

Elmwood Township Master Plan

Public Hearing Date: March 20, 2018
Adopted by Planning Commission: March 20, 2018

**CHARTER TOWNSHIP OF ELMWOOD
COUNTY OF LEELANAU, MICHIGAN
PC Resolution No. 2018-01**

PLANNING COMMISSION RESOLUTION TO AMEND MASTER PLAN

WEREAS, the Michigan Planning Enabling Act (MPEA) authorizes the Planning Commission to prepare a Master Plan for the use, development and preservation of all lands in the Township; and

WEREAS, the Planning Commission prepared a proposed updated Master Plan and submitted the plan to the Township Board for review and comment; and

WEREAS, on November 13, 2017, the Elmwood Township Board received and reviewed the updated Master Plan prepared by the Planning Commission and authorized the distribution of the Master Plan to the Notice Group entities identified in the MPEA; and

WEREAS, notice, dated November 14, 2017, was provided to the Notice Group entities as provided in the MPEA; and

WEREAS, the Planning Commission held a public hearing on March 20, 2018, after notice published in the Leelanau Enterprise on March 1, 2018, to consider public comment on the proposed updated Master Plan, and to further review and comment on the proposed updated Master Plan; and

WEREAS, the Planning Commission finds that the proposed updated Master Plan is desirable and proper and furthers the use, preservation, and development goals and strategies of the Township;

THEREFORE BE IT HEREBY RESOLVED AS FOLLOWS:

1. **Adoption of the 2018 Master Plan Update.** The Planning Commission hereby approves and adopts the updated 2018 Master Plan, including all of the chapters, figures, maps and tables contained therein.
2. **Distribution to Township Board and Notice Group.** Pursuant to MCL 125.3843 The Township Board has not asserted by resolution its right to approve or reject the proposed Master Plan and therefor the approval granted herein is the final step for adoption of the plan as provided in MCL 125.3843 and therefore the plan is effective as of March 20, 2018. In addition, the Planning Commission approves distribution of the adopted Master Plan to the Township Board and Notice Group.
3. **Findings of Fact.** The Planning Commission has made the foregoing determination based on a review of the existing land uses in the Township, a review of the existing Master Plan provisions and maps, input received from the Township Board, public, and Notice Group, as well as the public hearing, and finds that the updated Master Plan will accurately reflect and implement the Township's goals and strategies for the use, preservation, and development of lands in Elmwood Township.
4. **Effective Date.** The Master Plan shall be effective as of the date of adoption of this resolution.

The foregoing resolution was offered by Planning Commissioner Elliot. Second offered by Planning Commissioner Trevas.

Upon roll call vote, the following voted: Aye: Elliot, Trevas, Roberts, Johnston, Bechtold
Nay: None Absent: Aprill, Prewitt

The Chair declared the resolution adopted.

George Prewitt, Planning Commission Secretary

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This original plan was adopted September 7, 1999 by the Elmwood Township Planning Commission after a public hearing on August 3, 1999. In 2009, the Elmwood Township Board directed the Planning Commission not to review the Master Plan until the Elmwood Township Draft Zoning Ordinance was completed. In August 2016, the Planning Commission forwarded the Draft Zoning Ordinance to the Township Board for consideration. The Planning Commission then began the review and update of this Master Plan. After notice and public hearing, the draft Zoning Ordinance was adopted and became effective on September 1, 2017. In anticipation of the Master Plan update, the Planning Commission commissioned a survey in 2013 to be sent to Elmwood Township residents, property owners, and business owners. The Planning Commission relied on these results in supplementing the existing Master Plan to create this update.

The 1999 plan was the basis for the update and changes made for the 2017 update. Much of the text is the same, only updated as necessary for the changes that have occurred in the almost 20 years since previously written.

Elmwood Township -- A Brief History

Elmwood Township's history and its present economic and social conditions have been shaped and determined by its geography and its abundant natural resources. Prior to European settlement in Elmwood Township, forests were the principal land cover, primarily sugar maple, elm, basswood, yellow birch, hemlock, and white pine, with poor sandy soil areas supporting jack pine and red pine barrens, including oak, aspen, red maple, and some white pines. These forests originally provided for and spurred the economic development of the area, first by providing the habitat for trapping and then for logging. Being located on the Great Lakes made this area accessible first to European adventurers and mercantilism, and later to American settlement and expansion by enabling transportation for export of the area's raw materials.

Although there were settlements, forts, and travel routes in the Grand Traverse Bay area throughout this period, the effects of human activity were not significant until the nineteenth century when inexpensive land was made available by the federal government, and the demand for construction wood, railroad ties and trestles, and fuel in expanding communities throughout the East and Midwest was increasing rapidly.

Seth Hall Norris was the first settler in what is now Elmwood Township.¹ He arrived in Traverse City in 1851 and set up a small saw mill on the creek flowing from Cedar Lake to the Bay. A tannery followed, then a grist mill, an ice supply business, and finally a brick yard in 1862.

Norris was bought out by James Markham who became the primary supplier of bricks for the then burgeoning City of Traverse City. (The Traverse City State Bank, the Masonic Building, the Hannah & Lay Building, and many of the State Hospital buildings are some of the best-

¹ Wakefield, 1987. Most of the material included in this section is taken from *Elmwood Township, a Pictorial History* by Lawrence Wakefield.

known buildings built with Markham bricks). The Norris family also ran the local grocery store which also housed the post office in what was then called "Norrisville." In 1853, the Greilick family arrived and began a large steam-powered sawmill near the site of Norris's original mill and established and ran docks in West Bay. Except for the Hannah, Lay & Company, the Greilick Brothers were the largest producers of lumber in the region. They also began a brewery on the creek in Greilickville that still bears that name. Norrisville, or Norristown, adopted the name of Greilickville when the Norrisses moved to other parts shortly after the Greilick family erected its large mill on the bayshore.²

Elmwood Township was also the site of some of the area's most popular resorts: the Traverse Beach Resort (also known as the Baptist Resort), the Spring Beach Resort, and Margie's Court on Lake Leelanau.³

The Township of Elmwood was organized by the Leelanau County Board of Supervisors on December 21, 1863. Only about 200 people lived in the Township at that time (with only a little over 2,000 in the whole county). Originally part of Solon Township was included in Elmwood Township's territory, but in 1871 it was reduced to 13,715 acres.⁴

By the early 1900s most of the virgin timber in the area had been cut over and many of the farmsteads created on poor soils had reverted back to the state for delinquent taxes. Resale and cut over of second growth occurred in some areas, but farming of the good lands began taking hold. State-held properties from abandoned farmlands were being consolidated and farmers on marginal lands were relocated. The first commercial orchard was planted in Elmwood Township in 1916. Morgan Orchards, as it was known, was located on M-72, just west of the present Tom's Market property.

The railroads had expanded throughout northern lower Michigan by this time, and in 1919, the state began highway construction with a fifty million dollar bond issue, followed in 1925 by a two-cent per gallon gasoline tax to fund highway construction.⁵ Also, around 1910, the state's urban population exceeded its rural population and was growing at a rate of approximately 30 percent per decade, with a dramatic increase in per capita wealth as well.⁶ Better roads, increased incomes and more leisure time led to increased tourism in northern Michigan. Resorts and summer vacation properties began appearing all along the Grand Traverse Bay.

Through the 1920s the number of farms increased in the area and the planting of orchards increased steadily on most of these farms. The largest percentage of farm acreage was used to produce tart cherries, with apples, sweet cherries and other fruit taking up most of the rest.

² Let's Fly Backwards, Al Barnes, 1976.

³ Sprague's History of Grand Traverse and Leelanau Counties, 1903.

⁴ As a result of annexation, the Township currently encompasses 12,928 acres.

⁵MSPO, 1995.

⁶MSPO, 1995.

During the Great Depression of the 1930s many properties, especially farms in poor soil areas, reverted to the Michigan State Conservation Department and the U.S. Forest Service bought thousands of acres. Much of this land was replanted by the Civilian Conservation Corps which planted almost 500 million trees in Michigan.⁷ Red and white pine woodlands are still evidence of these actions.

During the 1930s people left rural areas for the cities and rural population growth halted or declined. In the 1950s Elmwood Township's population began to rise again, mounting steadily over the next decades. By the 1970s much of Michigan's rural population expanded, and the Traverse City area's population in particular, began to grow much more quickly.⁸

The need for Township zoning was recognized in 1967 when a delegation of citizens requested controls on increasing development. This population growth has not been in farm population, but is dominated in Elmwood Township by retirees and others servicing the increasing tourist trade. The average household size also began to drop dramatically, all of which has expanded the use of land for non-agricultural purposes and has had a profound effect on the landscape and ecology of the area.

The style and methods of farming have also changed notably. Small general farms usually with a specialty cash crop had been the rule until the late 1940s and early 1950s. At this time, farms began to consolidate and specialize in single commodity crops. Smaller farms were bought out and much larger enterprises, most commonly orchards of tart and sweet cherries, apples, plums, and other fruits, were formed. These operations were still family-run but no longer were self-contained general farms.

In 1986, the Township Board called for the construction of a new Township Hall on Lincoln Rd. This hall replaced the existing building on Cherry Bend Rd that was shared with the Fire Department. The Fire Department later constructed a new fire hall immediately adjacent to the Township Hall in 2001.

In August of 1987 in response to continued population growth in and around Traverse City and in what the Board believed would be an action to retain the integrity and control over its territory, the Township Board resolved to change Elmwood Township into a Charter Township. Despite this action, in June of 1989 the City of Traverse City annexed a portion of the southeast corner of the Township.

As a method to reduce congestion on M-22 along West Grand Traverse Bay, the Bugai Rd extension was constructed in the mid-1990s. This connected Bugai Rd to S Lake Leelanau Dr allowing for North-South connection to the greater Leelanau County. This also led to the installation of a signalized intersection at Bugai and M-72 at a later date.

⁷Titus, 1945.

⁸Ferris & McVeigh, 1995.

In the 2000s the Total Petroleum/Marathon Oil property was decommissioned. This was the end of using the West Grand Traverse Bay as a way to transport petroleum to the area. All of the tanks and pipes associated with this use were removed in 2017.

The Township began to construct and expand their marina facilities in the 1990s with the construction of Dock A. Today there are 3 docks, that have 190 slips in the marina. Twenty-one are for transient uses and the remaining are for seasonal lease. In 2018, the Township will start a 3-phase construction project on the marina to update facilities.

Existing Land Use

Since much of the existing land use remained the same from 1999 to 2018, only minor changes were made to this section. There was no field survey conducted, only aerial photography taken in 2012 and personal knowledge from Planning Commissioners and staff.

The basic and essential data necessary for any planning study is an inventory and analysis of existing land uses within the community. A knowledge of the existing land development pattern and site conditions furnishes the basic information by which future residential, commercial, industrial, and public land use decisions can be made. In the course of exercising its zoning powers, the controlling municipality must give reasonable consideration to the character of each area and its suitability for particular uses. An inventory of existing land use furthers this objective.

The existing land use map and acreage tabulation, which are included in this chapter, will also serve as a ready reference for the Township in its consideration of land use and infrastructure improvement proposals.

Methodology

A field survey was conducted in 1998 to gather existing land use data. Each parcel of property in Elmwood Township was inspected in the field and its use characteristics recorded on an updated base map. Aerial photographs were used as supplementary information to determine land use boundaries, agricultural locations, etc.

General Pattern of Land Use

Elmwood Township has four distinctive sub-areas: Greilickville, the M-22 corridor, the Timberlee Resort area, and, finally, the rural portion of the Township which consists of the majority of the land in the Township.

Greilickville

Greilickville, so named in the mid-1800s after a predominant lumbering family, has developed into the primary commercial area of the Township. While the majority of residents of Elmwood Township rely heavily on Traverse City for their shopping and commercial needs, the Greilickville and Cherry Bend area has developed into a small but vital commercial, office, medical and light industrial area. The activities in the harbor area are recreation and pleasure boating with the Elmwood Marina, Greilickville Harbor Park, Discovery Pier & Harbor, Children's Museum as well as the other marinas and docks along the West Arm of the Grand Traverse Bay. There are also small shops, restaurants, and gas stations in the Greilickville area. The majority of Greilickville is serviced with public sewer and water and is also the portion of the Township that is most densely populated with many single-family subdivisions clustered between E. Grandview and Cherry Bend Roads.



M-22 Corridor

With the exception of Pathfinder school, a small motel, and rental cottages clustered along M-22, just north of Cedar Lake, the M-22 corridor has been developed as a predominantly single-family, detached residential corridor. M-22 is the Township's primary north-south road, running adjacent to the West Arm of Grand Traverse Bay, and leads to the Village of Northport to the north and Traverse City to the south. The majority of development has been individual residential lots fronting M-22 with a

scattering of residential subdivisions including Forest Hills, La Riviera, Cedar Cove and the Valley Estates at the northern border of the Township. Exceptional views of the Bay can be seen while traversing M-22.

In 2016, the Township completed a traffic study on the M-22 corridor from the Township line North to Cherry Bend Rd. The results of the survey were that a traffic signal between Carter Rd and Cherry Bend Rd was not warranted and that to improve traffic congestion an access management plan should be investigated. The Greilickville Sub Area Master Plan states that parking lots should be connected to aid in the flow for traffic and allow for reduced left hand turning movements.

Timberlee Resort

The Timberlee area is a second population node found on the west side of the Township. It has developed with townhouse-style condominiums, single family houses, and an old lodge that has been converted to an event center. Timberlee was developed as a ski resort in the 1970s, and is now used as a snow tubing hill, the property has remained largely intact and under single ownership. The Timberlee area is serviced with public water making it a desirable and scenic location for residential development.

Rural Environment

The remainder of the Township is rural in character with the exception of single-family homes along the shoreline of Lake Leelanau and some scattered residential development and homesites. Much of the remaining land is used for agriculture and orchard production or is heavily wooded or wetland areas. When not in a subdivision, residential development occurs predominantly along section line roads and on large lots.

Land Use Distribution

Each existing land use was placed in one of eight general land use categories. Elmwood Township encompasses 12,928 acres, or 20.2 square miles. Data in Table 1 indicate the total acreage occupied by each land use type and its proportion of the total land area in the Township. A discussion of each land use is provided later in this section. From 1999 to 2018, few developments were approved in the Township. Because of this, the existing land use calculations were not updated with the 2018 update.

Land Use Category	Acres	Percent of Total
Agricultural/Orchards	3,353	25.9
Single-Family Residential	2,845	22.0
Multiple-Family	74	0.6
Office	9	0.06
Commercial	97	0.8
Industrial	111	0.9
Public	145	1.1
Vacant, Woodlands, Other	6,294	48.7
Total	12,928	100.0

Source: Wade-Trim/Elmwood Township Field Survey, January 1999.

The land use classification system used for this analysis is a derivative of the Michigan Land Cover/Use Classification System which was developed by the Michigan Department of Natural Resources for use in statewide current use inventories. The following defines the land use classifications used to categorize existing land uses and describes the distribution of those uses.

