

# PLAINFIELD CHARTER TOWNSHIP

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## A MASTER PLAN



ADOPTED: AUGUST 18, 2008

Williams & Works

## CERTIFICATION

I, Susan L. Morrow, the duly qualified and elected Clerk of Plainfield Charter Township, hereby certify that the Township Master Plan, as last recommended by the Planning Commission to the Township Board on August 12, 2008, was adopted by the Plainfield Charter Township Board of Trustees on August 18, 2008.



Susan L. Morrow, MMC  
Plainfield Charter Township Clerk

PLAINFIELD CHARTER TOWNSHIP

**A MASTER PLAN**

Adopted August 18, 2008

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PLAINFIELD CHARTER TOWNSHIP

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Tricia Anderson, Administrative Assistant

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# SECTION I.

## CHAPTER 1. INTRODUCTION

**A Master Plan represents a foundation policy statement about what a community is, what its residents value and what those residents and businesses hope the community will become.**

The fundamental purpose of a Master Plan is to enable a community to establish a direction for physical development, capital investment and growth. Therefore, a Master Plan represents a foundation policy statement about what a community is, what its residents value and what those residents and businesses hope the community will become. The Township Planning Act specifically gives the Township Planning Commission and the Township Board the authority to prepare and adopt a plan. Once prepared, adopted and maintained, this Plan will serve as an advisory guide for the physical conservation of certain areas and for the development of other areas.

This Plan represents the culmination of more than two years of work by numerous local residents and local officials. It reflects the community's deep concern for the natural beauty of its surroundings and a strong commitment to retain and strengthen local quality of life. The plan outlines the preferred future for the community and a comprehensive plan to realize it. The Plan is appropriately general, recognizing that planning for the future is a delicate blend of art and science and that sufficient flexibility will be needed to respond to the challenges of the future.

In 1998, Plainfield Township completed a comprehensive update of the Township's Comprehensive Plan. General planning practice suggests that Master Plans should be reviewed at about five-year intervals and the Township has been fairly vigilant in doing so. The former plan, approved in January 1998, reflected many current conditions and trends, so the effort to update it in 2004 enabled the community to focus on particular challenges rather than restrict the effort to a more general overview.

Nevertheless, planning for the long-term should be carried at a general level that recognizes the potential for change and provides flexibility. This results in a Master Plan that can be useful well into the future instead of becoming obsolete if or when demographic and economic trends stray from those identified in the Community Profile.

## PLAN METHODOLOGY

The planning process involved four inter-related phases:

- ◆ Data Analysis - A Community Profile;
- ◆ Goals and Objectives - Creating a Policy Foundation;
- ◆ Plan Preparation - Analyzing the Issues and Defining the Preferred Future; and
- ◆ Implementation Strategies - Getting There from Here.

The Community Profile is the first part of this Master Plan, and contains the following key areas of focus:

- ◆ Natural and Cultural Features (Chapter 2)
- ◆ Population (Chapter 3)
- ◆ Housing and Economic Development (Chapter 4)
- ◆ Land Use and Development Patterns (Chapter 5)
- ◆ Community Facilities and Services (Chapter 6)
- ◆ Utilities and Transportation (Chapters 7 and 8)
- ◆ Implications (Chapter 9)

Prior to the Data Analysis, the Township Planning Commission appointed a citizen input structure (Advisory Group). The advisory group included residents, business owners, public officials from the Township as well as the members of the Planning Commission, and various other boards, departments, and commissions serving the Township. The Advisory Group was formed as an ad hoc entity to guide the planning process and to serve as a sounding board for the consultant throughout the process.

## DATA ANALYSIS

During the first phase, demographic, economic and land use data was gathered to support the Plan. The purpose of this effort was to develop a comprehensive impression of the patterns of growth and the challenges that will impact the Township. This phase culminated in the preparation of the Community Profile Report. This report served as a technical resource for the Advisory Group and the consultant. It also represents

the Community Profile, which constitutes Section II (Chapters 2 through 9) of this Plan.

**PUBLIC PARTICIPATION**

The objective of the second phase was to establish a policy basis for the Township’s planning and land use regulations. To do this it was important to “take the pulse” of the community and determine what direction residents were looking for the future of their community. The Master Plan process employed two methods of acquiring community input: Township Futuring Workshops and a Community Opinion Survey.



**The futuring workshops gave the Township’s residents an opportunity to voice their opinion**

**Township Futuring Workshops:** Plainfield Township sponsored two community Futuring Workshops. These were public meetings intended to give community residents an opportunity to voice their opinion regarding important issues such as population growth, land use, traffic impacts and others.

The workshops were held as follows:

- ◆ Tuesday, January 25, 2005, at the Plainfield Charter Township municipal offices located at 6161 Belmont Avenue; and
- ◆ Tuesday, February 1, 2005, at the Fire Station No. 3 located at 4343 Plainfield Avenue

**Community Opinion Survey.** In July of 2005, the Planning Commission issued opinion surveys to a random sample of registered voters in the Township to gather public opinions relative to growth and development. The previous phase of the community input process (futuring workshops) offered valuable insight into the perspectives of the participants in that forum. However, in order to test the input gathered to determine whether it truly reflected the consensus of opinion in the Township, a scientific survey was conducted. Using the Township’s database of its 21,850 registered voters, a random sample of 15% of the voters was developed. A total of 3,266 survey forms were mailed and the Township received 784 responses, for a response rate of 24%. Survey questions focused on areas of identification, contemporary planning and zoning issues facing the Township, desired future growth and development, economic development, environmental quality, traffic and

transportation. The results of the community opinion survey were published in September 2005 and are summarized in Appendix A.

### **GOALS & OBJECTIVES**

Information gathered from the survey and the futuring workshops were formed into several broad goal statements, which form the foundation of the Master Plan. Each goal is supported by several objectives that are to be seen as steps needed to accomplish each goal. The goals and objectives comprise Chapter 10 of the Plan.

### **PLAN PREPARATION**

The third phase involved drawing together the input from the previous two phases and preparing a Future Land Use Plan, which is reflected in Section III. The future land use designations and map (Chapter 11) were developed in a series of interactive meetings of the Advisory Group. To support the desired development patterns envisioned in the Future Land Use Map, the Map is supported with a collection of texts describing how specific areas of the Township should develop within the next twenty to twenty-five years.

### **IMPLEMENTATION STRATEGIES**

The final phase of the process involved the development of specific implementation strategies to carry out the Plan. These are reflected in general terms in Chapter 12. At the conclusion of the fourth phase, the Planning Commission held a public hearing on the entire Plan.

### **PLAN ADOPTION**

On August 12, 2008, the Planning Commission recommended adoption of the Master Plan and on August 18, 2008, the Township Board adopted the Plainfield Charter Township Master Plan.

**ACKNOWLEDGEMENTS**

An effective planning process includes the input from a broad range of individuals and agencies. The process that resulted in this plan is no exception. The members of the Planning Commission and Township Board, while central to the development of the plan, recognize the importance of the input and information provided by the citizens and business owners in the community. We gratefully acknowledge the contribution and insight of the following persons:

- |                      |                   |
|----------------------|-------------------|
| Mike Berg            | Lee Brenner       |
| Mark Tomasik         | Walter Garrett    |
| Ken Chester          | John Boonstra     |
| David Groenleer      | Laura Rampersad   |
| Chief David Peterson | Larry Hulst       |
| Vince Ferrarese      | Julie Vrederveld  |
| Jay Hoekstra         | Arthur Spalding   |
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| Michael Shibler      | Gary Gerber       |
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| Darrel Herweyer      | Robert Heindricks |
| Kerwin Keen          | Charles Jylha     |
| Nancy Hoovler        | David Ridout      |
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| Bob Anaya            | Jack Hagedorn     |
| Susie Schumaker      | William Parris    |
| Don Moran            | George Meek       |
| Susan Barnes         | James Stover      |
| David Bina           | Susan Morrow      |
| Jean Bina            | Bill Fischer      |
| Jim VanDyke          | Peter Elam        |
| Brett Emerson        | Tricia Anderson   |
| Richard Godfrey      | Jackie Wiltzer    |
| Dick Granse          |                   |

**Photography:** We gratefully acknowledge the contributions of Plainfield Township for many of the photographs in this report. Other photos from Williams & Works files, or as indicated.



## SECTION II. A COMMUNITY PROFILE

### CHAPTER 2. NATURAL AND CULTURAL FEATURES

Plainfield Township is situated in the southwestern lower peninsula of Michigan just north of the City of Grand Rapids. The Township is just less than 36 square miles in area and is characterized by rolling hills, rivers, and creeks mixed with new and old human development. This chapter of the Master Plan Report presents the natural and environmental conditions that characterize the community.

The Township abuts the City of Grand Rapids to the south and for years served as a suburban barrier to the northern growth of the region. The community is divided north and south by the northerly bend of the Grand River and east and west by the Rogue River. Later, construction of the US-131 expressway created an additional barrier to east-west travel through the community.

#### A BRIEF HISTORY

It is appropriate to begin a Master Plan of a community with an assessment of its human history. The following paragraphs are drawn from the Plainfield Charter Township website and they offer a glimpse into the European development of the region and the formation of the Township’s governmental structure.



**Map 1. Location of Plainfield Charter Township**

“Recorded history of the area called Plainfield Township began in 1643 when Rene’ de La Salle sailed up the Grand River attempting to find a shorter passage between the Detroit River and lower Lake Michigan. Prior to 1740, the Muscatay and Hopewell Indians inhabited the land along the Grand River. The Indians continued to inhabit and frequent the area until 1912. The Ottawa Indians rights of conquest acquired the land north of the river (around the location of the Northland Drive bridge). The Indians camped atop the bluffs at the northern most point of the river (now the site of Blythefield Country Club) and established crossing points on both the Rogue and Grand Rivers of the Plainfield Indian Trail. By 1826, the United States Federal Government acquired all land north of Indiana and south of the Grand

River (including Grand Rapids and Kent Township) in the Treaty of Dearborn. The northern part of the Township was deeded to the US in the Treaty of Washington D.C. in 1836. The land was promptly settled and was organized as Plainfield Township in 1836. It also encompassed

vast areas of Northern Kent Township adjoining it, which were eventually set off and organized as separate townships.”

The first family to settle in Plainfield Township was that of Cornelius Friant, in 1837. His daughter, Cornelia, was the first birth in the Township in June of 1838. His son Thomas Friant partnered with T. Stewart White in 1868 to create a firm that managed the driving of logs down the Grand River to Grand Haven. Thomas Friant later explored lumbering interests in California and, by the end of his life, had become very successful. A town on the San Joaquin River and a dam near Fresno were named after him, and the main character in the novel *The Riverman* was patterned after the life of Thomas Friant.

“One of the earliest settlements in the Township was Plainfield Village on the north side of the Grand River. It was founded in 1838 by Andrew Stout who established a ferry across the Grand River and eventually also operated a blacksmith shop and a hotel. Plainfield Village received its name from the Indian cornfields described as "plain fields". A log building became the Village's first public school during the winter of 1837-38. In April of 1838, settlers assembled and organized Plainfield Township. The area included all of what is now Cannon Township and the present area lying on the north side of the Grand River.



**Steam boating on the upper Grand River continued from 1837 through 1857**

In 1840, the first sawmill and gristmill were erected on the Rogue River. A Post Office, called Austerlitz, was established on March 22, 1843. It was the first post office in Kent Township north of Grand Rapids. Plainfield Village provided a landing place, a supply and service source to busy river traffic, as the Grand River above Grand Rapids was being readied for steamboat navigation. Steam boating on the upper Grand River continued from 1837 through 1857 and again by similar streamers in the late 1880's and early 1890's in passenger excursions and lifting logs of valuable hardwood lost in log drives passing through the Township.

By 1845, Plainfield Village had grown to around 800 inhabitants, 4 hotels, 5 stores and 6 saloons and continued to grow until the 1880's. Cannon Township organized and separated from Plainfield Township in mid-1845. The part of Plainfield Township lying south of the Grand River separated from Grand Rapids Township and became a part of the township in 1847. In 1848, the first regular steamboat service on the upper Grand was making regular stops at Plainfield Village.

1850 found Robert Konkle building a second sawmill on the Rogue River near the west end of the Village. In 1860, due to the villages lumbering industry, it was doing more business than any other town or village in the Township outside of Grand Rapids. Although by 1862, the decline of Plainfield Village was predestined by contemporary events. The Township had several other settlements at the time. Comstock Park was originally known as North's Mill, and later became known as Mill Creek and then Comstock Park. Belmont, earlier known as Whitney, was established on June 29, 1874 and was the center for the Grand Rapids and Indian Railroad, now the Penn Central. Belmont continued to grow with the increased traffic from the railroad and soon had a store, hotel and post office. In 1907, a Baptist church was constructed (now Belmont Baptist) and St. Adalberts Catholic Church (now Assumption BVM) was built in 1912.

Plainfield Township continued to grow throughout the early and mid 1900's. In 1945, Dexter Hamilton organized the Plainfield Township Volunteer Fire Department. Today, a combination full-time / part-time / paid-on-call department serves the residents of Plainfield Township, working out of two stations. In 1959, the township started its own water department and dedicated the water plant and water system in May 1964. At the time the water plant could treat 1.5 million gallons of water per day. Today that number has grown to 20 million gallons per day and serves more than 10,000 customers<sup>1</sup>.

## CLIMATE



**Summertime temperatures are conducive to many outdoor activities.**

According to the Midwestern Regional Climate Center (MRCC)<sup>2</sup> that averaged annual climatic conditions between 1971 and 2001, in January, temperatures in the Township range from an average low of 15°F to an average high of 30°F. These temperatures, along with an average of 71.9 inches of snowfall annually, are conducive to many wintertime activities such as cross-country skiing, snowmobiling, and ice fishing on many of the Township's inland lakes.

In July, the average low temperature of 56°F and average high of 78°F makes for a pleasant and comfortable environment for bicycling, fishing, golfing, hiking and many other outdoor summer

<sup>1</sup> Plainfield Charter Township Website, [www.plainfieldchartertp.org](http://www.plainfieldchartertp.org), August 2004.

<sup>2</sup> Midwestern Regional Climate Center Website and National Climate Data Center, 2001.

activities. The average annual precipitation for the Township is 37 inches.

**LAKES**

Plainfield Township has nine lakes totaling about 425 acres of surface area providing excellent recreational and residential opportunities. Versluis Lake is a man-made lake that evolved from a sand and gravel operation and was donated by Leonard Versluis for the purpose of a park. The lake has a seasonal fluctuation of approximately seven feet as it rises and falls with the Grand River. The Plainfield Township park located along the shores offers playground areas, picnic facilities, beach and swimming areas, a bathhouse, fishing, boating (no gas engines), and two miles of paved trails.<sup>3</sup>

As Table 2.1 illustrates, most of the lakes in the community are generally small.

**Table 2.1 Plainfield Township Lakes**

Lake	Surface Area (Acres)
Clear Bottom Lake	26
Dean Lake	73
Duck Lake	8
Freska Lake	63
Little Pine Island	112
Mead Lake	22
Mirror Lake	11
Scott Lake	16
Versluis Lake	94
<b>Total Acreage</b>	<b>425</b>

The Township’s lakes play an important role in defining the community’s character, enhancing both the natural environment and the lifestyle for residents. Little Pine Island Lake is the largest of the lakes in the Township and much of the eastern shoreline of the lake is developed with seasonal and year-round residences.

