep well at the Moose Lodge near Rabbit Back has problems with cavings. In my opinion, these problems will continue until the well is either plugged or properly completed with casing running entirely through the shale.

DRB:gs

Ronald R Bruckbauer

cc: J. VanAlstine

LUCE - MACKINAC - ALGER - SCHOOLCRAFT
DISTRICT HEALTH DEPARTMENT

OFFICES

JCE COUNTY &
MINISTRATIVE
OFFICES
P.O. Box 398
wberry, MI 49868
(906) 293-5107

KINAC COUNTY
117 Ferry Lane
Ignace, MI 49781
(906) 643-7700

GER COUNTY
01 Court Street
nising, MI 49862
(906) 387-2297

OLCRAFT COUNTY
ounty Building
istique, MI 49854
(906) 341-6951

REPLY TO:
MACKINAC COUNTY
117 Ferry Lane
St. Ignace, MI 49781
(906) 643-7700

Wednesday, July 1, 1987

MEMORANDUM

TO: MORAN TOWNSHIP BOARD
FROM: JIM DRAZE, R.S.
SUBJECT: WEST U.S. 2 WATER SUPPLIES

The Luce-Mackinac-Alger-Schoolcraft District Health Department is announcing actions necessary to address water supply contamination problems in the West U.S. 2 area of Moran Township.

1. We will be requiring frequent sampling of water supply wells serving the public. Monthly samples will be required during the high use period, quarterly samples at other times.

2. A moratorium on drilling of non-community wells which would terminate in the Mackinac Breccia is being considered. The Mackinac Breccia is the rock formation used by all existing wells in the West U.S. 2 area. We are no longer confident in the ability of this rock formation to yield safe water.

We encourage Moran Township to pursue extension of municipal services from St. Ignace into those parts of Moran Township affected by this action.

APPENDIX B

MORAN TOWNSHIP MASTER LAND USE PLAN

CITIZEN INPUT SURVEY

1. A. How long have you lived in Moran Township? _____ Years
0-5=27 5-10=19 10-15=9 15-20=13 20+=32

B. Using the map on the preceding page, please place an "X" indicating the general area of the Township where you reside.

C. How often do you travel on U.S. 2?

51 Daily
13 3-4 times a week
6 Once a week
30 Less than weekly

2. What particular characteristics keep you living in Moran Township? (number in order of decreasing importance; therefore #1 = most important, etc.)

#1 #2

13-7 Proximity to place(s) of employment
5-10 Taxes
4-13 Schools
47-15 Scenic natural resources (lakes and forested areas)
19-35 Open spaces and rural atmosphere
4-9 Proximity to nearby urban centers (St. Ignace)
6-10 Recreational opportunities
3-0 Other (please specify) _____

Please check the response which most closely describes your feelings toward the following questions. If you wish to make additional comments on any items, feel free to do so.

	Yes	Uncertain	No
3. Would you support land use controls (including zoning) as a means of retaining agricultural lands?	57	23	20
4. Do you feel that lands abutting U.S. 2 in the Township should be protected from intensive development?	53	12	35
5. Would you support land use controls as a means of protecting those areas abutting the rivers and lakes in Moran Township?	77	7	16
6. Should the Township initiate programs to conserve certain natural areas and retain these lands as best possible as open space, i.e., areas subject to flooding, swamps or wetlands, woodlots, etc.?	72	16	12

	Yes	Uncertain	No
7. Do you feel that the construction of additional single family homes is desirable in Moran Township?	87	9	4
8. Should scattered single family home construction be permitted as "strip" residential development, with residences on shallow lots along the road frontage, in all areas of the Township?	32	23	45
9. Should future mobile homes be required to locate in mobile home parks rather than on a scattered basis throughout the Township?	53	13	34
10. Are there sufficient retail stores and commercial facilities to serve the needs of Moran Township's residents?	39	14	47
11. Should retail stores or general commercial facilities be allowed to locate in any area of the Township?	42	8	50
12. Should commercial facilities be limited in their location to those areas where they would be convenient to serve the needs of Township residents?	67	16	17
13. Should small industrial facilities be encouraged to locate in Moran Township?	69	13	18
14. Should the Township encourage so-called "second home" development (cabins, cottages) by relaxing the zoning requirements for such use?	44	22	34

15. Other townships in Mackinac County have varying residential lot size requirements for the development of single family residences on non-subdivision lots. What do you feel should be the minimum lot size requirement for such development in Moran Township?