Agricultural/Orchards

This category includes all areas where the principal land use classification is agricultural and includes lands under cultivation, horse farms, ranching operations, pastures, orchards, vineyards, cherry processors, nurseries and greenhouses and tree farms as observed from field observation, from review of aerial photographs, and/or as indicated by Township officials.

These lands are primarily located in areas of good agricultural soils with no existing or planned public sewer and water service. It is the intent of the Township to promote the conservation of agricultural lands and protect existing farms from the costs frequently associated with development. There are 3,353 acres, or 25.9 percent of the total Township land so classified. Most of this acreage is utilized for farming purposes, orchards including vineyards and hops, or is lying fallow. Also included in this category are the cherry grower's co-op found in Section 8. Small hobby farms and small crop farms (less than ten acres) are not included in this category.



Single-Family Residential

The single-family residential category includes site-built single-family detached structures used as a permanent dwelling, manufactured (modular) dwelling or mobile homes located outside of designated mobile home parks, duplexes (two-family dwellings), and accessory buildings such as garages that are related to these units. It also includes small farmsteads and related agricultural buildings located near the primary dwelling. This category includes a number of single-family subdivisions scattered throughout the Township. These include Hidden Hills, Cherry Bend Heights, Harbor Hills, Cedar Lake Gardens, Leelanau Hills, Valley Hills, Shoreside Valley, and several others.

Single-family residential development occupies 2,845 acres of land, or about 22.0 percent of the Township's land area. While the majority of homes are located within organized subdivisions, many single-family homes are located on large lots which front section line roads.

In cases where large parcels currently have only one residence, much of the parcel may be shown as vacant land. This is done to acknowledge the possibility that this undeveloped area may be someday developed. In cases where a large parcel (10+ acres) is part of a plat or subdivision, the entire parcel is shown as yellow to indicate that no additional splits will be allowed in this location.

Multiple-Family Residential

The multiple-family residential category includes structures with more than one unit on the same site. These may be duplexes, apartments, or townhouses developed individually or in complexes, senior housing facilities, and mobile home parks. It also includes related lawn areas, parking lots, and any accessory recreation facility.

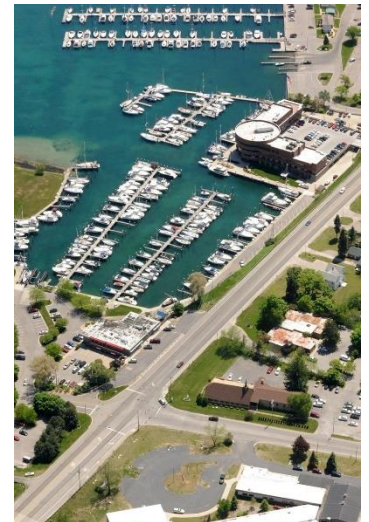
Multiple-family development accounts for about 74 acres, or 0.6 percent of the land area in Elmwood Township. Major developments include the condominiums adjacent to the old Timberlee, the senior housing to the west of Cedar Lake, and the mobile home park in the northwest portion of the Township. Field observations reveal that these developments are well-maintained and in relatively good condition.

Traditionally, multiple-family developments have provided a transitional land use between single-family areas and nonresidential developments or have been located along primary roadways to benefit from the additional exposure offered by high traffic corridors. This is not necessarily the case in Elmwood Township where there are only a few multiple family developments and they are scattered throughout the community in no definable pattern although many do have public water or sewer available.

Office

The office category includes business, financial, medical, professional offices, and related service establishments.

Approximately nine acres, or 0.06 percent of the Township acreage is devoted to this land use. Existing office development is relatively confined to the Greilickville area and Cherry Bend Rd. The most significant office development within the Township is the Center Pointe (formally Great Lake Insurance) office building located near the Elmwood Township Marina and Viridian (formally OneUpWeb) building located near the intersection of Carter Rd and M-22.



Commercial

The commercial category includes convenience stores, comparison shopping centers, and general commercial businesses.

At the present time, there are approximately 97 acres occupied by commercial uses or about 0.8 percent of the total Township land area. Most of this development is again clustered along M-22 in the Greilickville area, just north of the Traverse City border.

Commercial development is fairly limited within the Township as residents depend primarily on Traverse City for their commercial needs. Commercial uses within the Township include small shops, restaurants, and mini storage.

Light Manufacturing/Industrial

The industrial category includes manufacturing, assembling and general fabricating facilities, warehouses, and non-manufacturing uses which are industrial in their character (significant outdoor storage or shipping/receiving requirements).

Approximately 111 acres, or 0.9 percent of the Township land area is used for industrial purposes. The approximately 80-acre gravel pit, located in Section 19 of the Township, occupies the largest portion of industrial land in Elmwood. The decommissioned Marathon gasoline storage tank farm, located in the Greilickville area, is also a primary industrial land use within the Township.

Public

The public land use category includes publicly owned land for cultural, public assembly, recreational purposes, educational uses (including all types of public institutions where education is a primary use), and governmental administration and service buildings.

Privately owned lands that are best characterized as educational, religious or open land which is used for recreational purposes and open to the public are considered semi-public uses and, thus, included in this category. Places of worship are examples of semi-public uses. Pathfinder, a private school, is also located within the Township, along M-22. Also included in this category are the Township Hall, Old Fire Station, Cherry Bend Park, Brewery Creek, DeYoung Natural Area, and TART trail.

Rotary Camps and Services owns the Discovery Center & Pier, adjacent to the Township Greilickville Harbor Park, which includes the Children's Museum and other non-profits participants related to the water. Grand Traverse Regional Art Campus/Leelanau Studios acquired the old Norris School and offers a location for arts and is a semi-public location to the community.

Approximately 145 acres, or 1.1 percent of the total land area within the Township is categorized as public land. More details on public land within the Township can be found in the Township Park and Recreation Plan.

Vacant, Woodlands, Other

This land use category includes vacant land for which no specific use is evident, undeveloped wooded areas, all dedicated rights-of-way including county roads, thoroughfares, and local roads. Approximately 6,294 acres, or 48.7 percent of the Township falls within this description.



Natural Features

Natural features, such as topography, soils, wetlands, woodlands and lakes help shape a community's identity. New land developments can significantly impact natural features and, consequently, effect community character. Special attention should be given to the preservation of natural and environmentally sensitive areas in long-range planning. The purpose of this chapter is to identify the important natural features which exist in Elmwood Township. Knowing the location of significant natural features and understanding the function of natural systems will enable the Township to accomplish two important objectives. 1. The Township will be able to channel, or encourage, development into areas which are the least environmentally sensitive. 2. The Township can work to minimize adverse impacts to these areas.

Environmentally sensitive areas are lands whose destruction or disturbance will immediately affect the life of a community by:

- Creating hazards such as flooding or slope erosion;
- Contaminating important public resources such as groundwater supplies or surface water bodies; or,
- Wasting important productive lands and renewable resources.

Each of these effects is detrimental to the general welfare of a community and may result in economic loss.⁹

The natural features inventoried in this chapter include climate, geology, topography, soils, and hydrological features as well as natural habitats and airsheds. The analysis of natural features identifies which areas of the Township are most suitable for development and which lands should remain undeveloped to conserve their natural function.

Climate

Elmwood Township's climate is greatly affected by its location on the Grand Traverse Bay. As is detailed in the following table, this quasi-marine climate moderates changes in temperature and precipitation and allows a longer frost-free growing period for plants than would be usual at this latitude. The average growing season for the Township is approximately 120- 140 days and the average annual rainfall is 32 inches. The mean annual temperature is 46° F. The mean number of day per year that exceed 90°F is 6 with the mean number of days per year that fall below 32°F is 145. The average daily maximum and minimum temperatures in January are 28°F and 16°F, and in July are 81°F and 58°F. The average snowfall is 100 inches.¹⁰

⁹ Charles Thurow, William Toner, and Duncan Erley *Performance controls for Sensitive Lands*, American Planning Association, Planning Advisory Service Reports 307-308, June 1975

¹⁰ Great Lakes Integrated Sciences Assessments, Historical Climatology: Traverse City, MI, Updated 3/11/16

First and last heavy freeze dates are of concern to growers in all areas, including Elmwood Township. According to National Weather Service, temperatures below 29 degrees Fahrenheit are uncommon after May 1st and before October 25th in the Traverse City area.

Table 2 Temperatures and Precipitation in Traverse City, MI ^{1,2}				
	Temperature		Precipitation	
	Average Minimum	Average Maximum	Average Rain	Average Snow
January	16.26°F	28.79°F	1.866 in	31.11 in
February	16.17°F	31.29°F	1.267 in	19.22 in
March	22.27°F	40.67°F	1.489 in	10.6 in
April	33.09°F	54.85°F	2.483 in	3.16 in
May	42.47°F	66.83°F	2.501 in	0.63 in
June	52.48°F	75.67°F	2.921 in	0 in
July	58.21°F	80.88°F	2.697 in	0 in
August	57.35°F	78.52°F	2.99 in	0 in
September	50.02°F	70.50°F	3.489 in	0 in
October	39.36°F	57.47°F	3.081 in	0.64 in
November	31.14°F	45.13°F	2.368 in	8.98 in
December	21.18°F	32.72°F	2.058 in	26.64 in
1 Great Lakes Integrated Sciences Assessments, Historical Climatology: Traverse City, MI, Updated 3/11/16				
2 Michigan State Climatologist's Office, climate.geo.msu.edu Traverse City, MI 1981-2010				

Geology

An Ellsworth Shale bedrock underlies the Elmwood Township area at a depth of approximately 400 feet. This geologic formation is the result of marine conditions that existed approximately 325 million years ago during the Mississippian period of the Paleozoic era.

The glacial drift that overlies bedrock was primarily deposited during the Valdres Maximum glacial event, approximately 11,500 years ago. Township lands were formed when this last glacial ice sheet retreated and the melt waters receded to form the existing lake shorelines, beaches, bluffs, and lake benches. Lake Algonquian shoreline dynamics (elevation 605 feet) sculpted the drift and had a major impact on the current land formation. Lake Algonquin resulted from the coalescence of glacial Lakes Saginaw and Chicago.

Topography

The topography of Elmwood Township was created by the receding Wisconsin ice age glaciers that left the Manistee moraine stretching from Kalkaska around Traverse City into Leelanau County, forming a large plateau in the south and on the eastern edge of the township. North of the Manistee moraine and in the northern two thirds of the township is a large ground moraine. The ground moraine is characterized by hills (drumlins) roughly ¼ to 2 miles long and 1/8-mile-wide that rise 35 to 100 feet above the adjacent creeks and other drainage ways. Glacial lake plains are associated with the shore areas of the Grand Traverse Bay.

The entire Township, with the exception of the southwest sections and areas surrounding Lake Leelanau, are relatively hilly. The majority of land north of Cedar Lake and along the Bay has slopes greater than 20% as do Sections 29 and 32 in the southeastern portion of the Township near the Hidden Hills development and south of Cedar Creek.

Surface elevations range from a mean lake level at the Bay of 580 feet to approximately 1,100 feet near the southern boundary of the Township, an elevation gradient of 527 feet. The highest point in the Township (1,110 above sea level) located in the southwest corner, is also the highest point in Leelanau County. Areas of steep topography present many challenges, both in terms of land development and for recreation-conservation purposes. Development in such areas should be undertaken with caution in regards to erosion and drainage hazards that may affect adjacent properties.

Soils

Soil conditions may also present significant limitations to development and assist in determining what land is most suitable for development and what land is most suitable for agricultural, recreation and conservation purposes. Identification and analysis of soils aids in determining which areas offer maximum amenities without adversely impacting natural systems.

Most of the soils of the Township are ground up rock material laid down by glaciers, predominately sandy, well-drained soils, ranging from 50 to 600 feet in depth, with deposits of gravel and clay in many spots.

As reported in the *Soil Survey of Leelanau County*, prepared by the US Soil Conservation Service (SCS), there are three major soil associations in Elmwood Township: East Lake-Eastport-Lupton, Leelanau-Mancelona, and Emmet-Leelanau. The majority of soils in the Township are of the Leelanau-Mancelona association and are strongly sloping to very steep, well-drained sandy soils. Specifically, these soils are found in the southeastern portion of the Township including Sections 19, 24, 25, 29, 30, 31, 32 and 36. The soils along Lake Leelanau, surrounding Belnap and Mann Creeks and Cedar Lake as well as those in the Greilickville area are East Lake-Eastport-Lupton association. These soils vary from moderately well-drained on gently sloping lands to mucky, very poorly drained on lake and creek terraces.

The balance of the soils in the northcentral portion of the Township are Emmet-Leelanau association. The soils are well-drained, loamy and sandy soils in areas that vary from nearly level to very steep. All of these soils can be moderately productive for forestry and are good for woodland wildlife habitat, but only fair for habitat when left open or un-forested.

In general, the Emmet-Leelanau and Leelanau-Mancelona association have agricultural suitability but because of their varying water retaining capacities, also vary widely in productive capability. As depicted on the map, prime farmlands are scattered throughout the Township with significant areas located in Sections 1, 5, 6, 12, 18 and 20.

Individual on-site study and testing should be conducted prior to site design and construction due to the fact that many of the soils in the Township may have limitations either because of wetness in low soil areas, steepness of the slopes, or because of seepage or potential of poor filtering problems for septic systems.

Hydrological Features

Watersheds

Elmwood Township is located within the Lake Michigan Watershed Basin of northern Lower Michigan, and the entire eastern border abuts the West Arm of the Grand Traverse Bay. The main watersheds of the Township are the Belnap and Mann Creeks and the creek associated with Cedar Lake, all of which drain about half of the Township. Areas along the Grand Traverse Bay and Lake Leelanau are drained directly or through various small creek systems. The southwestern area of the Township is associated with the Weisler Creek Watershed and the Cedar Run Watershed which drain into south Lake Leelanau.

Wetlands

Wetlands can be described as marshes, bogs, swamps, potholes, sloughs, shallow lakes, and ponds. Wetlands may be temporary, permanent, static, or flowing. They are areas of natural vegetation growing in shallow water, hydric (saturated) soil, or seasonally flooded environments. They may also include areas of mature tree cover commonly associated with, but not restricted to, floodplain environments. More than any other natural landform, wetlands are working landscapes whose ecosystem meets a variety of needs. They support a rich variety of wildlife, purify water, help contain flooding, and provide scenic and natural vistas.

The majority of wetlands in Elmwood follow the valleys and course of creeks and streams meandering through the Township. It is interesting to compare the location of wetlands to the current development pattern. Significant development has not occurred in the immediate vicinity of Cedar Lake, particularly the western side. Land is also undeveloped in the southern portion of the Township in Section 33, just west of M-22 and north of the Traverse City border. Again, on-site investigation should be conducted for a more accurate delineation of wetland boundaries. Since the wetlands have not been delineated, delineations should occur prior to development.

Bodies of Water

Besides their obvious aesthetic and recreational benefits, lakes and ponds serve as natural retention areas for storm water runoff, as a groundwater recharge area, as habitat for a number of species of animals and plants, and tend to moderate the microclimate in proximity to the shoreline. Protection of these natural assets should be given high priority in future land use planning decisions.