<sup>3</sup> National Center on Accessibility website (www.ncaonline.org), “Inclusive Park and Recreation Design: Versluis Park, Grand Rapids, Michigan,” August 2004.

RIVERS

The Grand River and Rogue River are predominating natural features in Plainfield Township. Both riverfronts offer excellent recreational opportunities, residential locations and wildlife habitat. Development can produce potential negative water quality impacts due to individual septic system density, fertilizer application, and other human-related activities.

**Rogue River**

The Rogue River is a major tributary to the Grand River with its headwaters starting in southern Newaygo County. The Rogue travels through the Rogue River State Game Area in northern Kent County, south along the east side of Sparta, east and south through the City of Rockford and finally into Plainfield Township where it meets the Grand



**Kent County portion of the Rogue River has been designated a Country Scenic River**

River, just west of the Northland Drive bridge over the Grand River. The tributaries of the Rogue are high quality spring fed streams that result in excellent habitat for cold-water species of fish, including trout, which is rare this far south in Michigan.<sup>4</sup>

In July of 1973, the Michigan Department of Natural Resources completed the Rogue River Natural River Plan. This plan was created through the State of Michigan Natural Rivers Act (Part 305, P.A. 451 of 1994). The Act allows a river, or a portion thereof, to be designated as a natural river area for the purpose of preserving and enhancing its values of water conservation, its free flowing

condition, and its fish, wildlife, boating, scenic, aesthetic, floodplain, ecologic, historic, and recreation value and uses. Through this plan, the Kent County portion of the Rogue River has been designated a Country Scenic River, which is a river in an agricultural setting with narrow bands of woods or pastoral borders. The Rogue Natural River Plan, which was updated in March of 2002, includes a description of the study area, existing uses, future use and potential problems, effective laws, and an overall strategy to implement the plan.

The primary purpose of the Rogue River Natural River Plan is to maintain the integrity of the stream through appropriate land

<sup>4</sup> Rogue River Natural River Plan, Michigan Department of Natural Resources, 1973, updated March 2002.

management along the river and its tributaries. The Natural River District encompasses a 300-foot wide strip of land on each side of the river. Within this strip, there are regulations and recommendations for new development including setbacks, allowable uses, and natural vegetative buffers. For example, on private land, a 50-foot natural vegetative strip shall be maintained with limitations on pruning and grazing activities within said strip. Other limitations include no commercial or industrial development within the 300-foot natural river boundary, nor any cutting, filling, or building in the floodplain, and docks are limited to six feet in width, 20 feet long, with only four feet allowed to extend over the water.

The Natural River designation has resulted in a natural rivers overlay in the Plainfield Township Zoning Ordinance for the Rogue River and Barkley Creek. This overlay district is one of the major implementation tools at the local level and serves as a great example of cooperation and effort between the state agencies and local government.

### Grand River

The City of Grand Rapids and Grand River region have formed their identity largely around this important river and its presence in the Township has been no less a significant element in the community's development. The Grand River is Michigan's longest river winding 256 miles from Jackson to Grand Haven spanning 19 counties with 12 major tributaries.<sup>5</sup> The Grand River bends from the southeast corner of the Township, through the center of the Township and then down to the southwest corner into the City of Grand Rapids.



**The Grand River bends from the southeast to the southwest corners of the Township**

The river is a navigable stream, although early rapids and downstream dams have limited the development of riverboat commerce. In the mid-to late 19<sup>th</sup> century, the river was used as a logging stream for Michigan's timber industry and saw mills that developed along the stream corridor were often the initial nucleus of emerging communities. As indicated above, this was the case for Plainfield Township.

Much of the Grand River within Plainfield Township is bordered by large riverine wetland areas. These wetlands and the broad floodplain

<sup>5</sup> *Assessment of the Lake Michigan Monitoring Inventory; A Report on the Lake Michigan Tributary Monitoring Project*, prepared by the Great Lakes Commission with assistance of the United States Environmental Protection Agency, August 2000.

areas have helped to limit intense development in close proximity to much of the riverbank within the Township.

Historically, the Grand Rapids and Lansing areas were known for large-scale metal finishing and plating industries that contributed significant amounts of heavy metals to the environment due to ineffective wastewater treatment. While many of the facilities have been improved, many of the contaminants still remain in the river system. The water quality is much better than in the past, however the Grand River continues to be the largest tributary source to Lake Michigan for lead, DDT, atrazine, and second largest for mercury.

## WATERSHEDS

A watershed is a region of land that is drained by a particular river or river system. Typically these systems include many smaller tributaries such as creeks and streams that feed into a larger river and are influenced by elevation or the lay of the land. The Grand River is the longest river in Michigan and at over 5,500 square miles, its watershed area is among the largest in the state. All of Plainfield Township lies within the Grand River regional watershed. The portion of the watershed in Plainfield Township includes the following sub watersheds:

**Water quality within a watershed is directly related to the land management practices within that watershed**

- ◆ Mill Creek - drains portions of Alpine Township and western Plainfield Township and enters the Grand River in the Comstock Park area.
- ◆ Rogue River - as described above, extends into Newaygo County and enters the Grand River west of the Northland Drive bridge.
- ◆ Bear Creek - drains parts of Cannon and Ada Township and enters the Grand River in Section 25, along the Township's eastern line.

Water quality within a watershed is directly related to the land management practices within that watershed. For example, if a new development created a large amount of impervious surface (i.e. asphalt) and stormwater was not properly managed, it is possible that the flow of the run off into the creek, stream, or river could be increased to a point that stream bank erosion occurs. Stream bank erosion has the potential of increasing silt material on the streambed, changing the chemistry of the water with phosphates, nitrogen, and other chemicals, and altering the turbidity of the water. All of these changes may have an effect on the wildlife that is dependent on the stream or river for survival. Map 2 illustrates the watersheds, rivers, streams, and lakes in the Township. A watershed, being an area where all of these water attributes are interconnected, should be looked at closely when assessing the impacts of new development within the Township.



Insert Map 2 Watershed Map

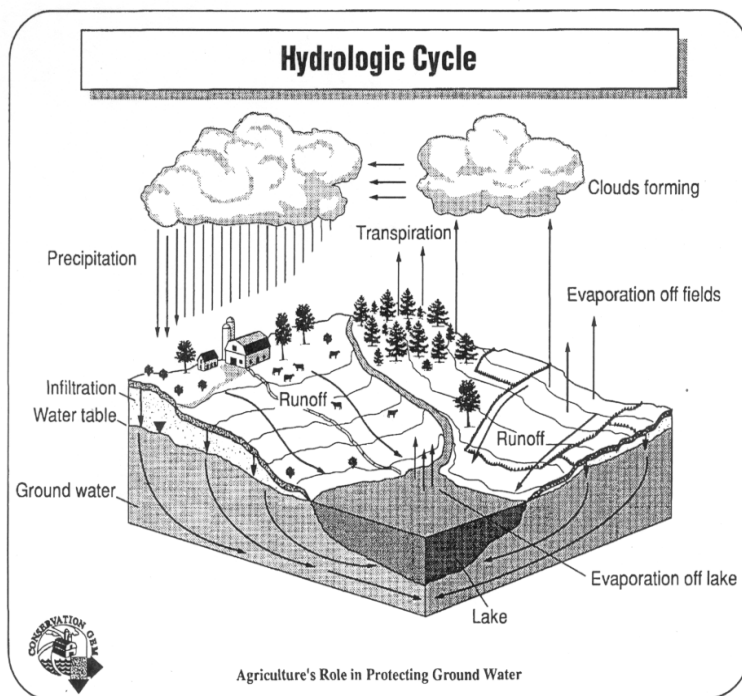
Back of watersheds map

## GROUNDWATER AND SURFACE WATER

As the population in Plainfield Township continues to grow, natural resources will inevitably be impacted. The groundwater supplies in the Township, even though abundant, can be affected as more area becomes impervious and with greater demand placed on groundwater supplies.

According to Dr. Roberta Dow of the Michigan Groundwater Stewardship Program at the Michigan State University Extension in

Traverse City, there are many different ways ground water can be polluted. Two primary contributors are application of fertilizer on crops and residential lawns and septic tank drainfield effluent. Proper fertilizer application management and septic tank maintenance may help to significantly reduce nitrate levels. Abandoned wells may also be a threat to ground water quality if they have not been properly closed or “capped.” Open wells may expose groundwater supplies to surface contaminates.



Since all drinking water in Plainfield Township is derived from groundwater sources - either from private wells or the municipal water supply - protecting this key resource is of vital interest to the Township.

### Soils

**With the soils of the Township classified, areas may be designated for a suitable use.**

Soil composition is an important aspect of planning for many reasons. Some soils are not well suited for individual septic systems and therefore may threaten ground water or surface water quality due to lack of proper filtration. The composition of soils determines stability and suitability for structural development. Agricultural productivity is also determined by the fertility of the soils. With the soils of the Township classified, areas can be appropriately designated for a suitable use.

The United States Department of Agriculture, Soil Conservation Service, classifies the soils of the Township into six different general soil

associations.<sup>6</sup> These are briefly described as follows, and soil textures are illustrated on Map 3:

1. Plainfield-Oshtemo-Spinks association: Nearly level to gently rolling, excessively drained and well drained, sandy and loamy soils formed in sandy and loamy materials. This association is found largely adjacent to the Grand River in on either side of the Rogue River and in the southwest corner of the Township. It is characteristic of the gravel mining operations in the Township.
2. Ithaca-Rimer-Perrington association: Nearly level to gently rolling, well drained to somewhat poorly drained, loamy and sandy soils formed in loamy, sandy, silty and clayey deposits. This association is found generally in the western portion of the Township south and west of Little Pine Island Lake.
3. Marlette-Perrington-Matea association: Gently rolling to very steep, well-drained, loamy and sandy soils formed in loamy, silty, and sandy deposits. One small area of this association may be found in the northwest portion of the Township extending into Alpine Township.
4. Marlette-Chelsea-Boyer association: Gently rolling to very steep, somewhat excessively drained and well-drained, sandy soils formed in sandy and loamy materials. This association predominates in the northern portion of the Township, either side of US-131.
5. Chelsea-Plainfield-Boyer association: Gently rolling to very steep, excessively drained to well drained, sandy soils formed in sandy and loamy materials. This association may be found in the northern central portion of the Township and in the southeastern corner.
6. Houghton-Cohoctah-Ceresco association: Nearly level, somewhat poorly drained to very poorly drained, mucky and loamy soils formed in herbaceous organic material or loamy alluvial deposits. This association is found along the Grand River corridor and adjoining lands.

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<sup>6</sup> *Soil Survey of Kent County, Michigan*, United States Department of Agriculture

Insert map 3 soils

Back of map 3

## WETLANDS

Wetlands play a critical role in regulating the movement of water within watersheds. Wetlands are characterized by water saturation in the root zone, or above the soil surface, for a certain amount of time during the year. The fluctuation of the water table above and below the soil surface is unique to each wetland type.

Wetlands store precipitation and surface water and then slowly release the water in associated water resources, ground water, and the atmosphere. They help maintain the level of the water table and may serve as filters for sediments and organic matter. They may also serve as a sink to catch water, or transform nutrients, organic compounds, metals, and components of organic matter. Wetlands have the ability to impact levels of nitrogen, phosphorous, carbon, sulfur, and various metals. Without them, water quality decreases, areas are prone to flash flooding and habitat for specialized plants and animals is reduced.



**Without wetlands, water quality decreases, areas are prone to flash flooding and habitat for specialized plants and animals is reduced.**

The wetlands in Plainfield Township are found primarily along the Grand River and Rogue River corridors and in the vicinity of the lakes in the northwest portion of the community. A few other scattered wetland areas are identified on Map 4, which was drawn from the REGIS geographic information system and the National Wetlands Inventory (NWI). Creation of this map involved a variety of federal government agencies, which involved the consolidation and interpretation of aerial photographs, land cover maps, and soil maps. This map is intended to illustrate the general location of wetlands and the exact location of any wetland should be determined through a field site inspection by a qualified scientist.



Insert Wetlands Map 4

Back of map 4

### Endangered, Threatened, and Special Concern Species

Loss of habitat and overall increased human activity threatens the plant and animal diversity of Plainfield Township. The Michigan Natural Features Inventory<sup>7</sup> lists threatened, endangered and special concern species on a countywide basis. At this time, the Karner Blue Butterfly is the only listed state endangered species found in Kent County. This variety of butterfly can be found in pine barrens, oak savannas on sandy soils and areas containing wild lupines, which is the only known food source for larvae. As the human population of the Township continues to expand, it is possible that plant and animal diversity will also continue to decrease.



**Like the proverbial canary in the coal mine, the Karner Blue Butterfly may be an indicator species of the impact of development in the Township.**

### Invasive and Exotic Species

Invasive plant and animal species are classes of plants or animals that are introduced into a “foreign” environment, which often result in negative impacts on the native environment. In Plainfield Township, these species include the purple loosestrife and the zebra mussel. The purple loosestrife is an aquatic plant that has the capacity to quickly degrade natural wetlands and other open bodies of water. The loosestrife has a tendency to multiply rapidly and densely, by means of prolific root and seed production, which often crowds out native wetland plants and alters the chemical balance of the wetland or lake.

Methods to control the spreading of the loosestrife can often be unreasonable for large areas. For example, burning, digging, water level management, herbicides, and cutting are impractical for regions where the weed has dominated native species. Biological control, or the introduction of natural enemies into the new habitat, is a more viable, yet costly and rigorous, alternative.

The zebra mussel is an invasive-aquatic species from Europe that has the propensity to impair human intentions and damage native processes. The zebra mussel was first discovered in 1988 in Lake St. Clair near Detroit, which colonized the Great Lakes region by 1990. By the mid 1990’s, the zebra mussel may have found its way to Plainfield Township’s lakes.<sup>8</sup> Normally, infestation in inland lakes results from transport on boats and fishing gear from another infested lake.

<sup>7</sup> Michigan Natural Features Inventory Website, October 2003.

<sup>8</sup> Michigan Sea Grant Extension website:  
<http://www.msue.msu.edu/seagrant/lake100802.html>



## CHAPTER 3. POPULATION

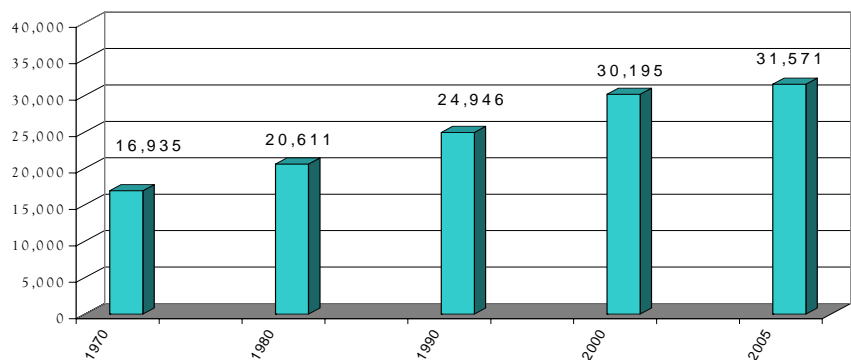
Population and demographic change are among the most important measures to express growth and its likely impact on land uses in a community. Therefore, it is helpful to recognize the Township's population and growth trends in preparing a realistic and meaningful Master Plan. This chapter of the Community Profile Report describes Township population and demographic characteristics, and serves as part of the foundation for drawing conclusions about the Township's likely future.