37	1/2 acre	3	5 acres
34	1 acre	1	larger than 5 acres
3	1-1/2 acre	11	no restrictions
7	2 acres	4	other (please specify)

16. Currently, several mining operations and extraction activities occur within Moran Township. How do you feel these activities affect Moran Township?

33-No Affect 6-Negative Effect 17-Good IF Reclaimed

9-Don't Know 15-Good 20-Other

17. Currently, large numbers of tourists and visitors converge on Moran Township during the Antique Auto Show and Labor Day Bridge Walk. How do you feel these activities affect Moran Township?

4 - Bad 34 - Good, business 14 - Other

9 - Good, with concerns 39 - Good

	Agree	Don't Know	Disagree
18. Do you feel there is a need to increase the number of the following types of housing?			
A. Mobile Homes	17	26	57
B. Rental Apartments	34	34	32
C. Duplexes (2-family units)	30	35	35
D. Single family homes	75	19	6
E. An elderly housing complex	56	29	15

Clarification & Comments on Question #16:

	Agree	Don't Know	Disagree
19. How do you feel about living in Moran Township?			
A. Overall quality of life is good	88	9	3
B. Development has replaced areas of natural beauty	32	28	40
C. The area has generally become less tranquil	34	31	35
D. Public services have improved	35	32	33
E. Road quality is adequate	61	14	25
F. Shopping facilities are adequate and convenient	46	17	37
G. Employment opportunities are available	6	34	60
H. Public schools are providing a good education	60	37	3

Clarification & Comments on Question #19:

20. What do you feel are the most important problems facing Moran Township? (number in decreasing order of importance; therefore #1 = most important, etc.)

#1	#2	
8	10	Roadway improvement
29	15	Disposal of solid waste (landfill)
12	14	Regulating development/urbanization pressures
10	12	Fire and police protection
10	9	Control of nuisances, such as noise or junk
13	9	Rising taxes
8	16	Sewage disposal
9	14	Uncontrolled/unrestricted strip development
2	0	Other (please specify) _____

_____

21. What are your greatest concerns about the present development patterns in Moran Township?

Regulated Development Conservation

Waste Disposal

22. Under what conditions, if any, should commercial expansion occur along U.S. 2?

Water + Sewer Present Environmentally Sound

Regulated Development Judged on Individual Basis

APPENDIX C

SYNOPSIS OF PUBLIC HEARING

ON

MORAN TOWNSHIP LAND USE PLAN
MARCH 22, 1988

At approximately 7:30 P.M. on March 22, 1988, in the Moran Township Hall, a public hearing was called to order for the purposes of providing individuals an opportunity to comment on the proposed land use plan for the Township.

The public hearing began with a presentation by the Moran Township Planning Commission and SEG Engineers & Consultants, Inc. and was then followed by a session of questions, answers and general discussion. Below are the key issues which arose during the hearing.

1. There were numerous concerns voiced about the effect the land use plan would have upon existing property owners who had already made improvements to their lots including homes, commercial facilities, etc. It was explained to these individuals that the land use plan acknowledge pre-existing conditions and such property owners are not necessarily subject to all policies set forth by the Plan.

2. A number of citizens voiced concern and frustration about excessive regulations on the federal and state level and their "over restrictive" nature. Similarly, concerns were voiced as to the need for the land use plan under consideration to be flexible and maintain a level of freedom of choice without sacrificing quality of life.

3. The question arose as to the legality of zoning and preparation/implementation of a land use plan.

4. Concern was expressed over the "junky" development occurring within parts of the Township and the need for a solution.

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