Drinking water quality is generally good in Elmwood Township and there appears to be abundant quantity. The exception is found in some areas of the urbanized corridor, near the Traverse City boundary. The Benzie-Leelanau Health Department depends upon well logs and water samples from surrounding properties when making assessments for new installations and developments.

The water resources within the Township are extensive and serve as a primary recreational opportunity for residents of Elmwood as well as the surrounding area. Elmwood Township's entire eastern border, over 35,000 feet, fronts the West Arm of the Grand Traverse Bay. The Township also has over 6,500 feet of frontage on the picturesque Lake Leelanau as well as the approximately 250-acre Cedar Lake. There are also several streams located within the Township including Belnap Creek, Mann Creek, and Cedar Creek.

Natural Habitats

Elmwood Township lies in the Temperate Deciduous Biome of the Eastern United States. This biome encompasses many different natural communities. Communities are naturally-occurring assemblages of plants and animals on the landscape that co-exist under the influence of soil, climate, hydrology, disturbance regime, intra-species association, and other factors. A classification of natural communities seeks to group species assemblages into types that share similar characteristics. Elmwood Township has a number of communities including dry-mesic northern forests, mesic northern forests, cobble beaches, northern wet meadows and emergent marshes.

Most of Elmwood Township is found within the Traverse City subdistrict of the Leelanau District natural region. The Traverse City subdistrict of the Leelanau District is characterized by drumlin fields, which distinguishes it from adjacent subdistricts. These drumlins are long narrow ridges, usually about ¼-mile-wide, and less than 100 feet high. Slopes are gently sloping to steep, with slightly acid to acidic, sandy loams and loamy sands that are mostly

well-drained. Swamps, marshes, and small lakes or ponds are found between some of the drumlins. Sand, gravel, and cobble beaches occur along the Great Lakes shoreline, with limited areas of former lake-plain. While most of the arable land in the subdistrict is used for orchards and vineyards or is fallow shrub land, remnants of the original northern hardwood forests remain on many of the steeply sloping drumlins.

Woodland areas are an important part of the complex ecological system, providing multiple benefits to the environment and its wildlife and human inhabitants. Woodlands play a role in flood protection by slowing the flow of surface run-off to allow for greater storm water infiltration. Woodlands also reduce air pollutants by absorbing certain air borne pollutants. In addition to providing wildlife habitats, forest vegetation moderates the effects of winds and temperatures while stabilizing and enriching the soil. For human inhabitants, forested areas offer a visual and audio barrier, which is considered aesthetically pleasing and offer unique opportunities for recreation and relaxation.

Woodland resources contribute greatly to the Township's environmental quality. The conservation of woodlands will play a positive role in maintaining and enhancing the future environmental character of the Township. Woodland areas should be conserved, as possible. Trees which are removed through development actions should be replaced. Of special concern will be the fragmentation of woodland areas through parcel subdivisions in and adjacent to wooded areas.

According to aerial photographs which were taken in the 2012, and a windshield survey conducted, woodlands are scattered throughout Elmwood Township, with the most significant areas found in Sections 4, 5, 7, 8, 9, 12, 16, 17, 18, 19, and 24.

Human development has fragmented and isolated former natural communities into vestiges of their pre-European settlement patterns. Wetlands and wetland habitat is associated with the creeks and the southern Lake Leelanau lakeshore. Deer, raccoons, and opossum, as well as many species of birds, reptiles, and other animals and plants occupy these areas and the forested hillsides. Connecting remaining lowland corridors and forest stands can provide important habitat and refuge for Township wildlife.

Airshed

It is evident that despite our present relatively pristine conditions of clean air, we are not immune to these up-wind influences nor to those we create ourselves. Great strides have been made in reducing point-source air pollution, but non-point (or mobile) air pollution continues to be a severe problem due to our continued increased use of automobiles and other internal combustion engines. This pollution is injurious to the entire environment -- flora, fauna, and us.

Goals, Objectives & Policies

Before a community can actively plan for its future growth and development, it must first set certain goals and objectives that define the boundaries of its needs and aspirations and, thus, establish a basis for the formulation of a Master Plan. Given realistic social and economic constraints, these goals and objectives must reflect the type of community desired and the kind of lifestyle its citizens wish to follow. Goals describe the ultimate purpose of the Elmwood Township Master Plan, objectives outline the means to help the Township achieve its goals, and policies recommend specific tasks to guide action.

Formulation Process

The process of developing goals and objectives for the Elmwood Township Master Plan involved multiple steps. Initially, in early 1996, Elmwood Township conducted a community attitude survey on several issues including land use and the future development of the Township. Second, the Planning Commission and Township officials studied background information on the community including the existing land use pattern, natural features, soils, slopes, and socioeconomic characteristics of the Township and surrounding areas. Finally, the *Leelanau County General Plan* was reviewed and referenced to ensure County-wide concerns were examined and addressed.

The 2018 update was started with a survey that took place in 2013. The update was stalled by the Draft Zoning Ordinance but once it was forwarded to the Township Board, the Planning Commission began review and update of the Master Plan in 2016. Much of the update was based on the existing plan as the survey did not provide a change of opinion on the future development of the Township.

Community Attitude Survey

In early 1996, the Elmwood Township Planning Commission prepared the “Elmwood Township Community Attitude Survey”. The survey was intended to solicit the opinions of Township residents on various topics and issues in order to assist them in preparing a Master Plan for the Township. In November of 1996, the Elmwood Township Board distributed 1,800 surveys to the property owners of the Township. Seven-hundred fifteen (715) surveys were returned and tabulated for a remarkable response rate of 40%. The response rate alone indicates the residents intense interest in the future development of the Township. A reoccurring theme throughout the survey results is the community’s desire to protect the natural resources in the Township including forests, lakes, wetlands, farms, hills, and streams. Many respondents were also adamant about limiting commercial development within the Township and satisfied with depending on Traverse City for their shopping, dining, and commercial needs.

In anticipation of the 2018 update to the Elmwood Township Master Plan, the Planning Commission prepared a survey in 2013 that was sent to all occupants, property owners, and business owners to solicit opinions on various topics important for future development. A total of 494 surveys were returned. The survey results showed that the respondents would like the Township to focus on non-motorized trails and parks and encourage residential uses in the commercial district. Respondents were in support of ordinances restricting blight and noise, and regulations regarding septic and stormwater.

Background Studies

At a March 1998 Master Plan workshop, the Township reviewed background studies including natural features, socio-economics, housing, and existing land use within Elmwood. The natural features section detailed the climate, geology, topography, soils, and hydrological features within the Township. The analysis of natural features resulted in the identification of areas within the Township that are most suitable for development and which lands should remain undeveloped to conserve their natural function. The socio-economic analysis revealed that the Township housing stock is relatively new, the population is well educated and, judging from the analysis of the age of Township residents and the high number of people in the family formation age group, the Township is a good place to settle and raise a family. An existing land use survey was also conducted and mapped to illustrate the current development pattern in the Township. The survey revealed four primary land use areas within Elmwood: Greilickville, the M-22 Corridor, the Timberlee Resort area, and finally the rural portion of the Township.

Greilickville has developed as the primary commercial and industrial area of the Township and is surrounded by relatively dense single-family development. With a few exceptions, M-22 has developed as a single-family residential corridor with excellent views of the Bay. Timberlee was an old ski resort that has developed into its own population node. The area is serviced with a public water system, which helps in making the otherwise isolated area into a more desirable hamlet. The remainder of the Township, with the exception of residential development surrounding Lake Leelanau and Cedar Lake, and some scattered subdivision developments, is rural in character. The Township has historically been and continues to be a community in which farming and orchards play a significant role. The Township and its residents are committed to supporting farming activities within the Township and protecting them from encroaching development.

Leelanau County General Plan

The *Leelanau County General Plan: Policy Guidelines for Managing Growth on the Leelanau Peninsula* is a series of working papers prepared by Leelanau County staff members to update/revise the *Leelanau County Comprehensive Development Plan*. The latest County Plan was adopted in 2012. Working Paper Number 6 of the series is entitled *Goals and Objectives for Managing Growth on the Leelanau Peninsula*. The document was reviewed in the process of developing the Elmwood Township goals and objectives to ensure county-wide issues were considered and appropriately addressed.

The goals and objectives described in the Leelanau County plan address the following issues:

- Growth Management
- Land Use Planning
- Community Character
- Special Environments and Open Spaces
- Environmental Quality
- Agriculture, Farming, Mining and Fisheries
- Commercial and Industrial
- Jobs and Economic Development
- Housing
- Public Facilities and Services
- Intergovernmental Coordination

The results of the formulation steps, summarized above, is the basis of the action plan. Goals are identified below, each of which have objectives or strategies for a means for attaining the goal.

Planning and Growth Management

Goal:

To guide future growth and development in a manner that respects both the natural environment and the Township's rural atmosphere, promotes an efficient and well-ordered land use pattern, and economizes community facilities.

Objectives:

- Accommodate future growth within the Township while maintaining its existing rural/residential character.
- Ensure that new land uses are compatible and in character with existing uses.
- Encourage the ongoing maintenance of properties, buildings, and public facilities.
- Guide new development in a manner that conserves natural features and environmentally sensitive areas and meets the long-term needs of the community.
- Balance the rate of land development with the availability of public facilities and services such as adequate roads and public water and sanitary sewer systems. Encourage development where those types of facilities and services currently exist.
- Promote cooperation with and among other governmental units and non-governmental stakeholders in Leelanau County and the Grand Traverse Bay Region.

Strategies:

- Update the Master Plan at least every five years, with updates to objectives and strategies as needed to ensure the plan remains current, reflects the vision of Township residents, and encompasses new issues and planning techniques.
- Annually update a Capital Improvements Plan for the Township with review requirements for the Planning Commission adopted as part of the Zoning Ordinance.
- Amend the Township Zoning Ordinance to implement the recommendations made in this plan.
- Continue to encourage and solicit citizen participation and community involvement in all facets of Township life.
- Encourage redevelopment and infill in order to maximize existing public utilities and decrease sprawl.

Environmental Features and Agricultural Land

Goal:

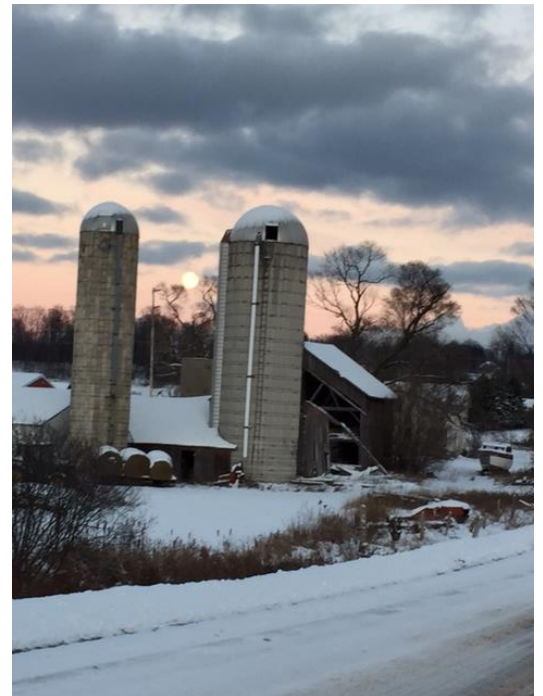
Protect environmentally sensitive areas such as agricultural and orchard lands, wetlands, bodies of water, steep slopes, and groundwater recharge areas.

Objectives:

- Encourage the retention of important farmlands, orchards, vineyards, forest lands, open space areas, and woodlands.
- Protect the quality of surface and groundwater resources in the Township from development related impacts.

Strategies:

- Encourage the retention of productive agricultural and forest lands through available mechanisms such as open space and farmland agreements, forest stewardship programs, and conservation easements, as well as local zoning incentives.
- Encourage property owners to practice planned management, or stewardship, of privately-owned forest lands, wetlands and other environmental sensitive areas.
- Encourage the establishment of a continuous open space system that interconnects public and private natural areas and recreational facilities, as well as providing for



wildlife habitat.

- Encourage the inclusion of parks, bicycle and pedestrian linkages and open space areas in new and established developments.
- Ensure that all county, state, and federal environmental regulations are adhered to in the development of land.
- Encourage land use planning and site design that provides for efficient land use and takes into account natural features (soils, topography, hydrology, woodlands, and natural vegetation), conserves agricultural resources, and maintains scenic vistas.
- Adopt coordinated zoning provisions which provide adequate buffers between agricultural and adjacent land uses to protect the future viability of the farmlands.
- Encourage the maintenance of undisturbed natural buffers around bodies of water, wetlands, and other sensitive environmental systems.
- Develop site plan review regulations which will help protect the community's drinking water supply.
- Discourage development on slopes greater than 18 percent and ensure adequate development controls for construction on slopes with an incline of 12 to 18 percent. Further, encourage hillside development to be designed in consideration of topography.
- Encourage development to conserve scenic views, agricultural lands, wetland areas, bodies of water, groundwater recharge areas, steep slopes and other environmentally sensitive areas. Encourage cluster developments.

Residential Land Use

Goal:

To maintain the current housing stock and to plan for new residential development that will offer a variety of residential densities and styles to meet the needs of current and future residents.

Objectives:

- Provide for a range of residential styles and densities to meet the needs of the Township's diverse population.
- Encourage the development of residential neighborhoods that are well-integrated into the existing landscape and complement the character of existing neighborhoods.

Strategies:

- Encourage and guide the development of housing at densities that relate to natural and manmade features.
- Collaborate with other governmental units, non-governmental stakeholders and agencies to develop opportunities for housing for the Township's diverse population.
- Encourage the incorporation of existing vegetation, topography, and other natural features into the design of new residential developments.
- Encourage new residential developments to be sited in a manner that protects the Township's rural character and scenic views by maintaining proper setbacks and providing landscaping screening as appropriate.
- Discourage a pattern of scattered rural housing development on overly large lots, particularly in areas of productive agricultural or forest lands.
- Through site plan review regulations, provide that the layout of new residential developments to be logical extensions of existing neighborhoods. This shall apply to lot layout, road extensions, and open space plans.
- Encourage infill and higher density housing on lands that have or are planned to have the capacity to support such development by means of public roads and utilities.
- Encourage cluster housing and other creative forms of development to permit higher density housing while protecting the Township's rural character and balancing the needs of the agricultural community with the interests of the non-farm residents.
- Through zoning district Special Use Permit regulation, allow compatible non-residential land uses which help build and maintain the local sense of community, particularly in relation to future Planned Development.
- Consideration should be given to multi-generational and workforce housing.

Commercial Land Use

Goal:

To maintain the existing commercial base and encourage only limited commercial development that satisfies local market needs without compromising the Township's rural/residential character.

Objectives:

- Provide limited but reasonable opportunities for the establishment of commercial uses that meet the demonstrated market needs of local residents.
- Recognize Traverse City as a regional retail center which meets the majority of resident needs and support the continued economic viability of downtown Traverse City.
- Encourage limited local commercial development to occur in the established Greilickville area in the vicinity of M-22. Discourage commercial development from spreading along major thoroughfares outside of that area.
- Ensure that the architecture, landscaping, and signage associated with commercial establishments is compatible with the established character of the Township.
- Comply with the principles of the Greilickville Sub Area Master Plan.
- Encourage quality construction materials, such as brick, wood and stone, that will provide aesthetically pleasing structures. Steel structures to be located behind other buildings to limit visibility from right-of-ways.