### HISTORIC POPULATION GROWTH

To begin with, it is appropriate to determine the overall growth the Township has experienced in the recent past (i.e., the last thirty years). Like many metropolitan townships in Michigan, Plainfield primarily existed as a rural farming community until experiencing post-war suburban growth. Since 1970, the United States Census illustrates that the Township's population increased from 16,935 to 30,195 in 2000, or by a total of 13,260, representing a 78.2% increase. In other words, the Township, since 1970, has grown at an average annual rate of 2.61%, or a compounded annual rate of 1.95%.

**Figure 3.1 Plainfield Township Population Growth**

**Plainfield has seen a slightly greater rate of growth than the entire metropolitan region on average.**



From 1990 to 2000, Plainfield Township grew from 24,946 to 30,195, or by 21%. During this same period, Kent County grew by 14.7%; the Grand Rapids Metropolitan Statistical Area grew by 16%; and, the State of Michigan grew by 6.9%.<sup>9</sup> Therefore, Plainfield has seen a slightly greater rate of growth than the entire metropolitan region on average.

<sup>9</sup> United States Census Bureau, 2000

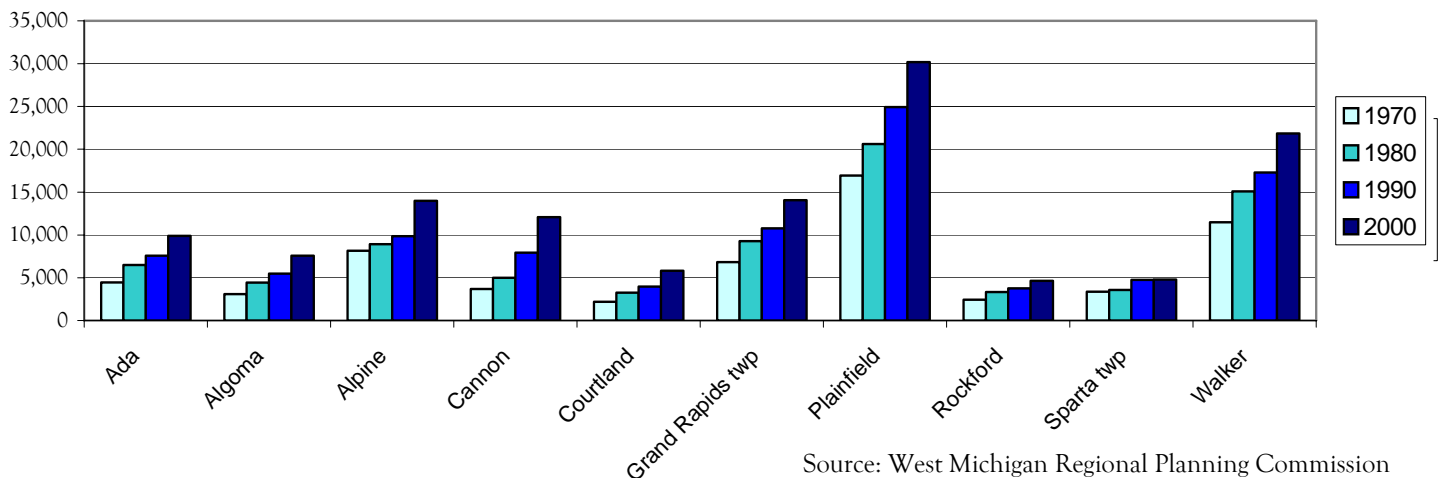
In fact, the Township is Kent County’s fourth largest community in terms of population, following the cities of Grand Rapids (197,800), Wyoming (69,368), and Kentwood (45,255), based on 2000 Census information.

**Every surrounding jurisdiction, except the city of Grand Rapids, has continued to see increasing growth.**

The bulk of Plainfield’s recent growth has occurred in areas north of the Grand River, and towards the eastern portion of the Township, since these areas are primarily where undeveloped land exists. The areas south of the Grand River and west of Jupiter Avenue are generally at build out and experience little growth. The Master Plan of 1998 actually documented population decline in the neighborhoods west of Hunsberger Road.

To put Plainfield’s recent growth trends in perspective, it is appropriate to compare the Township with neighboring communities. Figure 3.2 compares the 30-year population growth history of Plainfield Township with that of nine other neighboring municipalities. Every surrounding jurisdiction, except the City of Grand Rapids, has continued to see increasing growth, similar to the growth experienced by the bulk of West Michigan communities. Although it is not shown in Figure 3.2, it is noteworthy that the City of Grand Rapids lost 15,806 people from 1970 to 1980, but between 1980 and 2000, the city gained 15,957 people.<sup>10</sup>

**Figure 3.2 Comparative Rates of Population Growth in Area Communities**



Much of the growth in outlying townships can be attributed to an overall pattern of out-migration from urban to suburban and rural areas, and respectable West Michigan economic growth. In addition, the general Grand Rapids metropolitan region is growing in population, and Plainfield experiences a portion of that growth.

<sup>10</sup> West Michigan Regional Planning Commission

The following table illustrates growth from 1990 to 2000, according to information from the West Michigan Regional Planning Commission that was derived from the 1990 and 2000 Census.

**Table 3.1 Comparative Rates of Population Growth**

Municipality	1990 Population	2000 Population	Increase	% Change
Ada Township	7,578	9,882	2,304	30.4
Algoma Township	5,496	7,596	2,100	38.2
Alpine Township	9,863	13,976	4,113	41.7
Cannon Township	7,928	12,075	4,147	52.3
Courtland Township	3,950	5,817	1,867	47.2
City of Grand Rapids	189,126	197,800	8,674	4.6
Grand Rapids Township	10,760	14,056	3,296	30.6
<b>Plainfield Township</b>	<b>24,946</b>	<b>30,195</b>	<b>5,249</b>	<b>21.0</b>
City of Rockford	3,750	4,626	876	23.3
Sparta Township	4,749	4,779	30	.63
City of Walker	17,279	21,842	4,563	26.4

**The Township has consistently experienced a 21% growth rate every decade since 1970, indicating a very stable, yet rapid, rate of growth.**

Cannon and Courtland townships experienced the highest percentage growth rate from 1990 to 2000 among Plainfield’s neighboring communities, while Sparta Township and the City of Grand Rapids experienced the smallest growth rate. The average growth rate for the above communities was approximately 29%. Plainfield Township’s 21% growth rate was below the average growth rate of its neighbors, even though the Township gained 5,249 residents, the second largest increase by 2000. The Township has consistently experienced a 21% growth rate every decade since 1970, indicating a very stable, yet rapid, rate of growth.

## POPULATION PROJECTIONS

Statistical averaging techniques were employed to project the Township’s likely population growth to the year 2030. These approaches are intended to provide a general sense of growth in the future. In communities that have experienced rapid rates of development, future growth trends may not parallel historical statistical trends, especially since developable acreage has been consumed over time. The following generalizations are limited in scope and are based on past trends documented by the United States Census Bureau and Township data.

These projections have implications regarding future land use necessities, the demand for various public services and capital improvements, and help to understand the future position of the

Township in terms of growth and total population. The following describes the projection techniques.

**The Constant Proportion (or ratio) Method** of projecting population assumes that Plainfield Township will continue to represent the same percentage of Kent County’s projected population in the years 2010, 2020, and 2030 that it represents today. In 2000, Plainfield Township comprised 5.241% of Kent County’s total population. Using the population projections for Kent County as estimated by Woods and Poole Economics,<sup>11</sup> and extending those trends through 2030, the following illustrates the results of the constant proportion method for Plainfield Township.

CONSTANT PROPORTION METHOD

	2000 <u>Population</u>	2010 <u>Population Projection</u>	2020 <u>Population Projection</u>	2030 <u>Population Projection</u>
Kent County	579,040	694,570	780,960	909,428*
Plainfield Twp	30,195	36,219	40,724	47,319

\* Woods and Poole did not project county population through 2030; this figure results from an extrapolation of the rates of growth projected from 2000 through 2020 for another ten years.

**The Growth Rate (or geometric) Method** projects future population growth or decline based on the rate of growth in the Township in the past. Using the growth rate method, the following assumes that growth in the future will occur at the same average rate as has occurred annually since 1970. As indicated previously, the Township has experienced considerable population growth annually since 1970.

GROWTH RATE METHOD

	Compounded Annual Growth Rate				
	<u>1970-2000</u>	<u>2000</u>	<u>2010</u>	<u>2020</u>	<u>2030</u>
Plainfield Twp	1.95%	30,195	36,627	44,430	53,895

**The Arithmetic Method** is similar to the growth rate method in that population projections are based on growth that occurred in preceding

<sup>11</sup> Woods and Poole Economics data was gathered from the Right Place Program.

decades. This method, however, bases population growth on the overall average increase in the number of persons per year, rather than on growth rates. The following projections are based on the average net increase of 13,260 persons between 1970 and 2000, in Plainfield Township, based on U.S. Census figures.

ARITHMETIC METHOD

	Average Increase Each Decade (Number of Persons)	2000 Population	2010	2020	2030
Plainfield Twp	4,420	30,195	34,615	39,035	43,455

The Building Permit Method may be the most reliable projection technique since it depicts present growth trends based on the actual number of residential building permits issued by the Township. Plainfield Township has issued 211 new residential building permits on average per year from 1994 to 2006.<sup>12</sup> The Township’s average household size is 2.73 persons<sup>13</sup>. Extrapolating these figures into the future may project likely population growth, if current trends remain the same. This population projection technique holds that Plainfield Township will grow by 576 persons per year.

**It is reasonable to predict that the population will grow to approximately 36,000 persons by the year 2010; roughly 41,500 by the year 2020; and over 48,000 by the year 2030.**

It should be noted, however, that in recent years the Township has seen a significant decrease in the number of residential permits, some of which can likely be attributed to a softening housing market in the Grand Rapids area. While in 2005 the Township issued 212 permits, by 2006 this number had fallen to 93, and in 2007 the Township was on pace to issue only about 60 permits.

BUILDING PERMIT METHOD

Average No Permits/Year	Persons per H/H	2000 Population	2010	2020	2030
211	2.73	30,195	35,955	41,715	47,475

The table below summarizes the preceding information. By averaging the results of these methods, it is reasonable to predict that the population of Plainfield Township will grow to nearly 40,000 persons by the year 2010; roughly 41,700 by the year 2020; and nearly 47,500 by

<sup>12</sup> Plainfield Township data  
<sup>13</sup> United States Census Bureau, 2000

the year 2030. The projections summarized here assume that past trends will continue into the future, and are limited in scope by such a supposition. Projections are based on population counts documented by the United States Census and building permit data from the Township.

POPULATION PROJECTION SUMMARY

	<u>2000</u>	<u>2010</u>	<u>2020</u>	<u>2030</u>
Constant Proportion	30,195	36,219	40,724	47,319
Growth Rate	30,195	36,627	44,430	53,895
Arithmetic	30,195	34,615	39,035	43,455
Building Permits	<u>30,195</u>	<u>35,595</u>	<u>41,715</u>	<u>47,475</u>
<b>Average</b>	<b>30,195</b>	<b>35,764</b>	<b>41,476</b>	<b>48,036</b>

It is reasonable to assume that Plainfield Township will continue to see growth and development. In fact, based on mid-decade census estimates, the Township has grown by 1,376 persons from 2000 to 2005. While this suggests that the Township’s population is still growing, the growth rate has slowed significantly from previous decades. Furthermore, the Grand Valley Metropolitan Council (GVMC) has completed population projections for Plainfield Township, which are generally consistent with these provisions. The table below summarizes additional population projections completed by the West Michigan Regional Planning Commission (WMRPC).

OTHER AVERAGE PROJECTIONS FOR PLAINFIELD TOWNSHIP

	<u>2000</u>	<u>2005</u>	<u>2010</u>	<u>2020</u>	<u>2030</u>
<b>WMRPC</b>	30,195	33,171	36,357	43,459	N/A

Natural beauty, high quality public schools, and close proximity to choice employers and expressways may work as part of the magnetism that pulls families to the community. The Figure 3.3 on the following page illustrates population density by Census Block for 1980, 1990, and 2000. A careful examination of this graphic reveals some interesting facts. Clearly, the Township has added about 10,000 people since 1980. Figure 3.3 indicates how that population has been distributed over the intervening 20 years. Even though some greater density is apparent in 1990 and 2000, it is clear that the predominate development pattern in

Plainfield Township is still relatively low density, or suburban sprawl in character.<sup>14</sup>

**Figure 3.3**

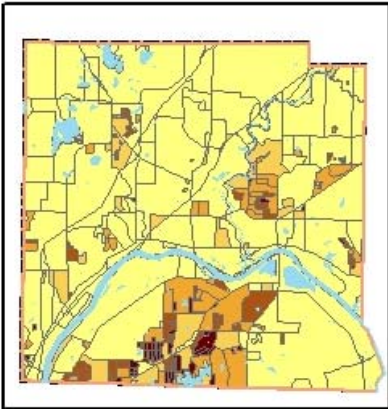
**Plainfield Township  
Population Change by Census Block  
1980 -2000**

Units per One Acre 0.0 - 0.5 0.6 - 1.1 1.2 - 1.8 1.9 - 2.9 > 3

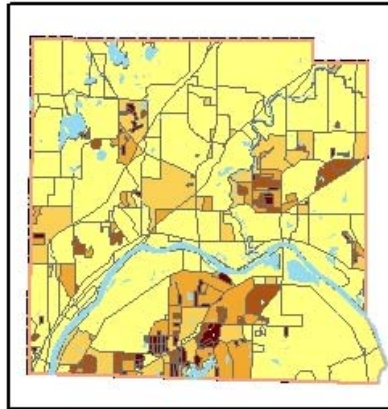
Dwelling Units per Acre for the Year 1980



Dwelling Units per Acre for the Year 1990



Dwelling Units per Acre for the Year 2000



**Recent Shifts.** In the context of this Master Plan, it is important to evaluate the more recent changes in the rates of population growth. As indicated above, it is clear that the rate of growth has flattened significantly when compared to mid- to late-twentieth century growth rates. Even further, annual population estimates prepared for the Township since 2000 reflect an average annual rate of population growth of only 0.85%, as compared to 2.6% on average for the previous thirty years.<sup>15</sup> Based on this overall rate of growth, the population projection summary set forth on the previous page may be adjusted as follows:

	<u>2000</u>	<u>2010</u>	<u>2020</u>	<u>2030</u>
<b>Adjusted Average</b>	30,195	32,761	35,545	38,566

<sup>14</sup> U.S. Census block group data as developed by Tetrad, PCensus.

<sup>15</sup> U.S. Census as reported at [www.census.gov/popest](http://www.census.gov/popest), per V. Matthews, 11/6/07

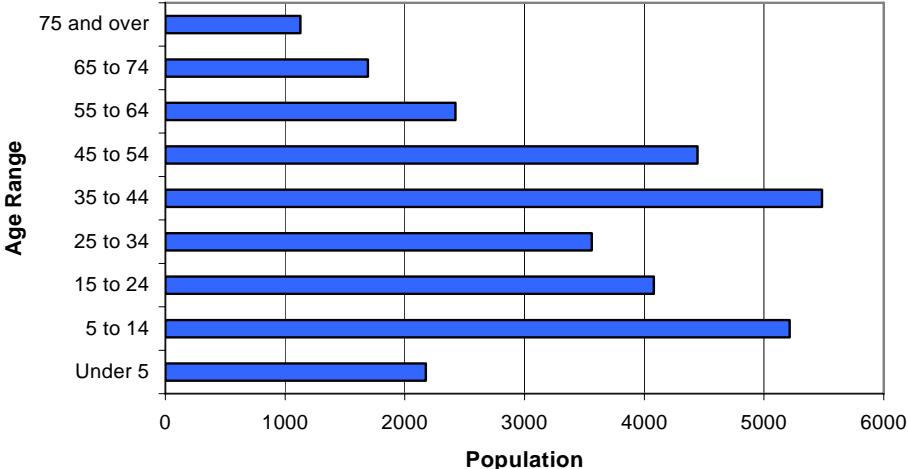
### AGE, GENDER, AND ETHNICITY CHARACTERISTICS

Another opportunity to measure change involves comparing the age distribution of a community over time. This assists in determining the type of housing demands and recreational facilities that may be needed. For example, if a large portion of the population were younger, the Township may benefit from additional park and playground facilities. Similarly, the rate of increase in a senior population may have implications for more senior living opportunities, such as condominiums, and public services.

In 2000, the median age of Plainfield Township residents was 35.1 years, slightly older than the County (32.5 years), and slightly younger than the State and the U.S. (35.5 and 35.3 years, respectively). The median age represents the mid-point in the range of all ages within the Township; one-half of the population is younger and one-half of the population older.

Similar to national and statewide trends, the population of Kent County and the Township is aging. In 1990, the median age of the County was 30.8 years; and in 2000 it had risen to 32.5 years. The median age in Plainfield Township in 1990 was 31.6, and had increased to 35.1 in 2000.<sup>16</sup> Despite the aging of the “baby boomer” population, a substantial portion of the Township is in the 5 to 14 category, suggesting a need for schools, parks, and other youth-related facilities.

**Figure 3.4 Plainfield Township Population Age**

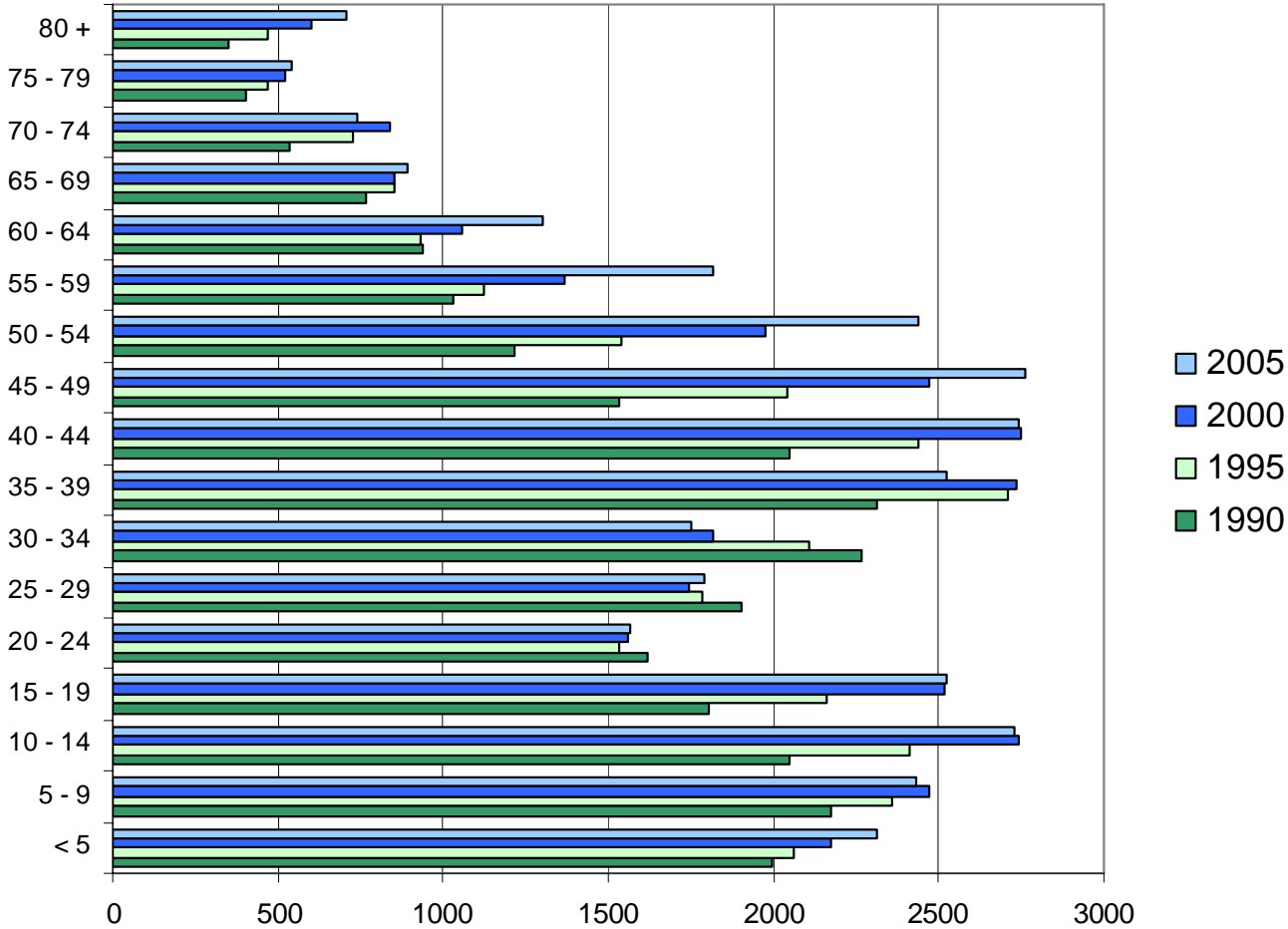


Source: U.S. Census Bureau, 2000

<sup>16</sup> United States Census Bureau, 1990 and 2000

A more extensive analysis of the age distribution in the population clearly reflects this trend.

**Figure 3.5 Comparative Age Distribution 1990 - 2005**



Source: V. Matthews, 11/6/07

**The 20 to 29 age group is small, which may imply a lack of multiple-family development and cost prohibitive single-family development.**

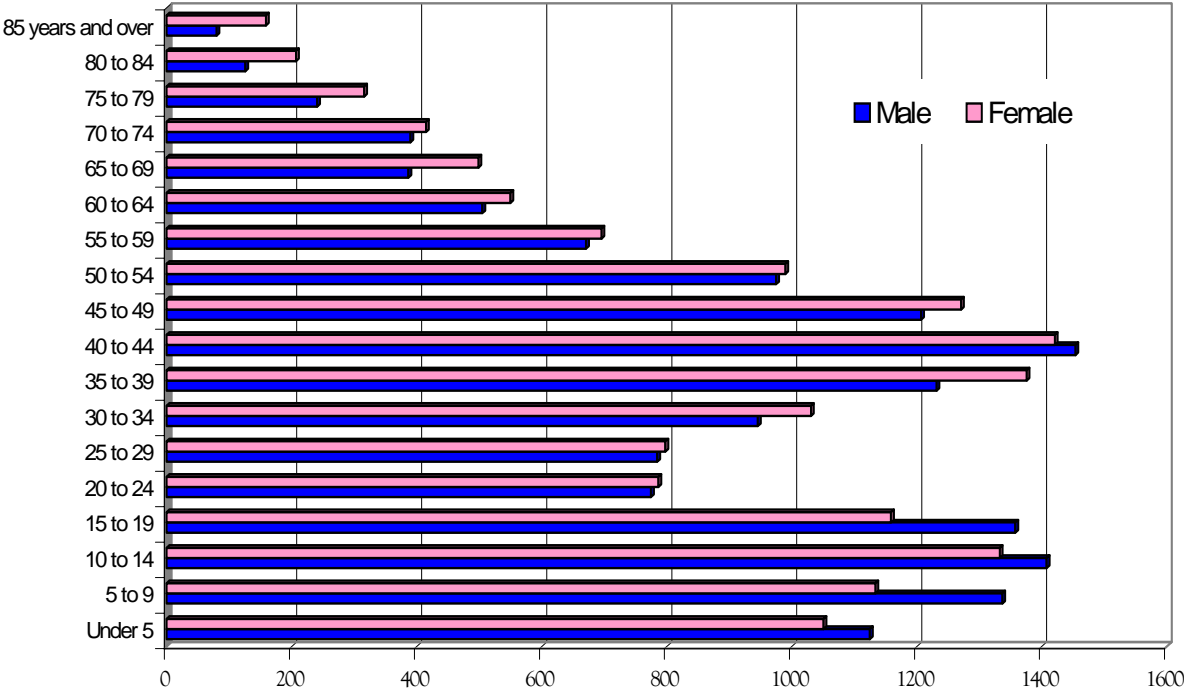
The 25 to 44 years age group is significant since this represents the bulk of the wage-earning population, and is the main age division for family formations. About 30% of the Township’s population falls in the 25 to 44 age group. These age groups symbolize a demand for single-family housing developments, and school and recreational facilities for children. These age groups are typically indicative of future increases in the 5 to 19 years age groups and school enrollment, and a demand for family-oriented commercial services.

Perhaps the most striking detail that becomes apparent from a close examination of Figure 3.5 is the marked increase in the numbers of the older cohorts in the 25 to 59 age categories with each 5-year increment. While the 20-24 and 25-29 cohorts remained relatively constant over the period analyzed, the 30-34 cohort actually declined in real numbers. By contrast the older cohorts increased for each five-year increment.

The 2000 Census reveals that roughly 23% of the Township is between the ages of 45 to 64 (see Figure 3.6). This age division is generally comprised of empty nesters and aging baby boomers and implies disposable incomes. Eight percent of the Township is aged 55 to 64 years, and will likely enter retirement within the next ten years. Indicative of retirees and senior citizens, 6.3% of the Township is over 65 years of age (compared with 10.3% of Kent County). These figures, in addition to statistics on general aging, point toward a possible need for increased senior living opportunities, public transportation, and passive recreational facilities, such as parks and pedestrian facilities which connect land uses.

It is clear from Figure 3.6 that the age group between 20 and 29 is relatively small compared with groups slightly younger and older. This may be due to a lack of multiple-family development that would

**Figure 3.6 Year 2000 Comparison of Age and Gender (in 5-Year Increments)**



Source: U.S. Census Bureau, 2000

accommodate young professionals and cost prohibitive single-family development, which precludes young homebuyers from purchasing a home. Also, a trend may be for high school graduates to move from Plainfield not to return, and young professionals moving to the Grand Rapids metro area may seek out communities with more diversity in entertainment and culture.<sup>17</sup>

Figure 3.6 illustrates that males outnumber females between the ages of 0 to 19. Females outnumber males in every other age group with the exception of the 40 to 44 year group. This pattern generally parallels gender characteristics for Kent County, and should have no impact on land uses in the community.

With regard to ethnicity characteristics, the community is predominantly white. The portion of the population of the Township classified as “white alone” at the 2000 Census represents 95.7% of the community. Black or African Americans represent 1.2% of the Township; American Indian and Alaska Natives represent .3%; Asians represent .9%; and other races comprise .6% of the Township. According to the 2000 Census, there are no Native Hawaiian and other Pacific Islanders in the Township. Note that 21.4% of Michigan’s population is nonwhite, while Plainfield is 4.3% nonwhite. At the 1990 Census, the Township’s minority population totaled 2.3%. Therefore, between 1990 and 2000, the minority population of the Township increased by about 724 persons, from about 574 to 1,298. This is an increase of about 126% in ten years. Even though minority populations still constitute a relatively small portion of the overall community, their representation within the Township is increasing with the overall change in the diversity of the region.

Immigration is another dynamic factor that may impact long-term planning in the Township. From a review of recent growth trends, it is clear that the rate of population growth in the Township, the County and the State has changed. The components of the remaining growth may signal a shift in the make up of the population. Natural population growth (i.e., births minus deaths) in Kent County, while positive, has declined from a net increase of 5,349 in 2000 to a net increase of 4,710 in 2006. By contrast, net out-migration from the County (the number of persons leaving minus the number arriving) has increased. In 2000, 1,920 more persons left Kent County than arrived. By 2006, that figure had increased to 3,473. At the same time, international immigration (i.e., foreign-born residents locating in the County) has remained

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<sup>17</sup> Florida, Richard. *The Rise of the Creative Class*, 2002.

relatively constant, averaging 2,368 additional foreign-born nationals annually.<sup>18</sup>

**EDUCATIONAL ATTAINMENT**

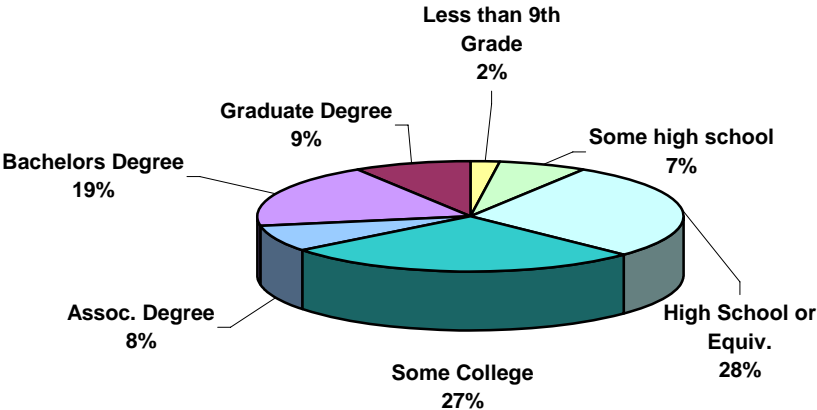
**Educational attainment in the Township is comparable to the county overall.**

In addition to age, gender, and ethnicity characteristics, it is appropriate to catalog educational attainment trends in the community. This information may be an indicator of local school district quality, which is typically a major concern for families moving into the area. School district attributes are discussed in Chapter 6, Community Facilities and Services.

The 2000 Census indicates that within Plainfield Township approximately 28.1% of the population over 25 years of age have the equivalent of a high school education, with 27.8% having a bachelor’s degree or higher. In Kent County, roughly 28.3% of the population have the equivalent of a high school education with 25.9% reporting a bachelor’s degree or higher. Thus, educational attainment in the Township is comparable to the county overall.

The 2000 Census reports that 31.3% of the population in Michigan has a high school education or similar equivalency, and 21.8% has at least a bachelor’s degree. A lower percentage of the population in Plainfield Township has attained the equivalent of a high school education when compared with the State. However, a greater percentage of the Township’s population has attained advanced degrees at the college, graduate, professional, and doctorate levels.

**Figure 3.7 Educational Attainment in Plainfield Township**



Source: U.S. Census Bureau, 2000

<sup>18</sup> V. Matthews, 11/6/07

More significant, however, are the increases in educational attainment since 1990 in Plainfield Township. At that time, 53.6% of the population had never attended post-secondary education; and only 20.7% of the population had bachelors or graduate degrees. In ten years, that percentage had risen to nearly 28% of the population for a rate of increase of 35% in a decade.

## INCOME

The mean (or average) household income is a popular measure for determining the economic strength of an area. Income can also have implications for land use and public services, since people with higher incomes usually invest more in their houses, and may expect more from local government.