Strategies:

- Maintain the City of Traverse City as the commercial focal point for residents of Elmwood Township.
- Improve the overall aesthetics and encourage the maintenance and restoration of structures in the Greilickville area and along M-22.
- Review commercial architectural, landscape, and signage designs to ensure that any such proposed uses are carefully integrated into the Township's landscape and reflect the character of the community.
- Require the establishment of transitional uses and/or landscape screening between commercial and residential, agricultural, or open space land uses.
- Develop an access management plan for the commercial areas as recommended by the 2016 Elmwood Township Traffic Study (see appendix).
- Encourage development that provides efficient traffic flow by coordinating and facilitating shared driveways and interconnected parking areas.

Industrial Land Use

Goal:

Provide locations for limited, light industrial development which are harmonious with the existing land use pattern and the rural/residential character of the community.

Objectives:

- Ensure that the location, architecture, landscaping, and signage associated with industrial establishments is compatible with the established character of the community and environment.

Strategies:

- Encourage industrial development which is primarily research oriented, light, and environmentally clean.
- Light industrial uses that might be located near existing residences shall not negatively impact adjacent neighborhoods and shall be encouraged to provide landscaping and other elements to minimize any potential conflict between the uses.
- Discourage industrial development which will negatively impact environmentally sensitive areas or require substantial changes to natural systems.

Recreation Land Use

Goal:

Continue to improve existing recreational facilities and expand recreational facilities for Township residents.

Objectives:

- Provide for public and semi-public use areas offering a variety of recreational opportunities that facilitate public use.

Strategies:

- Follow the action program set forth in the Township's adopted Park and Recreation Plan to the extent that local resources allow. Keep the Plan updated as required by state statute.
- Provide public facilities and encourage private community facilities in size, character, function, and location suitable to the population and needs of the community.

- Encourage citizen participation and utilize professional expertise to determine needed and desired public and semi-public improvements.
- Research alternative methods and manners of providing public and semi-public services and choose those most conducive to citizen needs and desires, considering sound budgetary practices.
- For Township provided facilities, plan, locate, and provide public areas based on a long- range general plan, short-range project plans, and capital improvements programming.
- Assist interested semi-public and citizen groups in their efforts to help implement the Township Recreation Plan.
- Maximize the utilization of public buildings for multi-functional land services.
- Encourage the establishment of a continuous open space system that interconnects public and private natural areas and recreational facilities, as well as providing for wildlife habitat.
- Encourage the inclusion of parks, bicycle and pedestrian linkages and open space areas in conjunction with new and established developments.
- Provide access to waterfront by connecting existing facilities to the water.

Summary

The proposals enumerated above for the Township are guidelines for the future development of the Township. It is essential that these goals, objectives, and strategies be seriously considered. They will help maintain an orderly, prosperous, and attractive development pattern in the Township. These statements are suggested as a starting point for the local officials. As the planning process progresses, the goals, objectives, and strategies may be altered and new ones formed. Thus, these recommendations are flexible and need constant attention. It is recommended that the goals, objectives, and strategies be reviewed and updated as necessary, and **adopted on an annual basis.**



Future Land Use

The Future Land Use Plan is designed to serve as a guide for future development and use of property in Elmwood Township. Development of the Plan was based upon analysis of information collected throughout the planning process including the following:

- Existing Land Use Inventory
- Existing Zoning Map
- Natural Features Inventory
- Utility Assessment
- Goals and Policies
- Existing Township and County Plan Documents

In order to adequately serve the needs of the Township, the Future Land Use Plan must incorporate several important objectives, which are as follows:

1. The Plan should encompass an extended but foreseeable time period of approximately 20 years. The Elmwood Township's Future Land Use Plan depicts land uses and community development strategies through the Year 2040.
2. The Plan should be comprehensive. If it is to serve as an important decision-making tool, the Future Land Use Plan must give adequate consideration to the sensitive relationship which exists between all major land use categories, environmentally sensitive properties, socioeconomic characteristics, planning and design characteristics, goals and policies, and community opinion.
3. The Plan should be flexible. The Future Land Use Plan may require periodic review and revisions to reflect changes in local, state, or national conditions which are unforeseen at this time.

For example, several major innovations in land development have occurred within the past 40 years which have significantly impacted development patterns. Such innovations include the initiation and expansion of the freeway system; modifications in shopping facilities (shopping centers, enclosed malls, “big box” development); relocation of residents and employment centers from the cities to the suburbs; and the declining family size.

Since it is impossible to predict the variety of changes which may occur over the next 20 years, the Future Land Use Plan should be analyzed and modified periodically to reflect changing conditions, especially the extension of centralized sanitary sewer and water facilities and road improvements.

4. The Plan must be updated periodically. A comprehensive review of the Future Land Use Plan should be undertaken approximately every five (5) years to adequately analyze new conditions and trends. Should a major rezoning be sought which conflict with the Plan's recommendations, it should be reviewed and amended accordingly to reflect the current community developmental goals and policies.

The Future Land Use Plan depicts the generalized development pattern for Elmwood Township into the middle of the 21st century. It is intended to provide the necessary guidelines for making future land use, community facility, and capital improvement decisions.

The Future Land Use Plan was prepared with the intention of accommodating the continuing spillover effects from Traverse City which is essentially built out and has limited land available for new development. The availability, quality, and distribution of public water, sewer, and roads is also a major element of the Future Land Use Plan. Another factor, which aided in the future land use planning process, was the carrying capacity of the land. Those areas designated as having tillable soils coincides closely with land which is currently being farmed. These lands are planned to either remain as farmland for agricultural production or be carefully transitioned into residential or mixed uses. Those soils identified as having severe building limitations, high water tables, wetlands, etc., are those areas which have been planned for less intense developments and recreational uses. Finally, expectations of the community assisted in shaping the Future Land Use Plan for Elmwood Township. The strong, collective message throughout the development of this Plan was the conservation of the natural environment and the preservation of Elmwood Township's image as a rural community.

This Plan recommends that factors such as clustering and permanently designated open space, direct access to paved roads, and other measures be used to preserve the Township's rural character and to minimize the demand on the Township's limited public services. Further, a special emphasis should be placed on the visual character of developments which will be visible from road rights-of-way and existing land uses.

Development Densities

Development density is used to provide the basis for a zoning program that allows flexibility in residential development. Development densities are a means of describing the recommended development intensity within different areas of the Township. References to "development density" mean the density that results by dividing the total acreage of an area by the number of dwelling units planned for that area—it does not mean a uniform minimum lot size.

Recommended development densities are determined by considering a number of location elements. Most notable in Elmwood Township are the availability of public utilities and potential traffic impacts. It is the recommendation of this Plan that developments in areas that are not served with either public water or sanitary sewer system have a density of not greater than one unit per two and one-half acres. Zoning district regulations should reflect this policy with higher densities permitted in areas where public utilities are available or where the developer is planning to extend or install such facilities. The Ordinance should also provide standards whereby the Planning Commission may offer bonus density calculations to developments that exhibit exceptional site design in terms of considering the natural and manmade environment.

Traffic impacts will also affect density determination. In order to better assess potential traffic problems, the Township should also incorporate into the zoning ordinance standards identifying when and what type of traffic impact studies should be required as part of the development review standards. One of the key triggers for identifying when an impact study should be required is “trip generation.” The trip generation of a proposed development is basically the number of inbound and outbound vehicle trips that are expected to be generated by the development during an average day or during a peak hour.

Table 3 lists some of the more common types of developments and the number of trips which could be expected to be generated by development. Following the Table are recommended thresholds for trip generation that help identify when a traffic impact study should be completed.

Table 3¹⁰
Examples of Trip Generation for Common Land Uses

Land Use	Size		AM Peak hour	PM Peak Hour	Daily Trips
Residential:					
Single Family	70	units	52	69	661
Single Family	150	units	111	149	1,416
Apartments/Condominiums/Townhouses (Low Rise: 1-2 floors)	115	units	53	64	842
Apartments/Condominiums/Townhouses (Low Rise: 1-2 floors)	245	units	113	137	1,793
Apartments/Condominiums/Townhouses (Medium Rise)	125	units	45	55	680
Apartments/Condominiums/Townhouses (Medium Rise)	295	units	106	130	1,605
Mobile Home Park	140	units	36	64	700
Mobile Home Park	305	units	79	140	1,525
Shopping Center (GFA)	5,200	sqft	5	20	196
Shopping Center (GFA)	15,500	sqft	15	59	585
Fast Food Restaurant w/drive-in	2,600	sqft	104	85	1,224
Fast Food Restaurant w/drive-in	5,200	sqft	209	170	2,449
Gas Station with convenience store (GFA)	650	sqft	49	57	936
Gas Station with convenience store (GFA)	1,300	sqft	99	115	1,872
Banks w/drive-in (GFA)	2,200	sqft	21	45	220
Banks w/drive-in (GFA)	4,400	sqft	42	90	440
Hotel	120	rooms	56	72	1,003
Hotel	250	rooms	118	150	2,090
General Office	22,000	sqft	26	25	214
General Office	55,000	sqft	64	63	536
Medical/Dental Office	18,600	sqft	52	64	647
Medical/Dental Office	37,000	sqft	103	128	1,288

Note: GLA = Gross Leasable Area; GFA = Gross Floor Area

¹⁰ Rates/equations used to calculate the thresholds are from Trip Generation, 10th Edition, by the Institute of Transportation Engineers.

The following thresholds for requiring a traffic impact study are recommended for most cases in Elmwood Township¹¹:

- Any proposed site plan or subdivision plan which would be expected to generate over one hundred (100) directional trips during the peak hour of the traffic generator or the peak hour on the adjacent streets, or over seven hundred fifty (750) trips in an average day. A less detailed study (Traffic Impact Assessment) is recommended for projects which could generate 50-99 directional trips during a peak hour or 500-749 trips during an average day.
- Any proposed development along a corridor or segment of a corridor currently or projected to experience significant congestion or relatively high accident rates which would be expected to generate over 50 directional trips during the peak hour of the traffic generator or the adjacent streets, or over 500 trips in an average day.
- For new phases or changes to a development where a traffic study is more than two years old and roadway conditions have changed significantly (volumes increasing more than two percent annually).
- A change in use or expansion at an existing site where traffic is expected to increase by at least 50 directional trips in a peak hour.
- Special land uses, conditional land uses, planned developments, and other uses which are required to provide a traffic impact study in the zoning ordinance.

Wellhead Protection

As mentioned throughout this Plan, access to public drinking water and sanitary sewer facilities in the Township is limited. This fact, combined with the amount of land which has the potential to be developed during the life of this Plan, brings to the forefront the need to include in this Plan protection measures for private and shared water systems.

It is the intention of this Plan to encourage shared utility systems for all developments resulting from subdividing, condominium or planned development activity. This is especially true if the overall density of the development exceeds one unit per acre. Even with a shared system, however, the risk of environmental hazard is not eliminated.

¹¹ Threshold recommendations found in this section are taken from the publication Evaluating Traffic Impact Studies, 1994, Michigan Department of Transportation, et. al.

¹² National (U.S.) Research Council on Groundwater Quality Protection, National Academy Press, Washington, DC, 1986.

The most significant sources of water supply contamination are landfills, surface impoundment areas, subsurface percolation from septic tanks and cesspools, open dumps, injection wells and underground storage tanks.¹² These uses represent both *point* and *non-point* contamination sources. Point source is the term used to describe contaminants which originate in the immediate area of the well or tap. For example, of the above list, surface impoundments and open dumps are good examples of point source polluters. Contaminants from these uses may seep directly down through the soil to the water source. By carefully monitoring land uses at the surface, much of the potential for point source contamination may be abated.

Non-point source contamination is much more difficult to control because the cause of the problem may actually be located a considerable distance from the well. This type of contamination is caused by pollutants (e.g., from a leaking underground tank) filtering into an underground aquifer and migrating slowly to off-site well and water sources. Prevention of this type of contamination must involve a collective effort on the part of property owners and local officials from a large geographic area.

It is the recommendation of this Plan that all existing and future wells be protected from both point and non-point source contamination to the greatest degree possible. This may be undertaken through a variety of means, including monitoring wells for land uses with a potential for wide area contamination; the incorporation of wellhead protection overlays zones into the local zoning ordinance, and careful permitting of potentially hazardous land uses, especially in areas of shared wells and highly permeable soils.

¹² National (U.S.) Research Council on Groundwater Quality Protection, National Academy Press, Washington, DC, 1986.

PLAN RECOMMENDATIONS

Five future land use classifications are proposed for Elmwood Township. A description of each land use category is presented below.

High Density Residential

A total of 1,612 acres or 13.2 percent of the Township is planned for High Density Residential land uses. This land use is intended for single-family residential development on the smaller lots near Lake Leelanau, along M-22, and in the area adjacent to Traverse City, west of Greilickville with the following objectives:

- To provide lands in the Township for more urban-type residential lots of less than one acre in size;
- To use to public advantage the availability of public sanitary sewer facilities in the planned development of these parcels;
- To protect the residential character of areas so designated by excluding incompatible activities such as, but not limited to, commercial and industrial land uses;
- To encourage a suitable family environment by permitting appropriate neighborhood facilities such as places of worship, schools, playgrounds, and open spaces;
- To permit certain institutions and utilities considered compatible with residential neighborhoods;
- To preserve individual privacy and avoid overcrowding by requiring minimum yard setbacks and by regulating the maximum amount of lot coverage permitted;
- To provide for access to light and air and for privacy, as far as reasonable, by controlling the spacing and height of buildings;
- To protect residential areas from unnecessary traffic to the greatest degree possible; and,
- To encourage development within residential areas that is attractive, consistent with family needs, and conducive to an improved environmental quality.

Most of the planned High Density Residential land in the Township is already developed according to the recommendations of this plan, however not always with the benefit of public utilities. This is most notably the case along the coast of Lake Leelanau and along M-22, north of Crain Hill Road. The majority of additional, vacant area planned for this type of residential use is located around the city of Traverse City and is served with public sanitary sewer.

The intensity of new High-Density Residential development will be dependent upon the availability of central utilities as well as the amount of traffic generated. Given a general density of less than one acre, with potential density of as much as twelve (12) units per acre, single-family residential areas should be located close to a roadway designated as either a principal or minor arterial. Multiple family developments should be directed toward areas where public utilities are available or planned as part of the site design.

The boundaries for the High-Density Residential area are intended to serve as a guide and specific limits will be dependent on both natural and manmade features. This is especially true for the properties surrounding the city of Traverse City. As the indicated area infills with development and public utilities expand to meet demand, the boundaries of High Density housing will also expand. As the Planning Commission considers this future expansion, they should also be aware that not all designated areas are suitable for intense development. They should be observant of the environmentally sensitive conditions in some locations and encourage developers to creatively protect these areas as part of the site design.