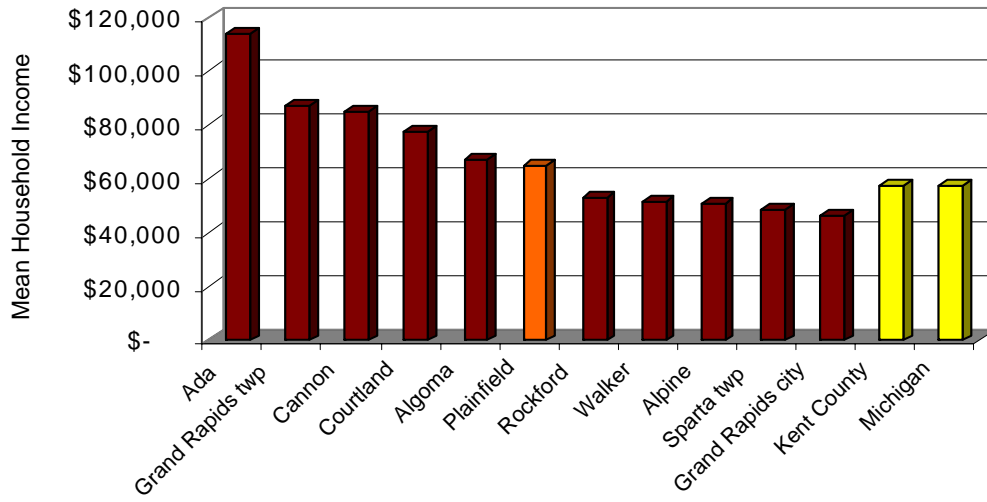
Figure 3.8 compares the 2000 mean household income between Plainfield, its neighbors, the county, and the State of Michigan. The mean household income in the Township was \$65,061, compared with \$57,512 in the county and \$57,400 for Michigan. The Township's median household income of \$55,181 exceeds that of Kent County (\$45,980) by about 20%. In a broader context, the median household income for Michigan in 2000 was reported at \$44,667. Thus, Plainfield Township slightly exceeds mean and median household income reported both for Kent County and for Michigan at large. Comparing Plainfield's neighbors, Ada Township had the highest mean household income at \$113,763, while the city of Grand Rapids had the lowest, \$46,313.

**The mean household income in the Township was \$65,061, compared with \$57,512 in the county and \$57,400 for Michigan.**

These income levels reflect the significant growth that occurred during the 1990s. Median household income reported for Plainfield Township in the 1990 census was only \$38,532 while that figure for Kent County was \$32,358. Therefore, during the 1990s, incomes in Plainfield Township grew by 43.2%, or at an annualized rate of 3.6%. For the County, incomes grew by about 42% for the decade or at an annualized rate of about 3.5%. Since inflation for the decade generally fell below 3% per year, these figures reflect true growth in household incomes within both Plainfield Township and Kent County.

As Figure 3.8 illustrates, the bulk of the northeastern suburbs of Grand Rapids enjoy higher incomes than the City of Grand Rapids, the county, and the State of Michigan. Plainfield's population earned average incomes for the area.

**Figure 3.8 Comparison of Mean Household Incomes in Neighboring Communities**



Source: U.S. Census Bureau, 2000

## CHAPTER 4. HOUSING AND ECONOMIC DEVELOPMENT

This chapter analyzes the housing and economic development trends within the community. It is useful to compare housing trends with the population projections so that housing shortages or surpluses can be estimated. In addition, comparisons of housing and land values against the incomes of current residents can help reveal the relative affordability of the local housing stock for the residents of the community.

### EQUALIZED VALUE GROWTH

**Comparisons of housing and land values against the incomes help reveal the relative affordability of the local housing stock.**

Property values are a key measure of economic growth and the financial strength of a community. Property values reflect both investment in new development and the degree of growth in the value of those investments. Annually the Assessors of each jurisdiction report total valuation within their respective jurisdictions. These are broken down by property classification and these reports can provide an illuminating impression of the character of a community.

The total real property state equalized value (SEV)<sup>19</sup> for Plainfield Township for 1994 was \$466.8 million, and five years later it had increased by over 50% (or about 8.6% annually) to \$704.6 million. Since 2000, values have continued to climb in the Township, although at a slightly more modest pace of 7.6% annually. The current total real property evaluation in the Township exceeded one billion dollars in 2004 (\$1,016,585,400). This value ranks second behind Cascade Township among all Townships in the County and fifth among all jurisdictions (Cities and Townships). Plainfield Township accounts for about 5.2% of the County's population (based on the 2000 Census) and about 5.3% of its total real property value.<sup>20</sup>

Table 4.1 and Figure 4.1 below compare the rates of overall SEV growth for Plainfield Township with that of other northern Kent County communities experiencing significant growth. Collectively, the communities reflected in Table 4.1 represent slightly more than one-quarter of the total value in the County. Through the latter half of the 1990s, all of the northern county communities except Sparta Township experienced double digit annual rates of growth. Even though the regional and national economies had weakened by 2002, investment and growth in value in the urbanizing parts of the County were still evident.

<sup>19</sup> Equalized values should represent about 50% of the actual market value of real property in the community.

<sup>20</sup> Kent County Bureau of Equalization, *2004 Equalization Report*, April 22, 2004.

Table 4.1 Change in Total Real Property Equalized Values (in million \$)

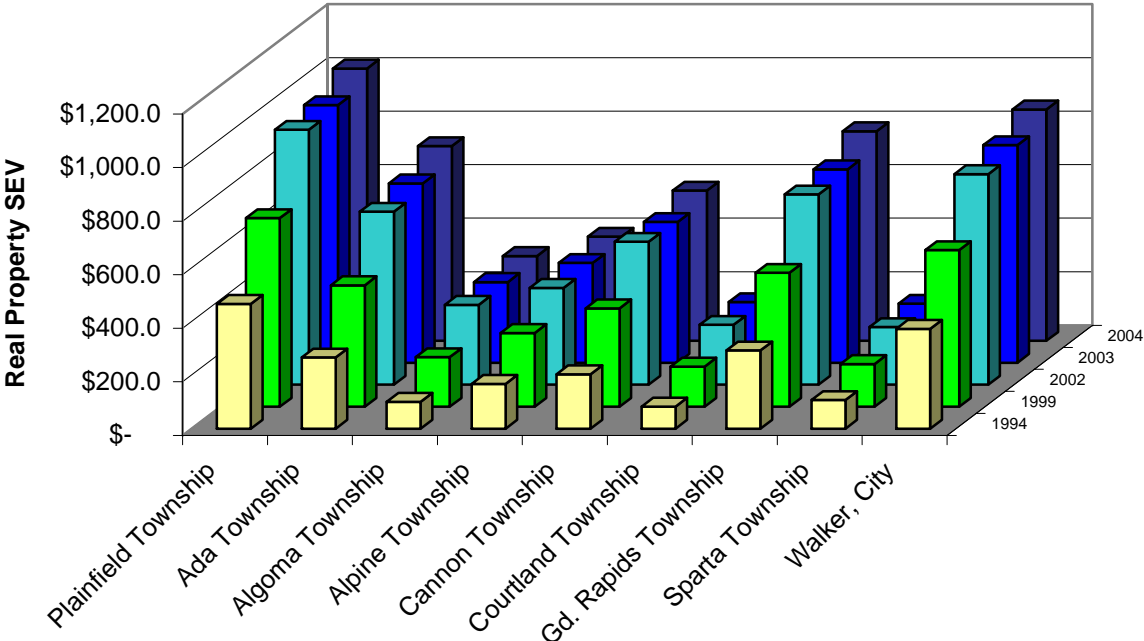
	1994	1999	2002	2003	2004
<b>Plainfield Township</b>	\$ 466.8	\$ 704.6	\$ 893.6	\$ 962.1	\$ 1,016.6
Annualized rate of change	n/a	8.6%	7.6%	7.6%	5.7%
<b>Ada Township</b>	\$ 266.4	\$ 453.5	\$ 645.8	\$ 669.7	\$ 726.8
Annualized rate of change	n/a	14.0%	14.1%	3.7%	8.5%
<b>Algoma Township</b>	\$ 100.5	\$ 185.5	\$ 298.4	\$ 301.2	\$ 316.3
Annualized rate of change	n/a	13.0%	17.2%	0.9%	5.0%
<b>Alpine Township</b>	\$ 167.7	\$ 275.8	\$ 362.1	\$ 372.4	\$ 388.5
Annualized rate of change	n/a	12.9%	10.4%	2.8%	4.3%
<b>Cannon Township</b>	\$ 203.4	\$ 367.6	\$ 533.8	\$ 525.4	\$ 560.9
Annualized rate of change	n/a	12.6%	13.2%	-1.6%	6.8%
<b>Courtland Township</b>	\$ 82.7	\$ 150.1	\$ 224.2	\$ 226.5	\$ 246.1
Annualized rate of change	n/a	16.3%	16.5%	1.0%	8.7%
<b>Gd. Rapids Township</b>	\$ 292.5	\$ 499.5	\$ 710.7	\$ 722.2	\$ 782.4
Annualized rate of change	n/a	11.3%	12.5%	1.6%	8.3%
<b>Sparta Township</b>	\$ 107.4	\$ 159.7	\$ 215.5	\$ 220.4	\$ 236.8
Annualized rate of change	n/a	8.3%	10.5%	2.3%	7.4%
<b>Walker, City</b>	\$ 373.3	\$ 584.5	\$ 786.6	\$ 812.8	\$ 863.7
Annualized rate of change	n/a	9.4%	10.4%	3.3%	6.3%
<b>Kent County</b>	\$ 8,829.9	\$13,068.3	\$17,673.9	\$18,055.5	\$19,112.4
Annualized rate of change	n/a	8.2%	10.6%	2.2%	5.9%

Source: Kent County Bureau of Equalization, 2004 Equalization Report, April 22, 2004

This table and Figure 4.1, compare rates of growth over the five-year period of 1994 through 1999, the three-year period from 1999 to 2002 and annual growth in 2002, 2003 and 2004. Of course, Table 4.1 reflects total real property values. It does not distinguish by real property classification nor does it report on personal property (i.e., furniture, fixtures and equipment in commercial/industrial property). Overall, personal property accounts for about \$1.8 billion in Kent County (about 8.7% of total SEV) and about \$61.4 million in Plainfield Township (5.7% of total SEV).

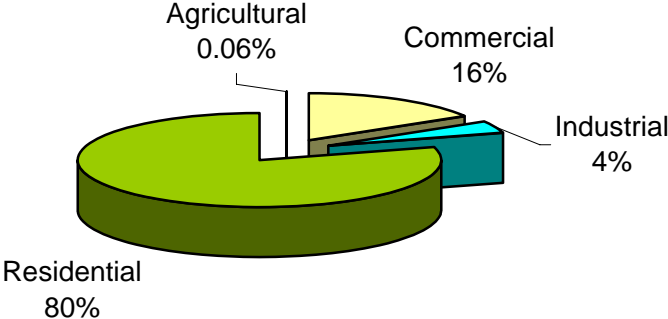
Of the communities included in this sample, Plainfield Township is home to the largest share of values. While some communities have enjoyed rates of growth greater than the Township's, property values in Plainfield Township have kept pace with the county overall.

Figure 4.1 Comparison of SEV 1994 - 2004



It is also important to further examine property values to consider the breakdown among land use categories (property classifications) and the varying rates of growth in each classification.

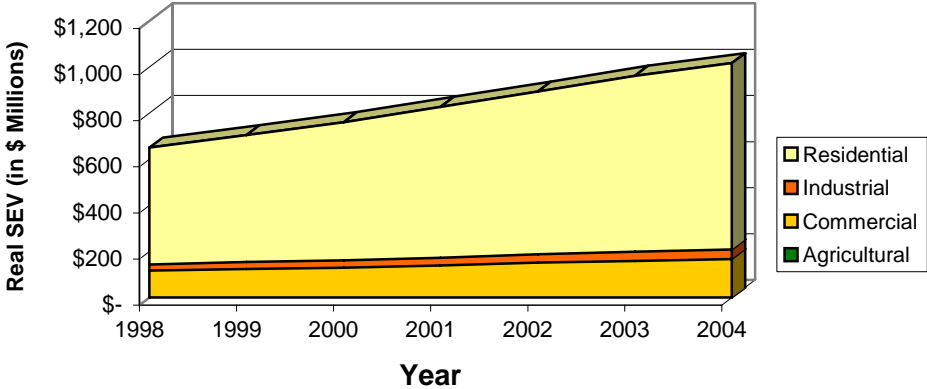
Figure 4.2 Breakdown of 2004 Real SEV



Slight growth in commercial and industrial values is apparent, but the scale of residential growth clearly dominates all property in Plainfield Township. During the six-year period ending with the 2004 assessments, residential real property values grew at an annualized rate of 8.1%, while commercial real property grew at 6.2% and industrial real property grew at 7.3%. Agricultural property also grew in value from \$308,000 to \$653,300, for an annualized rate of growth of 13.3%. However, agricultural lands comprise a very small share of total property in the Township and the assessment process may account for this increase. It is likely that agricultural land is increasing in value not as a result of its agricultural value, but rather as potential development sites. With new population pressures increasing the demand for housing and commercial uses, adjacent agricultural land may become more valuable as development occurs.

**Residential properties make up the vast majority of the tax base in Plainfield Township.**

**Figure 4.3 Real Property SEV Growth**



It is clear from an examination of Figure 4.3 that Plainfield Township’s tax base is heavily weighted toward residential development. As discussed in Chapter 5, the community is characterized by a significant area of formerly agricultural lands that have gone out of production. These are likely future development sites and, as a result, are normally classified as residential for assessment purposes. This, however, is not a relatively new trend.

As reflected in Table 4.1, Plainfield Township has kept pace with the other most developing portions of northern Kent County. While not matching the rate of growth seen in some areas, the Township clearly is witnessing significant investment in new development. In 1990, real property in Plainfield Township constituted about 5% of the total

equalized value in the County. By 2000 it constituted 5.3%, and by 2004 it represented 5.4% of the County.

Current trends indicate that the SEV has continued to rise in all of the Townships in Kent County at rates significantly greater than inflation. Recently, the annual rate of inflation has been under 3% percent, while the County SEV rate of increase is 7.9% since 1999. If these trends continue, the urbanizing portions of the County, including Plainfield Township, will continue to be the major investment centers in the area. Proximity to the City of Grand Rapids, good expressway connections, the higher population concentration that require more services, and the existing infrastructure, all may be attributes that facilitate investment and therefore greater property values. In the case of Plainfield Township, the area's natural amenities as well as the rural and suburban lifestyle within a short commute to the City will certainly be important magnets for growth.

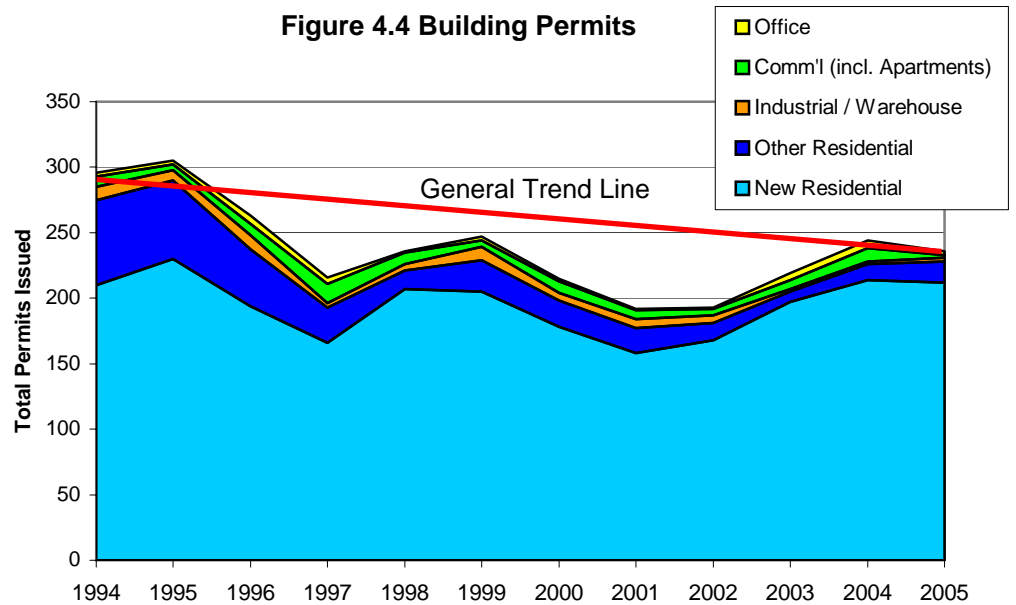
## BUILDING PERMITS

Building permits are a good indication of investment in the community. As Figure 4.4 indicates, the number of total building permits issued in Plainfield Township over the past ten years has fluctuated somewhat.<sup>21</sup> The "New Residential" category includes new single-family homes and the "Other Residential" category includes duplexes, condominiums and mobile homes. The predominance of residential development in the Township is clearly apparent from the distribution of building permits reflected in Figure 4.4.

Commercial, office and industrial building permits over the ten-year span represented by Figure 4.4 accounted 202 total permits, or only about 7% of all construction activity in the Township. However, it is important to note that the average value of each commercial and industrial building permit was significantly greater. According to Township records, the average new residential building permit over the previous eleven years was valued at approximately \$155,000 while commercial building permits were valued at \$488,000 and industrial permits were valued at \$489,000, on average. By way of comparison, the highest average values were attributed to Office construction, coming in at approximately \$636,000 per permit, on average.

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<sup>21</sup> Plainfield Township.



On the other hand, the vast majority of the new construction in the Township was single-family homes (2,339 out of 2,862 total permits, or 81.7%). Applying the total estimated market value of residential property in the Township in 2000 to the total number of housing units reported to the Census, reveals that the average value of a housing unit in Plainfield Township in 2000 was \$104,543.<sup>22</sup> This crude calculation should be compared with the median housing value as reported by respondents to the U.S. Census questionnaire.

The Census reports that the median dollar value of owner-occupied homes in the Township was \$135,300 in 2000. Placing this figure in perspective, in Kent County overall, the Census reported a median home value of \$115,100 in 2000. Table 4.2 compares median home values, median mortgage payments and rents in Plainfield Township, Kent County and the State.

<sup>22</sup> In 2000, the Township Assessor reported total residential SEV in the Township at \$598,823,200 and the Census counted 11,456 housing units in the Township. Since SEV is nominally figured at one-half of market value, the average value of each housing unit may be calculated as  $(\$598,823,200 \times 2) / 11,456 = \$104,543$ .

Table 4.2 Comparison of Housing Values and Costs in 2000			
	Median Home Values	Median Monthly Mortgage and Ownership Costs	Median Monthly Rents
Plainfield Township	\$135,300	\$1,087	\$607
Kent County	\$115,100	\$956	\$554
Michigan	\$115,600	\$972	\$546

In 2000, about 69% of the total housing stock in Plainfield Township was made up of owner-occupied dwellings. As rental properties typically change hands much more frequently, this suggests a fairly stable residential population.

## EMPLOYMENT

With the relatively small extent of commercial and industrial development in the Township, most of the Township’s residents find their employment outside of the community. According to the 2000 Census, the mean (average) travel time to work for Township residents was 21.5 minutes with over 95%<sup>23</sup> of the workforce traveling by private automobile to work. Of that number, about 93% reported traveling to work alone. This is, of course, indicative of the “bedroom community” nature of the Township where most of the workforce finds employment in other jurisdictions.

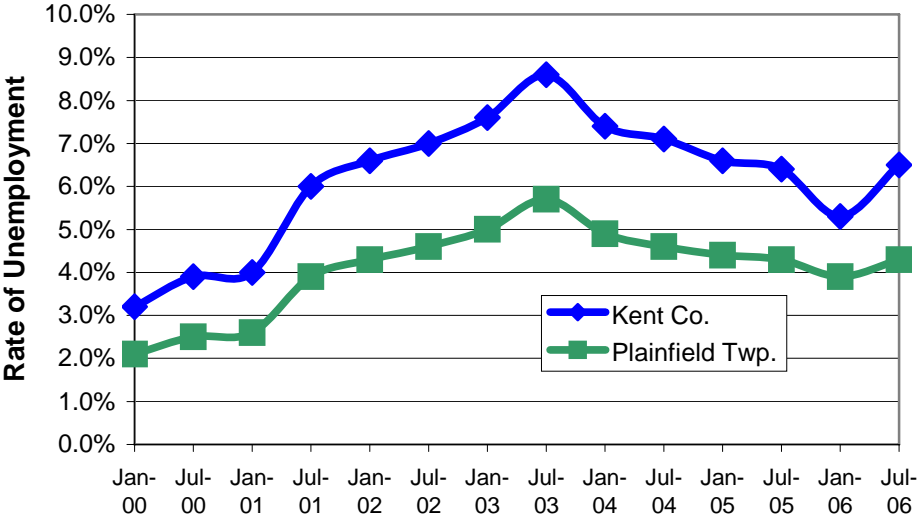
In 2000, about 74% of the population aged 16 and older within the Township was employed; and at the beginning of 2000, the Township’s workforce reflected a remarkably low 2.1% rate of unemployment. Of course, since the Census figures were collected, unemployment has increased significantly. Figure 4.5 reflects the biannual rates of unemployment through July 2004 for both Kent County and Plainfield Township.<sup>24</sup>

<sup>23</sup> 14,888 of a total workforce over age 16 of 15,702, US Census

<sup>24</sup> Michigan Department of Career Development, Labor Market Information, website.

The Kent County unemployment rate steadily dropped from about 3.5% in 1996 to an unprecedented 2.4% in late 1999. The year 2000 unemployment rate of 3.2% indicated the first increase in four years and signaled the beginnings of the softening in the economy. By July, 2003, the rate in the County had climbed to 8.6%, while the rate in the

**Figure 4.5 Comparative Unemployment**



Township had increased to 5.7%. Since then, the rate has moderated somewhat, but still ranges above 4% for the Township and above 6% for Kent County.

**Employment represented by the Plainfield Township residents consists largely of white collar positions.**

Employment represented by the Plainfield Township residents consists largely of “white collar” positions. Management and professional occupations account for nearly one-third (31.4%) of all employment, while service occupations and sales/office occupations account for 12.3% and 29.5%, respectively. Remaining occupational sectors include construction and maintenance operations (9.4%) and production and transportation (17.0%). These proportions essentially mirror those in Kent County overall.

Within these broad employment categories, certain industries are more prominent. The fields of health care, education, data processing and architecture and engineering account for about 62% in the management and professionals category. In the service and sales occupations, the food preparation and service as well as office and sales support positions predominate the category. In traditionally “blue collar” professions, construction trades, production work and transportation employment are the primary categories.

Although Plainfield Township is largely a bedroom community, some employment is centered in the community. Its nearly 850 acres of commercial and industrial land use are home to several larger employers and institutions such as the public schools provide significant employment for area residents. The following is a listing of several of the larger employers with locations in the Township.

- |                              |                               |
|------------------------------|-------------------------------|
| Behler Young                 | Lowes                         |
| Behr                         | Magnum Powder Coating         |
| Big K                        | Meijer                        |
| Champion Die                 | Northview Public Schools      |
| Comstock Park Public Schools | NuCraft                       |
| D&M Metal Products           | Rockford Public Schools       |
| Family Fare                  | SSI Electronics               |
| Gill Industries              | TradeMark Die and Engineering |
| Maco Steel                   | Valley City Sign              |
| Independent Bank             | Wensco                        |
| Jackson Products             | Wolverine Tool                |
|                              | Wynalda Litho                 |



**The Comstock Park DDA has resulted in improvements along West River Drive**

The Township has encouraged job-creating investment through industrial tax abatements and with the formation of the Comstock Park Downtown Development Authority (DDA), serving the Comstock Park business community. The downtown development and tax increment financing plan for the Comstock Park DDA resulted in improvements to infrastructure and streetscape along West River Drive. That plan was originally adopted in 1993 and was amended in 2008.



## CHAPTER 5. LAND USE AND DEVELOPMENT PATTERNS

**Throughout its history, such features as topography, water bodies and highways have had a strong influence on the Township's development patterns.**

Plainfield Township is approximately 23,540 acres or roughly 36 square miles in size. The Township is transected by the Grand River in an east-west direction, essentially isolating the southern one-third of the township from the remaining area north of the river. Additionally, US-131 works its way through the Township in a northeasterly direction acting as a conduit, connecting the greater Grand Rapids area with the rest of West Michigan. Throughout its history, these features and others, such as topography have had a strong influence on the Township's development patterns. As a result Plainfield Township has a fairly diverse range of land use and land cover patterns. Within the Township's 36 square miles one can find: high intensity commercial developments, rural type residential developments, community parks, and even a minor league baseball stadium. Pressures from the City of Grand Rapids, which is immediately south of the Township and the smaller City of Rockford just to the north, have also affected the growth and development patterns in the area.

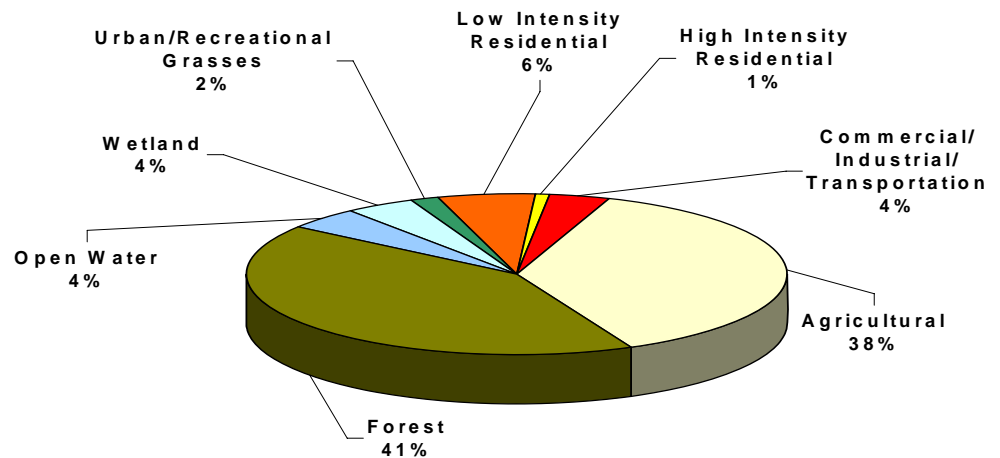
### LAND COVER

Land cover describes the vegetation or land use that occupies the land in a given community. The land cover in Plainfield Township is reflected in Map 5. The Land Cover data shown is part of the larger National Land Cover Dataset (NLCD) as prepared by the United States Geological Survey (USGS) in 1992. This information was derived from LandsatTM (Thematic Mapper) satellite imagery, and was interpreted using an automated computer based process. This was followed by an accuracy assessment of the satellite data that involved the use of aerial photographs to judge the quality of the computer-based interpretation. This information is useful in determining the distribution of vegetation and development patterns throughout the Township. The National Land Cover dataset includes 21 classes of land cover type. The smallest "on the ground" unit of measure for the NLCD is 30 meters square, or approximately 330 square feet.

Figure 5.1 illustrates the Land Cover make-up of Plainfield Township based on the 1992 NLCD. The predominant land cover type found in the Township is forested (41%), this class is a composite of the three forest related NLCD classes found in the Township: deciduous forest, evergreen forest, and mixed-forest. The Agricultural class is also an aggregate grouping of various agricultural cover types including:

pasture/hay and row crops. However, many of the agricultural classes may no longer be actively farmed. Together, residential land cover types, both low and high intensity, constitute the third largest class in the Township with 7%. The Township’s diversity of land cover types, stated earlier, is further illustrated by the fact that the *commercial/industrial/transportation* classes are found in the same quantities as both wetland and open water.

**Figure 5.1 Area Totals  
1992 National Land Cover Dataset**



**LAND USE CHANGE**

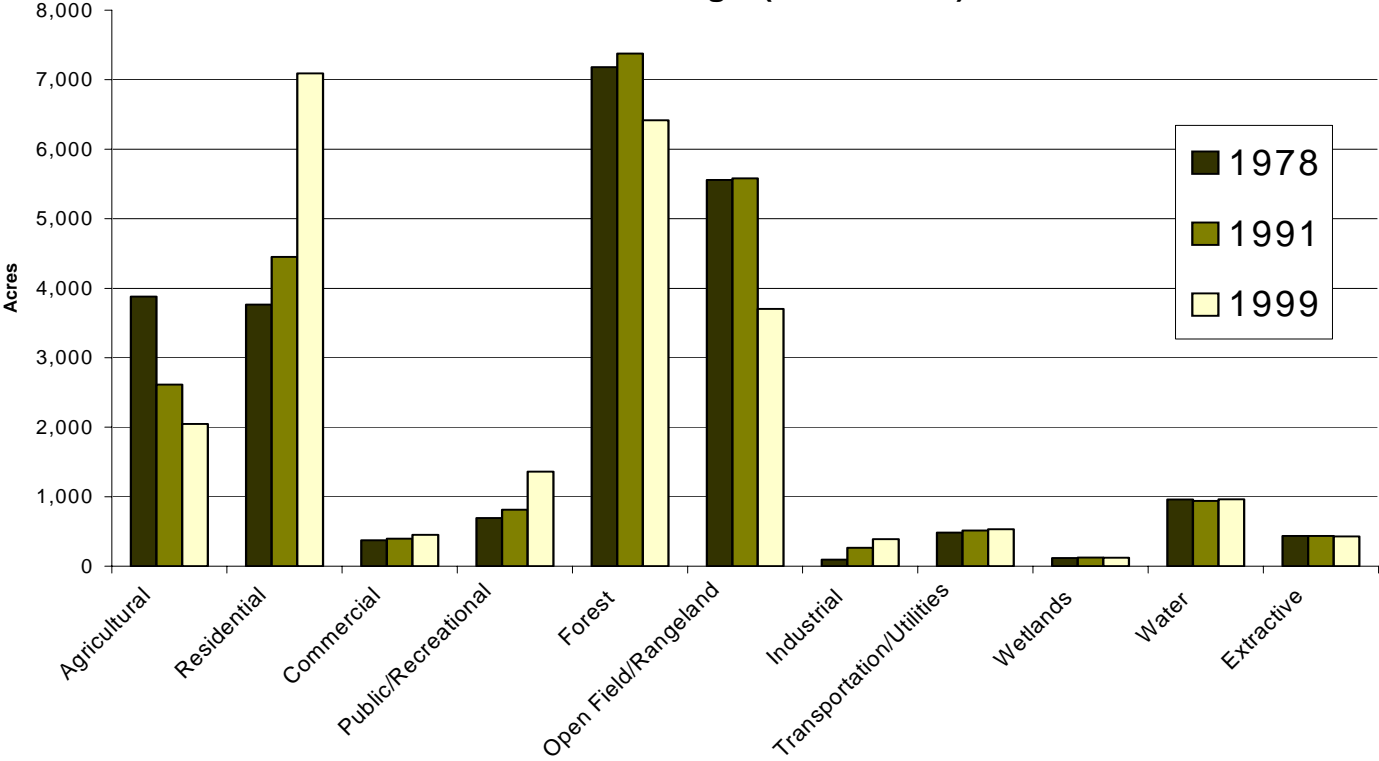
The Land Use information for the Township has been derived from computerized mapping efforts of the Michigan Resources Information System (MIRIS) in 1978. An objective of MIRIS was to create a “statewide computerized database of information pertinent to land utilization, management, and resource protection activities.”<sup>25</sup> It is important to note that the map was prepared from aerial photographs and reflects composite groupings of land use categories. MIRIS information is not bounded by parcel lines, but instead follows natural systems. Therefore the map is intended not to reflect zoning or exact land uses. For generalized zoning, see Map 7. Grand Valley State University’s Annis Water Resources Institute updated the original land use map of 1978, in 1991. Williams & Works using the most recent aerial photography (from 1999) again updated this data in 2004. The results of these updates are illustrated on Map 6. It should be noted that

<sup>25</sup> Michigan Department of Natural Resources, Michigan Resource Inventory Program established under the Michigan Resource Inventory Act, 1979 PA 204.

more recent aerial photos are being produced at REGIS and will be available for subsequent phases of the planning process.