It should be noted that this Plan recognizes the Michigan State Supreme Court holding that manufactured housing units cannot be excluded from districts in which site-built single-family homes are permitted, simply because they are factory built. The Court did acknowledge, however, that a Township had the right and responsibility to adopt adequate, reasonable regulations to assure that manufactured units would be compatible with other site-built housing in the vicinity. Therefore, while the Plan honors the holding of the Court regarding placement of manufactured housing in all districts in which single-family homes are allowed, it also recommends that Elmwood Township continue to implement adequate, reasonable zoning ordinance provisions governing manufactured housing to assure, insofar as possible, that such housing will meet standards of compatibility.

Medium Density Residential

Approximately 2,211 acres of land, representing 18.1 percent of the Township's area, have been planned for Medium Density Residential development. Intended uses within this designation would include:

- single-family detached dwelling units;
- various public and semi-public uses, as may be desirable.

The Medium Density Residential land use classification intended to provide locations for building sites on lots which are greater than one acre. Lands in this classification are currently developing with homesites on individual or platted lots which are between five and ten acres. Although allowed, little additional subdividing is expected in areas designated as Medium Density Residential. The attraction for residents in this area are the large, private parcels with commanding views of the countryside. Public water and sewer facilities should be considered in density calculations.

Rural Low Density

Elmwood Township has historically been an agricultural community. A look at the plat map today reveals a significant number of large parcels, many of which are currently farmed or have been farmed at one time. As the local economy moves away from farming and young family members seek opportunities away from the land, an increasing number of property owners are considering the possibility of releasing their land to development. As certain areas of the Township move through this transition, large tracts of land will likely be made available for development. In Elmwood Township, these lands may be found throughout the entire length of the Township and from Solon Township line to the west to Cherry Bend Road to the east.

Because of the transitional nature of the properties in this area, the desire of residents to retain the rural character and the current lack of public water and sanitary sewer facilities, this future land use classification has been termed Rural Low Density.

The terrain, soils and existing land uses vary greatly throughout this classification of land. Large tracts of farmed land are found in the relatively flat Sections of 25, 30, 31, and 36. Wetlands are interspersed with scattered residential lots extending diagonally through Sections 12, 18, and 20. Steep ravines and farmland are the primary characteristics of Sections 6 and 7, and Sections 1 and 12 find the ravines leveling somewhat with more farms and scattered residences on individual lots. Generally, lands in the Rural Low Density category are either farmed or vacant, and wooded and hilly. The growing attraction of northern Lower Michigan, both as home and recreation destination, has been frequently documented. As the Township moves into the next wave of development, it is critical that any transition of lands be conscientiously planned to protect those natural characteristics which first attracted residents and visitors to the region. The Rural Low Density section of this Plan will help identify methods and strategies for the Township to consider when developing regulations for future land uses.

*It is **not** the intent of this plan to encourage residents away from agriculture or in any way create difficulty for those who are committed to remain in farming for the foreseeable future. Developments occurring adjacent to those areas where farming activities are expected to continue should incorporate appropriate design measures to minimize the impact of development on land which is being farmed.*

Although traditional parcel subdividing is often the instinct for property holders, the Township should build incentives into the zoning ordinance which will increase the appeal of the less- traditional clustered and/or mixed-use development.

Clustering is a form of residential subdivision that permits housing units to be grouped on sites or lots with dimensions, frontages, and setbacks reduced from conventional sizes, with remaining land dedicated as permanent open space. Clustering permits greater flexibility in residential design and discourages development sprawl while permitting the owner and developer the overall density allowed by the underlying zoning district. A condition of the cluster design approval is that open space may not be further subdivided, and must be

designed and intended for the common use of residents of the development. Preservation and/or maintenance provisions for the common areas shall be clearly explained and adopted as part of the project approval.

It is recommended that these planned developments should be primarily residential in nature, but some mixing of uses, such as outdoor recreational uses, in Planned Developments (PD) should also be permitted. Recreation areas, sidewalks, neighborhood retail shops, and natural feature enhancements which are built into the plan help meet the needs of a variety of lifestyles as well as helping to create a sense of community for residents living in the developments. Examples of recommended retail uses would include coffee shops, bookstores, and small grocery stores. Personal service uses may also be intermixed in the developments. Uses with a large consumer draw and/or which have a large trip generation rate should be avoided. Non-residential elements should, whenever possible, be designed into the interior of the development.

Single-family condominium development can also be anticipated within this district. A condominium is a building or group of buildings in which units are owned individually and the structure and all the unit owners on a proportional, undivided basis own common areas and facilities. Such ownership has long been associated with multiple-family developments. It has recently become more popular for single-family development because the condominium approval process allows developers to circumvent the platting procedure of the Land Division Act (formerly the Subdivision Control Act of 1967, as amended (PA 288 of 1967), thereby reducing the length of time required to have a development approved. In addition, local subdivision control ordinance engineering standards (such as pavement width or composition) can be relaxed because maintenance obligations can be transferred from the local governing body to the condominium association.

Large, outdoor recreation facilities may also be considered for properties in the Rural Low-Density classification. Golf courses, riding stables and similar uses enhance the quality life for residents and visitors to the area while helping preserve the open, rural character of the community.

Specific permitted development densities will depend on site conditions, availability of public or shared water and sanitary sewer facilities and the development objectives of the landowner. As landowners take increased measures to preserve the Township's open spaces and rural character and minimize public impacts, greater development densities could be permitted. Thus, a strong incentive will exist to develop land in a responsible manner as it relates to preserving the Township's current character.

Another critical area of concern in this land use classification is the M-72 corridor. The 2013 Township Survey shows that the M-72/Bugai Rd area is an area where some respondents would like to see commercial development. The Planning Commission should study this area to determine the type of development that should be allowed in this area. It is anticipated that this area will provide some sort of form based zoning so that the structures are visually appealing and not steel structures. The Rural Low Density classification encompasses a total of 6,656 acres, or 54.4 percent of the Township's land area.

Greilickville Service Area

Commercial, office and industrial development is an important aspect of the livelihood of any community, in terms of offering services to residents, providing a reasonable tax base, and having increased employment opportunities. The Greilickville Service Area in the most southeast corner of the county has evolved into the commercial and retail center of the Township, offering a variety of shopping, non-profits, and service-oriented opportunities for local residents. Lands found in this classification are generally planned for more intense uses and densities than other locations.

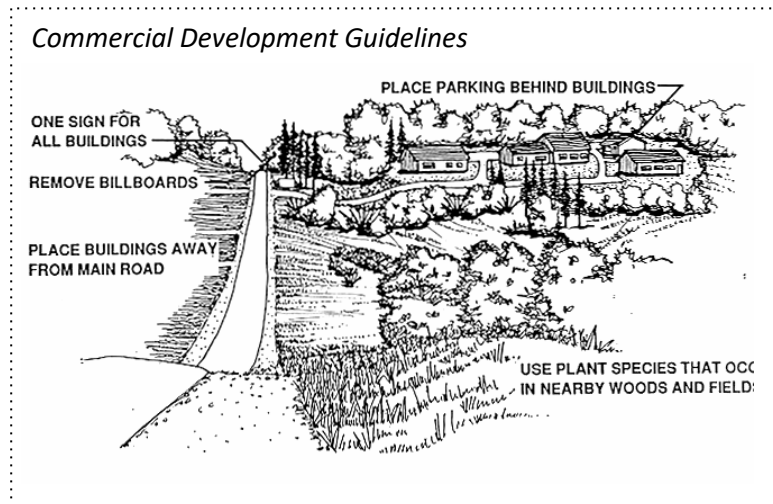
This is due in part to the availability of public water and sanitary sewer facilities, and the proximity to compatible land uses in the city of Traverse City.

Examples of commercial uses recommended for the Greilickville Area include restaurants, professional offices, personal services and convenience grocery stores. Industrial uses should be limited to those which are generally compatible with residential uses or which under the imposition of certain reasonable conditions may be safely and aesthetically located in relatively close proximity to residential uses. Residential use recommendations are similar to those in the High-Density Residential classification, with consideration given to multiple family developments where both public water and sanitary sewer is available.

Commercial uses should be designed consistent with the recommendations of the *New Designs for Growth Development Guidebook*. Specifically, the uses in this area should be encouraged to provide shared access, margin access easements, and screen parking and loading areas. Building architecture and signage should be compatible with surrounding uses, including residential uses.

Future commercial or industrial rezoning requests which are not in conformance with the Plan, must be carefully analyzed in terms of their potential effect on the existing commercially zoned and established properties. The indiscriminate rezoning of properties for commercial use will

diminish the integrity of quiet residential neighborhoods as well as hinder the success of existing commercially zoned properties. The result will be a pattern of commercial development which does not adequately serve the local and regional populations.



Timberlee

The Timberlee resort area encompasses several acres in Sections 12, 13, 18, and 24. This area has historically been used as a resort area and should be planned for the continued use as such. This area has developed over the years as a mix of residential and commercial uses. Not surprisingly, some ventures in this area have proven successful, while others have not. Currently there are a number of plats, not all developed, and a restaurant operating in the Timberlee area. Although many lands have been platted, not all have been developed. The topography and availability of a central water system should make this area desirable for residential, recreational, and commercial land uses.

To take advantage of the extremes in elevation, the area lends itself naturally to both outdoor recreation and residential land uses. Non-residential uses, including restaurants, shops and services geared toward the local market are recommended to support the primary uses.

Site design for commercial establishments should follow the recommendations stated in the Greilickville Service Area of this Plan and the *New Designs for Growth Development Guidebook*. In addition, non-residential uses should be located toward the center of the development and all future development should be planned with attention to the natural features of the area.

Residential densities in Timberlee should vary from very high density (up to twelve units per acre) in areas served with public water and adequate road visibility to at least one unit per 2.5 acres in areas without shared utilities or where the roadways wind and curve to create blind access drives. Because of the unique characteristics and uses, the Planning Commission should develop a sub-area plan for the Timberlee area.

Zoning Plan

Section 22, (2), (d), of the Michigan Planning Enabling Act (Act 33 of 2008) requires that Master Plans adopted after September 1, 2008 include a Zoning Plan to explain how the future land use categories in this Plan relate to the zoning districts incorporated in the Township’s Zoning Ordinance. The following table relates the more general future land use categories with the zoning districts and discusses the features and factors to be considered in reviewing requests to rezone lands in the Township consistent with this Plan.

Future Land Use District	Compatible Zoning District	Evaluation Factors
Greilickville Service Area	General Commercial Light Industrial Neighborhood Commercial Shoreline Commercial Municipal Center Residential 3	The Greilickville Service Area is intended to provide commercial needs and high density needs for the community. This area generally has public water and sewer available.
High Density Residential	Residential 3 Manufactured Home Park	The High Density Residential district provides for multiple family dwelling and higher densities with smaller lots. Generally, in areas where public water and sewer are available or along waterfront.
Medium Density Residential	Residential 2	The Medium Density Residential district allows for single family and two-family dwellings on larger lots. These areas typically do not have public water and sewer.
Rural Low Density	Residential 1 Agricultural-Rural	The Rural Low Density areas are where large lot developments or farming occurs.
Timberlee	Rural Resort Residential 1 Residential 3	Timberlee area is located near Timberlee Recreation Area and may have public water. There is a mix of single-family dwellings and townhomes.

Plan Implementation Resources

The Elmwood Township Master Plan is a comprehensive community policy statement. The Plan is comprised of a variety of both graphic and narrative policies intended to function as benchmarks and to provide basic guidelines for making reasonable, realistic community development decisions. The Plan is intended to be used by Township officials, by those making private sector investments, and by all of those Elmwood Township citizens interested in the future development of the Township.

The completion of the Plan is but one part of the community planning process. Realization or implementation of the recommendations of the Plan can only be achieved over an extended period of time and only through the cooperative efforts of both the public and private sectors. Implementation of the Plan may be realized by actively:

- assuring community-wide knowledge, understanding, support, and approval of the Plan;
- regulating the use and manner of development of property through up-to-date and reasonable zoning controls, subdivision regulations, and building and housing codes;
- providing a program of capital improvements and adequate, economical public services by using available governmental financing techniques to encourage desired land development or redevelopment; and,
- developing design guidelines to implement attractive development within the Township.

Public Support of the Long-Range Plan

Citizen participation and understanding of the general planning process and policies of the Plan are critical to the success of the Township's planning program. A well-organized public relations program is needed to identify and marshal public support. Lack of citizen understanding and support could have serious implications for the eventual implementation of planning proposals. Failure of the public to back needed bond issues and continuing dissatisfaction concerning taxation, special assessments, zoning decisions, and development proposals are some of the results of public misunderstanding and rejection of long-range plans.

The validity of the Plan, as well as the right of the Planning Commission to review various development proposals to assure their compatibility with the Township's expressed policies, requires that the Plan be officially adopted by the Commission.

Land Development Codes

Zoning Ordinance

Zoning regulations are adopted under the power granted from the State in the Michigan Zoning Enabling Act for the purpose of promoting community health, safety, and general welfare. Such regulations have been strongly supported by the Michigan courts, as well as by the U.S. Supreme Court. Zoning consists of dividing the community into districts, for the purpose of establishing density of population and regulating the use of land and buildings, their height and bulk, and the proportion of a lot that may be occupied by them. Regulations in different kinds of districts may be different. However, regulations within the same district must be consistent throughout the community.

The intent of zoning is to assure the orderly development of the community. Zoning is also employed as a means of protecting property values and other public and private investments. Because of the impact which zoning can have on the use of land and related services, it should be based on a comprehensive long-range community plan.

Zoning is an effective tool not only for the implementation of the Plan, but also benefits individual property owners. It protects homes and investments against the potential harmful intrusion of business and industry into residential neighborhoods; requires the spacing of buildings far enough apart to assure adequate light and air; prevents the overcrowding of land; facilitates the economical provision of essential public facilities; and aids in conservation of essential natural resources.

A stable, knowledgeable Planning Commission is critical to the success of the zoning process. The Commission's responsibilities include long-range plan formulation and the drafting of appropriate, reasonable zoning ordinance regulations designed to implement Plan goals and objectives. Adoption of the zoning ordinance by the legislative body then provides the legal basis for enforcement of zoning ordinance provisions. The ultimate effectiveness of the various ordinance requirements, however, is dependent upon the overall quality of ordinance administration and enforcement. If administrative procedures are lax, or if enforcement of regulations is handled in an inconsistent, sporadic manner, the result will be unsatisfactory at best.

There are a variety of zoning approaches and techniques which may be employed to help assure that Elmwood Township remains an attractive community in which to live and conduct business. These techniques acknowledge the critical role of both Township officials and staff in enforcing the provisions of the local zoning ordinance. Two key tools available to Township officials seeking to assure quality development are special approval use procedures and performance guarantee provisions.

Some land uses are of such a nature that permission to locate them in a given district should not be granted outright but should only be approved after assurances that the use will meet certain specified conditions. These types of land uses are called special approval, conditional, or special exception uses. The Township currently uses this flexible zoning process to permit uses of land by following special procedures, including a public hearing and site plan review, to ensure the compatibility of the use within the vicinity in which it is to be located. This technique is based upon discretionary review and approval of special land uses. The site development requirements and standards upon which these decisions are made are specified in the ordinance as required by state law. However, additional reasonable conditions may be attached in conjunction with the approval of a special land use including provisions to conserve natural resources and measures designed to promote the use of land in an environmentally, socially, and economically desirable manner.