Not surprisingly Plainfield Township has seen the greatest amount of growth in its residential uses. In the years between 1991 and 1999 the Township has added roughly 2,640 acres of residential land uses. This compared to the 686 acres that were added between 1978 and 1991, is a relatively significant increase. In turn the Township has lost the greatest amount of land in the open field /range land class and in forestlands. Approximately 768 acres of forested lands have been converted to other uses since 1978. The open field/rangeland category has experienced a much greater loss of roughly 2,000 acres since 1978. Of note also are the increases in public/recreational lands and in Industrial uses, an increase of 2,053 and 293 acres respectively. The public/recreational lands class includes golf courses, which is partially accountable for the large increase seen in this group. The following table and graph further illustrate the land use change the Township has experienced.

**Figure 5.2 Plainfield Township Land Use Change (1978-1999)**



Source: MIRIS (1978), The Annis Water Resources Institute (1991), Williams & Works (1999).



Insert Map 5 Land Cover

Back of map 5

Insert Map 6, Updated Land Cover

back of map 6

<b>Land Use/ Land Cover Classes</b>	<b>1978</b>	<b>1991</b>	<b>1999</b>	<b>% Change, 1978 -1999</b>
Agricultural	3,881	2,613	2,046	-47.28%
Residential	3,766	4,452	7,091	+88.29%
Commercial	373	395	454	+21.72%
Public/Recreational	691	813	1,362	+97.11%
Forest	7,183	7,376	6,415	-10.69%
Open Field/Rangeland	5,994	6,015	4,018	-32.97%
Industrial	95	266	388	+308.42%
Transportation/Utilities	482	514	531	+10.17%
Wetlands	117	125	121	+3.42%
Water	959	938	965	+0.63%
Extractive	436	434	429	-1.61%

## CORRIDOR STUDIES AND LAND USE

**North East Beltline Corridor Study.** In 1997 a joint planning board was established consisting of individual members from Plainfield Charter Township, Grand Rapids Charter Township, the City of Grand Rapids, and the Grand Valley Metro Council. The board was formed in response to a sense of common challenges along the East Beltline corridor. The objective of this collaboration was the creation and implementation of the *North East Beltline Joint Development Plan*. A clear set of objectives emerged out of this plan related to land use along the corridor, they can be summarized as follows:

- ◆ Involve all jurisdictions along the corridor in consistent development, design, and review standards.
- ◆ Incorporate a more natural design concept that works in harmony with the existing landscape and natural features. Allowing for more environmentally friendly as well as aesthetically pleasing development patterns.
- ◆ Promote and support healthy development, including mixed uses in neighborhoods, daycare centers, and the redevelopment of employment centers along the corridor.

The result of that study was the cooperative adoption of a set of land use and design standards for the lands adjoining the East Beltline from I-196 to Northland Drive. Each adjoining jurisdiction has subsequently adopted the plan and incorporated its recommendations into its master plan and zoning decision-making processes.

**Ten Mile Road Corridor Study.** Similarly, in spring of 2004, the City of Rockford, and Algoma and Plainfield Townships completed a corridor study for Ten Mile Road, which traverses the northern boundary of Plainfield. Ten Mile Road is a critical thoroughfare since it connects US-131 to downtown Rockford and is a gateway for all three communities. Generated during the planning process, land use objectives included:

- ◆ Limit commercial, office and industrial land uses to the area adjacent to the US 131 interchange.
- ◆ Identify significant natural features and adopt regulations to preserve these features.
- ◆ Promote residential land uses between the US 131 interchange and the City of Rockford.
- ◆ Maintain the rural appearance and character of the corridor.

## A QUICK BUILD-OUT ANALYSIS

“Build-out analysis is a powerful tool for illustrating the potential impact of master plans and zoning policy if all build-able lands are developed at the maximum permitted density”.<sup>26</sup> This section evaluates the current zoning conditions in Plainfield Township, and considers the impacts future growth will have on the community by performing a build-out analysis.

### Background

A Build-out analysis is essentially an evaluation of the current zoning situation in a community. It acts “...as a snapshot, worse-case scenario tool for planning. The analysis can assist local governments by showing what growth the locality will allow in the future under current zoning designations”.<sup>27</sup> The resulting information can then be used to estimate

<sup>26</sup> Mark Wyckoff and Erin Kilpatrick, Planning Zoning News, April 2002

<sup>27</sup> Mary A. Zirkle, “Build-Out Analysis in GIS as a Planning Tool With a Demonstration for Roanoke County, Virginia.”

the impacts of future growth on the community in question. The primary output from the analysis is the maximum number of dwelling units that can be built in each zoning district. Future population estimates for the community can then be derived from the number of potential dwelling units, and then compared with population projects for the area. This comparison will then allow one to judge the effectiveness of the area's current zoning.

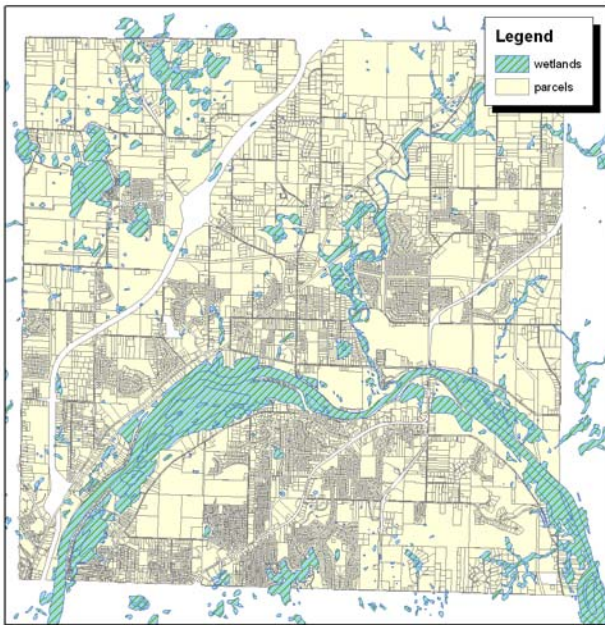
Traditionally a build-out analysis was performed by hand using pencil and paper. However, as a result of the increased efficiency in data collection and analysis capabilities within the last decade or so a computer-based method utilizing a Geographic Information System (GIS) is oftentimes more applicable now.

In the state of Michigan build-out analyses have been conducted for a number of communities. Commonly these studies have shown "... a disparity between existing population, projected 20-year growth, and potential build-out figures [resulting] in a serious rethinking of public policy". In the ten counties examined by Kilpatrick and Wyckoff, build-out analyses showed that the current zoning in these communities on average would support a population increase of 453%. This extreme "over zoning" as it has come to be known, can be seen as an invitation to inefficient land use and a perpetuation of suburban sprawl.



INSERT MAP 7 - ZONING

BACK OF MAP 7



**Methodology.**

The first step in conducting the analysis in Plainfield Township requires that the total amount of land within each residential zoning designation be calculated. It should be noted that this calculation does not take into account existing land uses. However, areas of open water and wetlands (shown as *wetlands* fig 5.3) were subtracted from the overall area of the Township (see fig.5.3). Additionally, to account for the necessary infrastructure (roads, utilities, etc.) to support development 15% was subtracted from each zoning class. Table 5.2 shows the amount of land occupied by each residential district in the Township.

Table 5.2 Total Area Based on Zoning District		
Mapped Residential Districts	Total Area (acres)	Minus 15 % for Infrastructure
R-1 Residential	8,192	6,963
R-2 Residential	83	71
R-3 Residential	58	49
R-4 Residential	75	64
R-5 Residential	20	17
R-6 Residential	206	175
Rural Estate (R-E)	4,836	4,111
Rural Preservation (RP)	3,308	2,812
<b>TOTAL</b>	<b>16,778</b>	<b>14,261</b>

The second step in the process is to determine the total, potential dwelling units allowed by zoning standards at build-out. To derive this number the total net area in each district is divided by the minimum lot area allowed in the given district (Table 5.3). Note that Planned Unit Developments or mixed-use developments may permit slightly higher densities on a project-by-project basis, but for the purpose of a normal build-out analysis, the minimum lot area is a practical measure.

<b>Table 5.3 Dwelling Units at Build-out</b> Based on Zoning District			
Mapped Residential Districts	Total Area (acres)	Minimum Density (dwelling units per acres)	Potential Number of Dwelling Units
R-1 Residential	6,963	3.5	24,560
R-2 Residential	71	5.0	350
R-3 Residential	49	7.2	358
R-4 Residential	64	12.4	793
R-5 Residential	17	4.4	74
R-6 Residential	175	7.9	1,387
Rural Estate (R-E)	4,111	0.73	2,984
Rural Preservation (RP)	2,812	0.36	1,021
<b>TOTAL</b>	<b>14,261</b>		<b>31,527</b>

The third and final step in the analysis is to determine the total population resulting from the number of potential dwelling units, or the potential population at build-out. This is accomplished by multiplying the number of dwelling units by 2.73, the average number of people per household in the Township as determined by the 2000 U. S. Census. As an initial step, this is accomplished without consideration of the existing residential units already in a particular area. For the purposes of this Community Profile Report, this limitation is not meaningful.

As the Planning Commission begins to look at alternative future land use patterns, it may be helpful to revisit the build-out analysis and consider existing patterns as well as planned new growth.

Table 5.4 Total Population at Build-out Based on Zoning District		
Mapped Residential Districts	Potential Number of Dwelling Units	Potential Population at Build-Out
R-1 Residential	24,560	67,049
R-2 Residential	350	956
R-3 Residential	358	977
R-4 Residential	793	2,166
R-5 Residential	74	202
R-6 Residential	1,387	3,768
Rural Estate (R-E)	2,984	8,147
Rural Preservation (RP)	1,021	2,786
<b>TOTAL</b>	<b>31,527</b>	<b>86,070</b>

**Under the current zoning, Plainfield Township's population would roughly be 86,070 at build-out.**

The resulting calculations show that under the current zoning, Plainfield Township's population would roughly be 86,070 at build-out, assuming no change in current zoning standards. This is essentially is an increase of 185%. Chapter 3 includes an estimate of population growth and indicates that the Township's population is not expected to reach over 50,000 by the year 2030. However, based on the rates of growth described in Chapter 3, and given current zoning, the Township would reach full build-out in about 65 to 70 years.

Considering the scale and level of accuracy achievable with this project, the resulting numbers do shed some light on Plainfield Township's current zoning map. However, care should be taken when interpreting these results. This analysis should be seen only as a theoretical model of Plainfield Township's current zoning map. As with most models there are many variables and assumptions built into the analysis that do not necessarily reflect the real world situation.

## REGIONAL LAND USE CONFLICTS AND CONSISTENCY

The areas surrounding Plainfield Township to the north, east and west are generally planned for low-density residential development or even in some cases agriculture. Overall, the land use and zoning patterns seem to flow well across jurisdictional boundaries. The one exception to this may be the northeast section of the Township, the area in and around the border with the City of Rockford. Many of the areas just across the Township line in Rockford are planned and zoned for a much higher intensity of residential use than those in the Township. The area abutting the City of Grand Rapids along the 4-Mile Road boundary provides very consistent patterns of lower density urban residential development or highway commercial along Plainfield Avenue.

## CHAPTER 6. COMMUNITY FACILITIES AND SERVICES

**Community facilities play a significant role in preserving quality of life.**

Community facilities play a fundamental role in augmenting civic engagement, sponsoring cultural events, and promoting community pride. High quality recreational opportunities are quality of life indicators and such facilities characterize Plainfield Township. The health and leisure benefits of a trail facility and other recreation lands, such as several popular golf courses, extend beyond the Township. In addition to recreational facilities, public schools provide local spaces for interaction, learning, and community building, and safety services provide a compulsory service to the community.

This chapter of the Community Profile begins with a discussion of education opportunities within the region and portrays local school enrollment and trends. In addition, parks and recreation areas are catalogued. Finally, the chapter discusses public safety facilities, which service the Township.

### EDUCATIONAL FACILITIES AND TRENDS

#### Higher Learning Institutions

While no institution of higher learning (a facility educating beyond a high school level) exists in the Township, several colleges and universities are located within a short driving distance. These include, Grand Valley State University, Calvin College, Aquinas College, Cornerstone University, Grand Rapids Community College, and other smaller institutions. These academic facilities provide higher education opportunities and likely provide employment to some Township residents.

#### Libraries

Part of the Kent District Library system, three libraries serve the Township: Plainfield Library, Comstock Park Library and Krause Memorial Library. The three libraries assist in conducting various children, youth, and adult programs, and offer the amenities of public meeting space, access to the Internet, and a myriad of books, encyclopedias, almanacs, and other informational reading material. The Plainfield Library is located at 2650 Five Mile Road; the Comstock Park Library is located at 3943 West River Drive. Krause Library is located at 140 East Bridge Street in Rockford, also serves a large number of Plainfield Township residents.

PUBLIC SCHOOLS

In addition to the two private schools which serve the Plainfield community - Chandler Woods and Assumption Catholic Elementary - four public school districts serve Plainfield Township, including Rockford, Comstock Park, Kenowa Hills, and Northview. These districts comprise thirty-one total school buildings used for educational purposes, of which thirteen are in the Township. Cumulative total enrollment of the three districts is approximately 16,890 students. See Map 8 for school district boundaries within the Township.

Note that the Kenowa Hills school district does not currently have any facilities in the Township. Approximately 3,600 students are enrolled with Kenowa Hills, which serves a small area along the eastern border of the Township. The following paragraphs describe facility locations and enrollment numbers.

Rockford Public Schools

The Rockford school district serves the northeast quadrant of the Township, and extends beyond Township boundaries. The district provides four educational facilities in the Township, and has eight others located in neighboring communities; two of which have been constructed since 2000.