To ensure compliance with a zoning ordinance and any conditions imposed under the ordinance, a community may require that a performance guarantee, cash deposit, certified check, irrevocable bank letter of credit, or surety bond, acceptable to the Township and covering the estimated cost of improvements on the parcel for which site plan approval is sought, be deposited with the Clerk. This performance guarantee protects the Township by assuring the faithful completion of the improvements. The community must establish procedures under which rebate of cash deposits will be made, in reasonable proportion to the ratio of work completed on the required improvements, as work progresses.

Subdivision Regulations

When a developer proposes to subdivide land, he or she is, in effect, planning a portion of the Township. To assure that such a development is in harmony with Plan objectives, the subdivision or re-subdivision of residential or nonresidential land must be guided by the Township in accordance with the Land Division Act (formerly the Michigan Subdivision Control Act, Act 288, P.A. 1967, as amended).

Several direct benefits accrue from the regulation of subdivisions by a local unit of government. By requiring the developer to install adequate utilities and improved streets, purchasers of the lots are not later burdened with unexpected added expenses. A subdivision without adequate physical improvements is detrimental not only to itself, but it also reduces the opportunity for reasonable development of adjacent parcels. In addition, long-range economy in government can be realized only when adequate improvements are provided by the subdivider.

As a part of its review of proposed subdivisions, the Planning Commission focuses on such features as the arrangement and width of streets; the grading and surfacing of streets; the width and depth of lots; the adequate provision of open space; and the location of easements for utility installations. The subdivision review process is one of the methods of implementing the goals and policies of the community's long-range Plan.

Capital Improvement Program

Elmwood Township created a Capital Improvement Plan in 2017 that will be reviewed and updated annually. The Plan includes anything that is anticipated to cost more than \$10,000 and lasts longer than one year. This includes any land acquisitions, new vehicles, new structures, and infrastructure. Few communities are fortunate enough to have available at any given time sufficient revenues to satisfy all demands for new or improved public facilities and services. Consequently, most are faced with the necessity of determining the relative priority of specific projects and establishing a program schedule for their initiation and completion. The orderly programming of public improvements is to be accomplished in conjunction with the long-range Plan for development.

In essence, the Capital Improvements Program is simply a schedule for implementing public capital improvements, which acknowledges current and anticipated demands and which recognizes present and potential financial resources available to the community. The Capital Improvements Program is a major planning tool for assuring that they proceed to completion in an efficient manner. The Capital Improvements Program is not intended to encourage the spending of additional public monies but is simply a means by which an impartial evaluation of needs may be made. The program is a schedule established to expedite the implementation of authorized or contemplated projects.

Long-range programming of public improvements is based upon three fundamental considerations. First, the proposed projects must be selected on the basis of community need. Second, the program must be developed within the community's financial constraints and must be based upon a sound financial plan. Finally, program flexibility must be maintained through the annual review and approval of the capital budget. The strict observance of these conditions requires periodic analysis of various community development factors, as well as a thorough and continuing evaluation of all proposed improvements and related expenditures. It is essential that, in the process of preparing and developing the program, the Planning Commission be assigned a role in reviewing project proposals to assure conformity with the Elmwood Township Master Plan and to make recommendations regarding priority projects and appropriate methods of financing.

Governmental Assistance

Many sources of governmental assistance are available to aid local officials and private interests in meeting desired land use objectives or improvement needs.

Local government must also be cognizant of enhancing the financial feasibility of private development projects through "co-development." Co-development is simply the joint public and private investment for a common purpose.

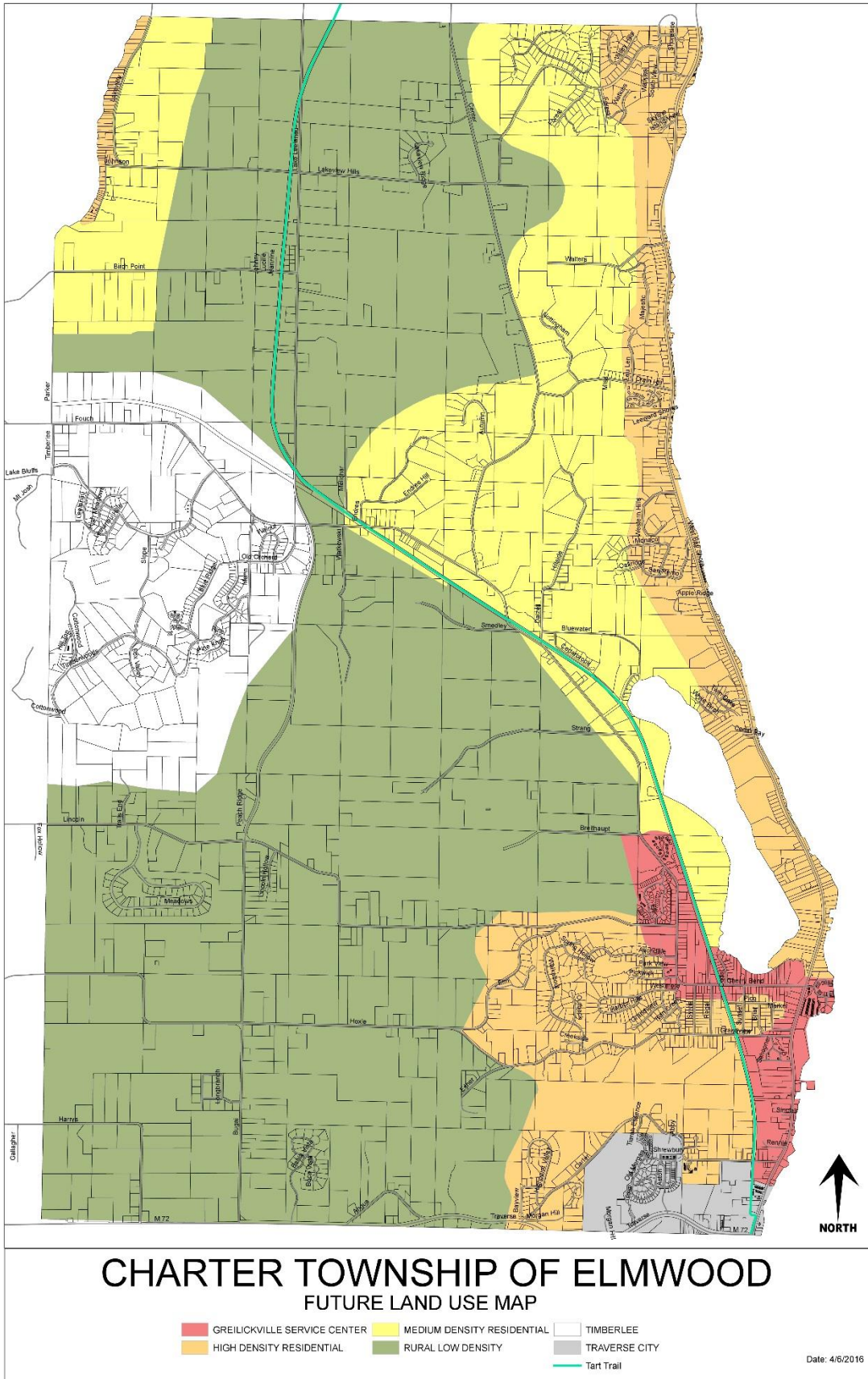
The participation can range from direct loans to private interests to reduce the capital needed to develop a project, selling publicly controlled land at less than fair market value to lower construction costs, or by issuing bonds to acquire land, construct buildings, or acquire equipment which the Township would sell or lease to private industry.

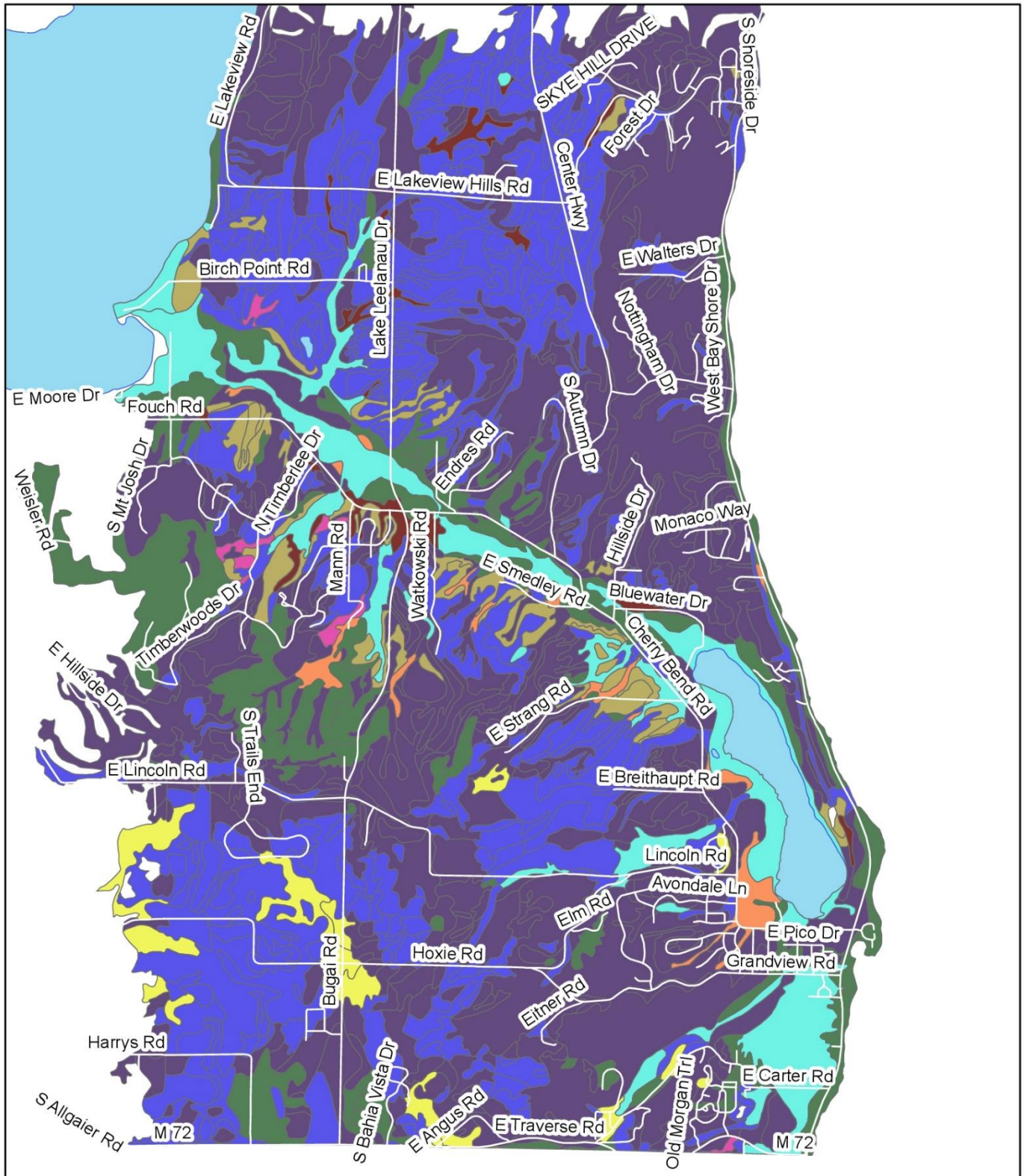
Design Guidelines

Elmwood Township is experiencing a transition from an agriculturally based community to a suburban community. The accompanying population growth often occurs with only a limited regard to preservation of environmental and scenic amenities.

The Plan can only assure what type of development occurs, not what the quality of the development will be. Design guidelines are a way of helping to ensure the Plan's intent to create attractive development within Elmwood Township.






Appendix A-Maps



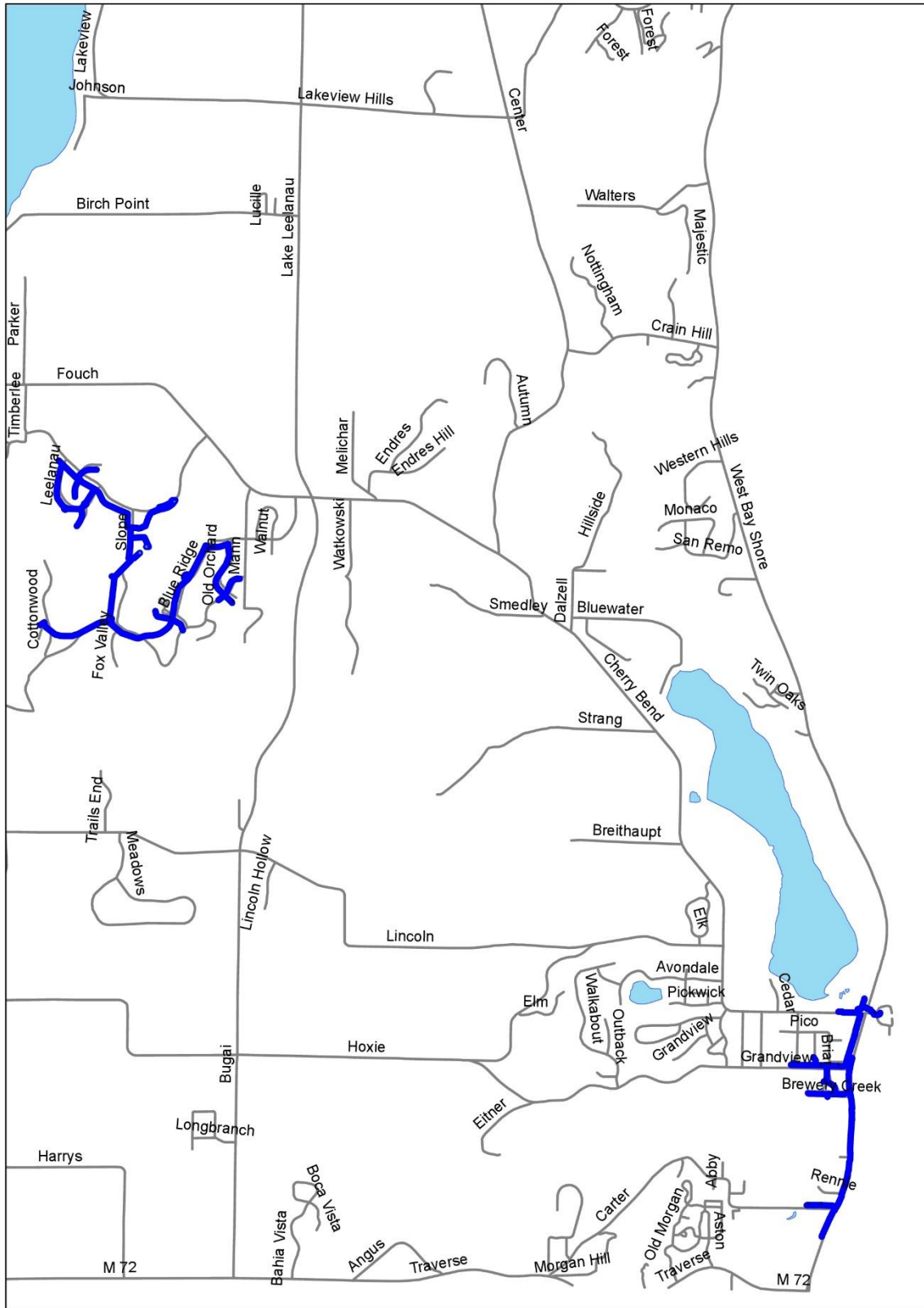


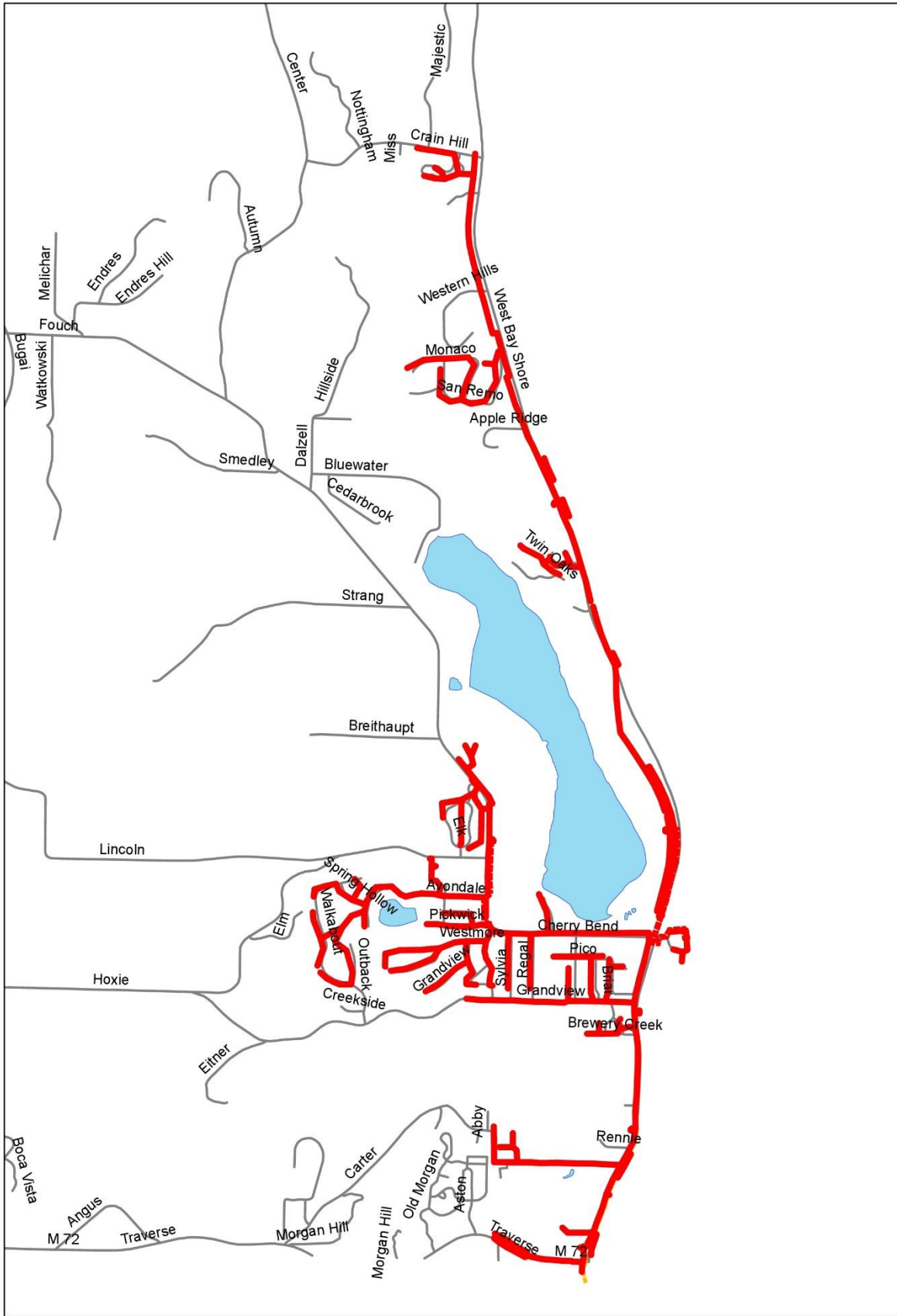
CHARTER TOWNSHIP OF ELMWOOD

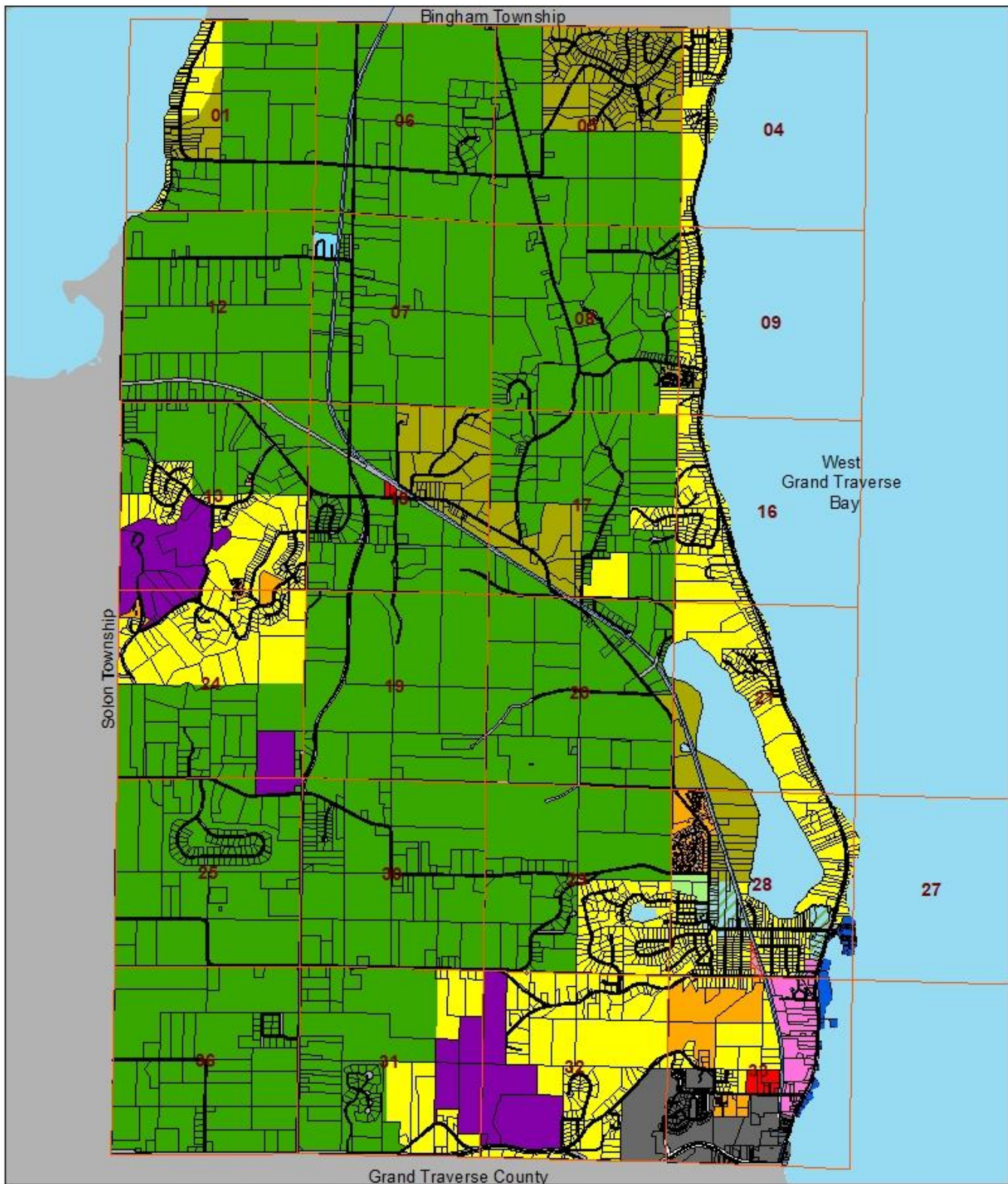
Elmwood Soils

 Loamy Sand	 Sand Muck	 Silty Clay Loam
 Gravelly Sandy Loam	 Muck	 Sandy Loam
 Loam	 Sand	 Water
	 Silt Loam	









CHARTER TOWNSHIP OF ELMWOOD

Zoning Districts

- | | | | |
|----------------------------|------------------------------|---------------------------|----------------------|
| Agricultural - Rural (A-R) | Manufactured Home Park (MHP) | General Commercial (GC) | Conditional Rezoning |
| Residential 1 (R-1) | Rural Resort (RR) | Light Industrial (LI) | |
| Residential 2 (R-2) | Municipal Center (MC) | Shoreline Commercial (SC) | |
| Residential 3 (R-3) | Neighborhood Commercial (NC) | Traverse City | |

Official Zoning Map

September 1, 2017

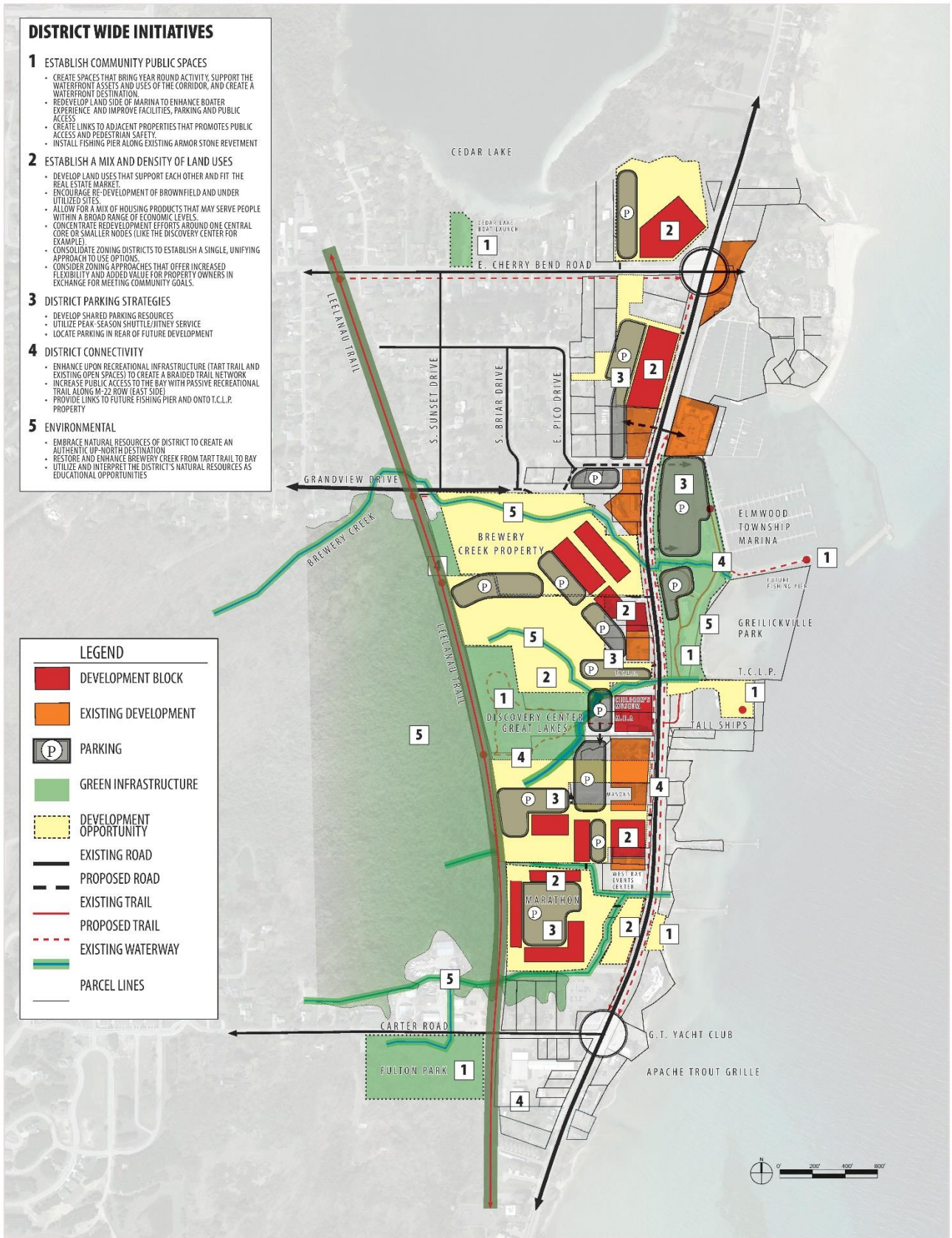
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DISTRICT WIDE INITIATIVES

- 1 ESTABLISH COMMUNITY PUBLIC SPACES**
 - CREATE SPACES THAT BRING YEAR ROUND ACTIVITY, SUPPORT THE WATERFRONT ASSETS AND USES OF THE CORRIDOR, AND CREATE A WATERFRONT DESTINATION.
 - REDEVELOP LAND SIDE OF MARINA TO ENHANCE BOATER EXPERIENCE AND IMPROVE FACILITIES, PARKING AND PUBLIC ACCESS.
 - CREATE LINKS TO ADJACENT PROPERTIES THAT PROMOTES PUBLIC ACCESS AND PEDESTRIAN SAFETY.
 - INSTALL FISHING PIER ALONG EXISTING ARMOR STONE REVETMENT.
- 2 ESTABLISH A MIX AND DENSITY OF LAND USES**
 - DEVELOP LAND USES THAT SUPPORT EACH OTHER AND FIT THE REAL ESTATE MARKET.
 - ENCOURAGE RE-DEVELOPMENT OF BROWNFIELD AND UNDER UTILIZED SITES.
 - ALLOW FOR A MIX OF HOUSING PRODUCTS THAT MAY SERVE PEOPLE WITHIN A BROAD RANGE OF ECONOMIC LEVELS.
 - CONCENTRATE REDEVELOPMENT EFFORTS AROUND ONE CENTRAL CORE OR SMALLER NODES (LIKE THE DISCOVERY CENTER FOR EXAMPLE).
 - CONSOLIDATE ZONING DISTRICTS TO ESTABLISH A SINGLE, UNIFYING APPROACH TO USE OPTIONS.
 - CONSIDER ZONING APPROACHES THAT OFFER INCREASED FLEXIBILITY AND ADDED VALUE FOR PROPERTY OWNERS IN EXCHANGE FOR MEETING COMMUNITY GOALS.
- 3 DISTRICT PARKING STRATEGIES**
 - DEVELOP SHARED PARKING RESOURCES
 - UTILIZE PEAK SEASON SHUTTLE/JITNEY SERVICE
 - LOCATE PARKING IN REAR OF FUTURE DEVELOPMENT
- 4 DISTRICT CONNECTIVITY**
 - ENHANCE UPON RECREATIONAL INFRASTRUCTURE (TART TRAIL AND EXISTING OPEN SPACES) TO CREATE A BRAIDED TRAIL NETWORK
 - INCREASE PUBLIC ACCESS TO THE BAY WITH PASSIVE RECREATIONAL TRAIL ALONG M-22 ROW (EAST SIDE)
 - PROVIDE LINKS TO FUTURE FISHING PIER AND ONTO T.C.L.P. PROPERTY
- 5 ENVIRONMENTAL**
 - EMBRACE NATURAL RESOURCES OF DISTRICT TO CREATE AN AUTHENTIC UP-NORTH DESTINATION.
 - RESTORE AND ENHANCE BREWERY CREEK FROM TART TRAIL TO BAY
 - UTILIZE AND INTERPRET THE DISTRICT'S NATURAL RESOURCES AS EDUCATIONAL OPPORTUNITIES

LEGEND	
	DEVELOPMENT BLOCK
	EXISTING DEVELOPMENT
P	PARKING
	GREEN INFRASTRUCTURE
	DEVELOPMENT OPPORTUNITY
	EXISTING ROAD
	PROPOSED ROAD
	EXISTING TRAIL
	PROPOSED TRAIL
	EXISTING WATERWAY
	PARCEL LINES



Appendix B-Demographics

Socioeconomic Profile

This chapter examines the characteristics of the Elmwood Township's population and housing stock, identifies historical patterns, and determines future trends of the Township. The data described in this chapter is benchmarked to county and state.

Population

Data in Table 4 indicates the decennial population count of Elmwood Township, its surrounding townships, Leelanau County, and the State of Michigan. This data reflects the numeric and percentage change in population of the communities listed below.

Population by Jurisdiction

Table 4

Place	1970	1980	1990	2000	2010	2015 Projection
Elmwood Township	2,240	3,004	3,427	4,264	4,503	4,566
Bingham Township	916	1,546	2,051	2,425	2,497	2,530
Centerville Township	473	709	836	1,095	1,274	1,288
Cleveland Township	393	654	783	1,040	1,031	1,046
Empire Township	547	457	503	707	807	
Empire Village	409	340	355	378	375	
Glen Arbor Township	571	578	644	788	859	871
Kasson Township	676	952	1,135	1,577	1,609	1,628
Leelanau Township	1,270	1,560	1,694	2,139	2,027	2,052
Leland Township	1,219	1,446	1,642	2,033	2,043	2,068
Solon Township	798	987	1,268	1,542	1,509	
Suttons Bay Township	838	1,270	1,589	2,393	2,363	
Suttons Bay Village	522	504	561	589	618	
Traverse City in Leelanau County	n/a	n/a	39	149	192	
Traverse City	18,048	15,516	15,155	14,532	14,674	
Leelanau County Population	10,872	14,007	16,527	21,119	21,708	21,981
Michigan Population	8,881,826	9,262,078	9,295,297	9,938,444	9,883,640	9,922,576

Percent Population Change by Jurisdiction

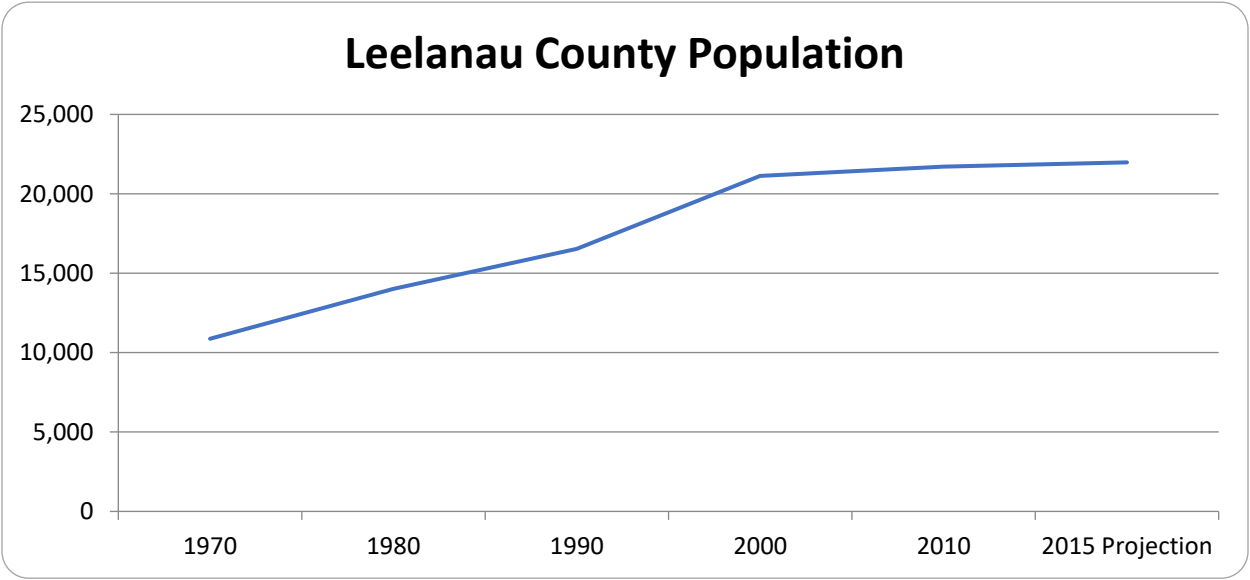
Table 5

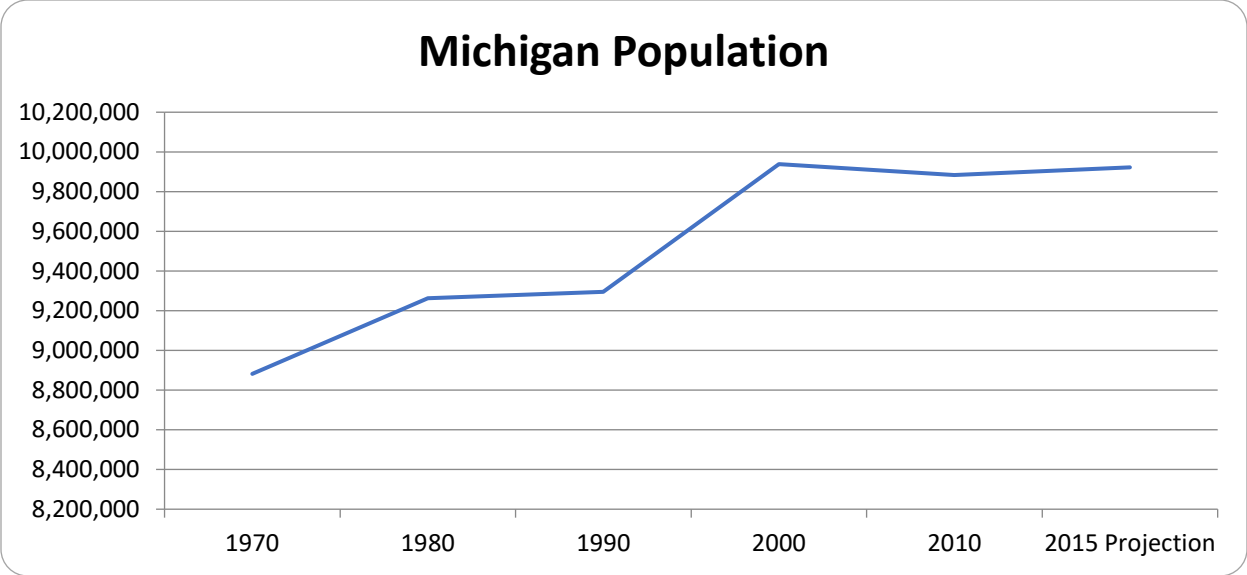
	1970-1980		1980-1990		1990-2000		2000-2010		2010-2015	
	Number Change	Percent Change	Number Change	Percent Change	Number Change	Percent Change	Number Change	Percent Change	Number Change	Percent Change
Elmwood Township	764	34.1%	423	14.1%	837	24.4%	239	5.6%	63	1.4%
Bingham Township	630	68.8%	505	32.7%	374	18.2%	72	3.0%	33	1.3%
Centerville Township	236	49.9%	127	17.9%	259	31.0%	179	16.3%	14	1.1%
Cleveland Township	261	66.4%	129	19.7%	257	32.8%	-9	-0.9%	15	1.5%
Empire Township	-90	-16.5%	46	10.1%	204	40.6%	100	14.1%	Not Avail	Not Avail
Empire Village	-69	-16.9%	15	4.4%	23	6.5%	-3	-0.8%	Not Avail	Not Avail
Glen Arbor Township	7	1.2%	66	11.4%	144	22.4%	71	9.0%	12	1.4%
Kasson Township	276	40.8%	183	19.2%	442	38.9%	32	2.0%	19	1.2%
Leelanau Township	290	22.8%	134	8.6%	445	26.3%	-112	-5.2%	25	1.2%
Leland Township	227	18.6%	196	13.6%	391	23.8%	10	0.5%	25	1.2%
Solon Township	189	23.7%	281	28.5%	274	21.6%	-33	-2.1%	Not Avail	Not Avail
Suttons Bay Township	432	51.6%	319	25.1%	804	50.6%	-30	-1.3%	Not Avail	Not Avail
Suttons Bay Village	-18	-3.4%	57	11.3%	28	5.0%	29	4.9%	Not Avail	Not Avail
Traverse City in Leelanau County	n/a	n/a	n/a	n/a	110	282.1%	43	28.9%	Not Avail	Not Avail
Traverse City	-2,532	-14.0%	-361	-2.3%	-623	-4.1%	142	1.0%	Not Avail	Not Avail
Leelanau County Population	3,135	28.8%	2520	18.0%	4592	27.8%	589	2.8%	273	1.3%
Michigan Population	380,252	4.3%	33219	0.4%	643147	6.9%	54804	-0.6%	38,936	0.4%

Source: 1970, 1980, 1990, 2000, & 2010 Census, Estimate from US Census Bureau, Population Division; Annual Estimates of the Resident Population

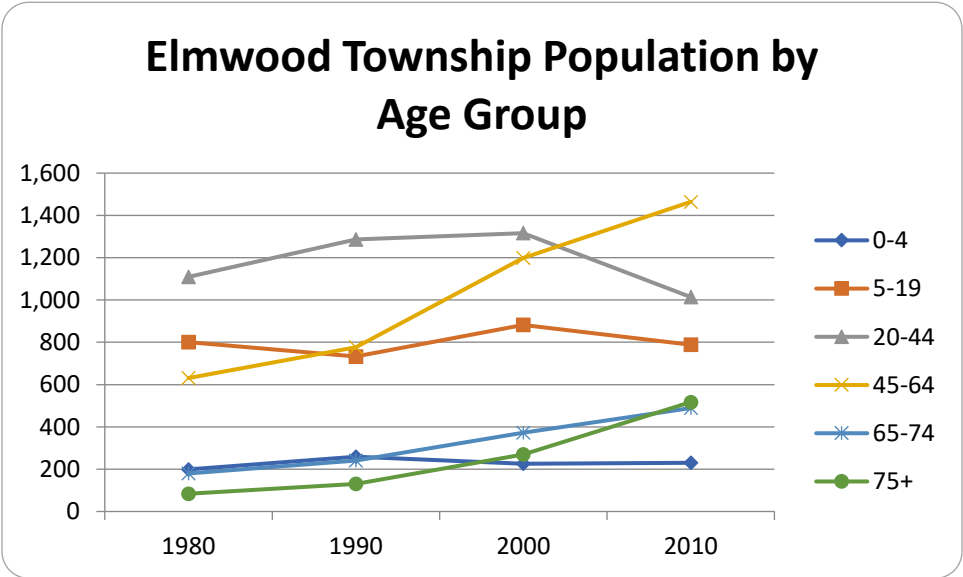
Over the last 40 years, all of the townships in Leelanau County, with the exception of Empire Township, experienced significant increases in population until the 2000-2010 decade when the increase in population slowed greatly and even declined in some Townships. Between 1990 and 2000, Townships were experiencing 20-30% growth. During 2000 to 2010 growth was 5% with the State seeing a decrease in population. This is the result of the 2007-2008 financial crisis which greatly impacted development nationally.

The largest increases in population occurred within Townships that are connected to Traverse City by M-22 and M-72. The close proximity of Bingham Township, Elmwood Township, and Suttons Bay Township to Traverse City has likely influenced this population growth. Elmwood Township, which is directly north of Traverse City, has the largest number of residents of any township in the County, followed by Bingham Township, Suttons Bay Township, Leelanau Township, and Leland Township.





The County's population doubled between 1970 and 2010 with a total population of 21,981 in 2010. The State's population only increased by 11% over the same period. The County has seen a larger population growth than the State in every decade except the 1980s when the population change was 18% for the County and 40% for the State.



Age-life Cycle

The previous graph describes the age distribution of Township residents. For the purpose of analysis, age levels are categorized according to life-cycle stages. In this analysis, six life-cycles are defined:

- Preschool (Less than 5 years)
- School (5 to 19 years)
- Family Formation (20 to 44 years)
- Empty Nest (45 to 64 years)
- Senior (65 to 74 years)
- Elderly (75 years or more)

According to the 2010 Census, the largest age group in Elmwood Township is the empty nesters (45-65 years old) followed by the family formation (20-44 years old) age group. The empty nester represents 33% of the population, while family formation represents 23% of the population and is decreasing over the years. In 2000, the family formation age group was 31% of the population. All age groups over 45, have increased dramatically since 2000 with the younger age groups decreasing.

In general, the patterns of the age-life cycle in Elmwood Township is consistent with the State and National trends. People are living longer and the baby boomers, the largest demographic cohort in recent years, are getting older. Currently, Elmwood Township has the greatest percentage of individuals over 70 in the State for its population. Elmwood Township is located close to medical facilities and Traverse City, offering great location for the older population in retire.

Housing

Housing Characteristics			
Elmwood Township	1990	2000	2010
Total Housing Units	1518	1914	2205
Total Occupied Housing Units	1288	1697	1902
Owner Occupied	1046	1484	1591
Renter Occupied	242	213	311
Vacant Housing	230	217	303
For rent	10	14	32
For Sale	12	9	66
For seasonal, recreational, or occasional use	182	163	161
Other vacant	26	31	44

Source: 1990, 2000, & 2010 Census

Between 1990 and 2010, the number of housing units in Elmwood Township has increased by 45% or 687 housing units, with the 1990s seeing a larger increase than 2000s. Of the total housing units, over 85% are occupied. Vacant housing makes up about 15% of the housing units. These numbers are consistent with the State of Michigan housing characteristics. In 2010, there were 4,532,233 housing units in Michigan. Of those, 3,872,508, or 85% were occupied and 659,725, or 15% were vacant. A differing characteristic between Elmwood Township and the State is the owner-occupied units. In 2010, 84% of the housing units in Elmwood Township were owner occupied while only 72% of the housing units in the State were owner-occupied.

Appendix C- Other Documents

In addition to documents previously mentioned throughout this plan, the following documents, as amended from time to time, are incorporate by reference.

July 2016 M-22/Greilickville Commercial Corridor Traffic Study
2013 Greilickville Sub Area Master Plan
Community Park, Recreation, Open Space, & Greenways Plan
2013 Community Perception Survey
Waterfront District Master Plan