**The Rockford district appears to be growing the fastest, with Comstock Park witnessing some growth, and Northview remaining stable.**

Enrollment trends illustrate that the school district is growing significantly. Every academic year since 1994, the Rockford school district has seen an influx of students. During the 1994-1995 school year, the district educated 6,320 students. By the 1998-1999 school year, the district had grown by over 930 students. The district has a total current enrollment of approximately 7,700 students.<sup>28</sup>

In January of 2004, the following enrollment projections were estimated for the Rockford Public School District.<sup>29</sup> These numbers indicate continued student growth, and may also signify that the district is experiencing a steady arrival of younger families.

2005-2006	2006-2007	2007-2008	2008-2009
7,955	8,090	8,151	8,268

The following Rockford Public Schools facilities are located in the Township:

<sup>28</sup> Rockford Public Schools Superintendent Office  
<sup>29</sup> Stanfred Consultants; January 19, 2004

- Rockford High - 4100 Kroes Street, Rockford
- Freshman Center - 4500 Kroes Street, Rockford
- Sheridan Trail Middle - 4500 Kroes Street, Rockford
- Belmont Elementary - 6097 Belmont Avenue, Belmont
- Roguewood Elementary - 3900 Kroes Street, Rockford

**Comstock Park Public Schools**

The Comstock Park district includes three school facilities in the western portions of the Township (and two other facilities outside the Township). The total enrollment is 2,344; enrollment was 2,314 during the 2003-2004 school year.<sup>30</sup> The district has seen measured growth, and remains stable overall. Pine Island Elementary was recently completed for the 2001-2002 academic year, and is indicative of growth in the northwestern portion of the Township.

Comstock Park Public Schools facilities in Plainfield Township include:

- Comstock Park High - 150 Six Mile Road, Comstock Park
- Mill Creek Middle - 100 Betty Street, Comstock Park
- Pine Island Elementary - 6101 Pine Island Drive, Comstock Park



**Northview Public Schools**

The Northview Public School District serves the southern, most densely populated portions of Plainfield. Of the three districts serving the Township, the Northview area has the highest proportion of developed land, and therefore may not experience development and the influx of students at rates that, say, the Rockford district experiences, which is comprised, in part, by open lands in several townships. The total enrollment is almost 3,300 and enrollment has remained steady over the last three years.<sup>31</sup>

All of Northview’s six facilities are located within the Township:

- Northview High - 4451 Hunsberger Avenue, Grand Rapids
- Highlands Middle - 4645 Chandy Drive, Grand Rapids
- Crossroads Middle - 4400 Ambrose Avenue, Grand Rapids

<sup>30</sup> Comstock Park Public Schools Superintendent Office

<sup>31</sup> Northview Public Schools Superintendent Office

- West Oakview Elementary - 3880 Styvesant Avenue, Grand Rapids
- East Oakview Elementary - 3940 Suburban Shores Drive, Grand Rapids
- North Oakview Elementary - 4300 Costa Drive, Grand Rapids

## RECREATION AND COMMUNITY FACILITIES

Plainfield Township maintains eleven recreation and community facilities comprising approximately forty acres. It also accommodates other facilities maintained by Kent County, a State agency, and private organizations. These facilities provide the opportunity for picnicking, golfing, boating, hiking, camping, walking, bicycling, fishing, meeting space, snowmobiling, competitive sports, and provide an aesthetic amenity for residents. They are illustrated on Map 9. This section provides a brief inventory of recreation opportunities in the Township.



**The White Pine Trail State Park access in Rogue River Park provides modern restrooms and parking.**

To begin, the Michigan Department of Natural Resources (MDNR) operates one park facility in the Township. The MDNR owns the Grand-Rogue River Access Site, a fifteen-acre park with ball diamonds, picnic facilities, and modern restrooms; the Township maintains it. The access site is located south of West River Drive near the

confluence of the Rogue and Grand Rivers.

Map 8

School and park facilities; Insert map

back of map 8

The White Pine Trail State Park is a 92-mile long non-motorized trailway that navigates across the entire Township. The regional facility ultimately connects with non-motorized paths in the City of Grand Rapids to the south, connects with the City of Rockford to the north, and continues up to Cadillac in northern Lower Michigan. It was constructed on an abandoned rail right-of-way.



**The White Pine Trail bridge over West River Drive provides a safe crossing for pedestrians and cyclists using the trailway.**

Trail surfaces include natural ballast, hard packed gravel, and asphalt between Reed City and Big Rapids, and approximately 20 miles of asphalt between Grand Rapids and Sand Lake. The trailway accommodates mountain biking, hiking, cross-country skiing, walking and running, and the northern 78.5 miles accommodates snowmobiling.

Facilities in Cadillac, Big Rapids, and Belmont serve as the major trailheads for the White Pine Trail. The Belmont trailhead is at Rogue River Park and includes amenities such as modern restrooms and picnic facilities. Currently, the MDNR only provides emergency maintenance services and looks to municipalities to conduct general maintenance and operating activities for the trailway.<sup>32</sup>



**Fifth Third Ballpark in southwestern Plainfield Township is home of the West Michigan Whitecaps and can seat 10,071 people.**

The White Pine Trail connects to the 47-acre site of the Fifth Third Ballpark, home to the West Michigan Whitecaps. The stadium opened in 1994 and has become a major regional attraction, with professional baseball, high profile concerts and group events. Total capacity is 10,071. The Ballpark includes several amenities, such as the Metro Health Deck, Klingman’s Patio, Superior’s Landing, the Pepsi Stadium Club and Miller Lite House Deck, Playland; three grill areas, and seven concession stands.<sup>33</sup>

<sup>32</sup> Michigan Department of Natural Resources

<sup>33</sup> [www.whitecaps-baseball.com/BALLPARK](http://www.whitecaps-baseball.com/BALLPARK)

## TOWNSHIP FACILITIES

The following facilities are owned and maintained by Plainfield Township.

**Packer Drive Park.** This two-acre facility serves the local neighborhood population of the Blythefield/Riverwoods community. Amenities include a baseball or softball field, three grills, and six picnic tables.

**Versluis Park.** Versluis Park, at Versluis Park Drive and Northland Avenue, is seventeen acres and serves the general population of the Township. Facilities include vending machines, two sand volleyball courts, a paved pathway, a picnic shelter, thirty five picnic tables, nine grills, two sets of horseshoe pits, modern restrooms, and a swimming beach. The park has Grand River and Versluis Lake frontage.

**D.W. Richardson Park.** Adjacent to the Plainfield Community Center, D.W. Richardson Park is 3.4 acres and incorporates benches, six picnic tables, a picnic shelter, modern restrooms, two baseball or softball fields, one basketball hoop, four shuffleboard courts, and playground equipment. This facility is considered to be a community park.



**Gold Dust Park is one of eleven recreation facilities the Township maintains.**

**Northgate Park.** Northgate Park is a one-acre neighborhood park serving the Northgate neighborhood. Amenities offered include a sandlot baseball field, two picnic tables, playground equipment, and two grills.

**Dean Lake Park.** This facility is a 1.5-acre park located on the west side of Dean Lake and includes three picnic tables and access to Dean Lake.

**Holtman Park.** Holtman Park is a two-acre facility located in the Suburban Shores neighborhood. It offers a sandlot baseball field, three picnic tables, playground equipment, and a scenic open field.

**Gold Dust Park.** Gold Dust Park is a two-acre park serving the Blythefield neighborhood. It includes a playground, basketball hoop, two grills, five picnic tables, and a paved pathway.

**Eldon Hollow Park.** This four-acre park at Chadwick Avenue and Eldon Street is undeveloped, and its hilly terrain provides the opportunity to sled during the winter months.

Plainfield Township plans to develop two regional parks on reclaimed landfill sites.

**Airway Park.** Airway Park is a two-acre facility in the Airway neighborhood. Amenities include playground equipment, three picnic tables, a baseball or softball field, and portable restrooms.

**Ambrose Park.** A three-acre facility in the Hills and Dales neighborhood, Ambrose Park includes access to a small pond, newer playground equipment, a picnic shelter, two grills, and four picnic tables.

**Plainfield Community Center.** Located at 5255 Grand River Drive, the Plainfield Community Center (or Senior Center) is open weeklong and offers facilities for gatherings, meetings, and parties. The main room has a total capacity of 121 seats.

The Township also has plans to develop a park along Ten Mile Road; and a reclaimed landfill on East Beltline Avenue is under development and is planned as a park. In addition to these recreation and community facilities, the MDNR river access site, and the White Pine Trail, nine other recreational facilities exist in Plainfield. These include Kent County lands and privately maintained camps, country clubs, and golf courses. Also, the fifteen private and public school playgrounds and facilities can provide an outlet for recreation in the community.

## KENT COUNTY FACILITIES

The following parks located in Plainfield Township are owned and maintained by Kent County.

**Donald J. Lamoreaux Park.** Lamoreaux Park is the largest recreational facility in the Township and adds an important amenity to Kent County residents. Adjacent to the Grand River, the park is comprised primarily of floodplain area. These lands were acquired and developed, in part, to assemble a less intense land use to protect future potential residents from flooding hazards. The 249-acre park offers fishing, nature and hiking trails, camping, winter sports, picnic facilities, ball diamonds, camping, and cross country skiing. It exists largely as a passive recreation facility.

**Rogue River Park.** This 79-acre facility is adjacent to the Rogue River and includes ball diamonds, tennis courts, fishing, modern restrooms, cross country skiing, playground equipment, picnic facilities, access to the White Pine Trail State Park, and hiking trails.

**Dwight Lydell Park.** Lydell Park crosses municipal boundaries with Alpine Township in Comstock Park. This park is 35-acres and offers its patrons tennis courts, playground equipment, ball diamonds, fishing, picnic facilities, modern restrooms, hiking trails, basketball hoops, and winter sports.

## PRIVATE FACILITIES

Besides fostering scenic views and community open space, private recreation lands provide leisure opportunities, camping, and social gathering spaces. In addition to a YMCA that has been built west of the Belmont community, the following are privately maintained and operated recreational facilities in Plainfield Township.

- ◆ Blythefield Country Club; 5801 Northland Drive
- ◆ Boulder Creek Golf Club; 5750 Brewer Avenue
- ◆ Grand Rogue Campgrounds; 6400 West River Drive
- ◆ Salvation Army Camp; 6889 Pine Island Drive
- ◆ Scott Lake Country Club; 911 Hayes Road
- ◆ Thousand Oaks Country Club; 4100 Thousand Oaks Drive

## PUBLIC SAFETY SERVICES AND FACILITIES

Police, fire, and hospital services are necessary for any community, as they protect the general welfare, help alleviate crime, and provide treatment when needed.

### Police Protection

The Kent County Sheriff's Department provides police protection and law enforcement for Plainfield Township. While there are no police stations located within the Township, the Department provides a minimum of one car - or officer - on patrol in the community twenty-four hours a day, seven days a week.<sup>34</sup> The township is also served by Michigan State Police Officers.

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<sup>34</sup> Kent County Sheriff's Department



**Plainfield Township supports a well-equipped modern Fire Department**

**Fire Protection**

The Township has a large enough population to establish a comprehensive local fire department. The Township is not engaged in an inter-municipal fire service contract, where one central fire agency would serve Plainfield and at least one other community. However, several mutual aid agreements exist between Plainfield and its neighbors. These agreements initiate assistance from a neighboring fire department if a disaster is too great for the Plainfield Fire Department to address alone. Likewise, Plainfield would provide services to a neighbor under the same circumstances.

The Plainfield Fire Department is a combination of full-time, part time, and paid-on-call staff utilizing two stations. There are 14 full-time staff; 17 paid-on-call staff; 3 people in photography and services; and, 12 reserves and apprentices, or uncertified trainees who may be in school, for a total of 64 fire department staff.<sup>35</sup>

<sup>35</sup> Plainfield Fire Department



Insert map 9, community facilities

Back of map 9

## CHAPTER 7. UTILITIES

Public utilities are an important element in a growth management plan. Through the delivery of reliable and plentiful water and the safe and efficient disposal of wastewater, communities can achieve an improved quality of life for local residents. Utility systems also have the potential to aid in growth management by enabling greater densities in selected locations. Finally, and most importantly, public utility systems give the community the ability to provide effective stewardship over such important natural features as groundwater and surface water features.

### WATER SUPPLY SYSTEM

**Accompanying growth is the inherent need for utility and infrastructure extensions.**

A safe, secure, plentiful and reliable source of water is vital to a community's growth and development. Potable water for drinking, sanitation, fire suppression and industrial uses are the hallmarks of modern society. Plainfield Township operates a Type I municipal water system, which meets the needs of a significant share of the community's residents and businesses. The water supplied by the municipal system is supplemented by private wells and some community systems. Map 10 illustrates the locations of key watermain installations in the Township.

Groundwater is the source of water for the Plainfield Township Water System. The Township maintains three well fields located in the vicinity of Plainfield Avenue and Northland Drive, south of the Grand River. The Water Treatment Plant, which is located on Woodfield Court near the Grand River, provides filtration, lime softening and chlorine disinfection. The total pumping and treatment capacity of the Plant is about 16 million gallons per day (MGD). The estimated storage capacity of the regional aquifer equates to about 20 MGD, but a detailed hydro geological analysis of the aquifer capacity has not been conducted.

Total system production is responsive to demand, which is greatest during the summer months when lawn sprinkling needs are greatest.



Insert Map 10 – water system

Back of map 10

**The Township water plant has a 16 million gallon per day capacity, but on a typical day will produce about 8 million gallons.**

The system averages about 3 MGD during the winter months and the peak delivery rate of about 10.4 MGD occurred during a recent summer month. During the summer of 2004, pumping averaged about 8 MGD.<sup>36</sup>

A comparison of Maps 6 and 10 clearly illustrates that the water distribution system extends through much of the developed portion of the community. South of the Grand River, the system serves all but the sparsely developed areas off 4-Mile Road east of the East Beltline and along Coit Avenue near Lamoreaux Park.

North of the Grand River and west of Northland Drive, much of the developed area of the Township is served. According to Township officials, all elevation zones of the Township are able to be served when demand warrants and extensions are approved.<sup>37</sup>

Township policy related to watermain extensions generally requires that the system will not be extended at public expense except as may be needed to improve the water system. This may include looping to enhance water pressure and reliability or replacement of undersized mains. Typically watermain extensions are financed either through voted special assessments or through developer agreements subject to pay-back provisions as additional users connect.

The Plainfield Township water system extends into the southeastern portion of Alpine Township and local officials estimate that Alpine Township customers account for about 12% to 15% of system demand. In addition, the Township's system is interconnected with the systems serving the Cities of Rockford and Grand Rapids.

The Township has developed a Wellhead Protection Plan (WHPP) to protect the public water supply from contamination. Over 28,000 people use the Plainfield municipal water system and it is important that this vital resource is preserved. An example of possible contamination would be gasoline or motor oil from automobile-related activities leaching into groundwater. Well fields are located in the southern portions of Township. Typical of land above the local aquifer, soils are exceptionally permeable, which means that any contamination would have a higher likelihood of percolating to the water table.

The process that the Township used to compile the WHPP involved several phases. A first step was to identify the area from which the

<sup>36</sup> Vince Farrarese, Water Department Director, Plainfield Township

<sup>37</sup> Prein & Newhof

Township's sixteen wells draw their water over a ten-year duration. This included reviewing elevation surveys; various topographic, geologic, hydrogeology, piezometric, and well maps; aquifer characteristics; well logs; and, municipal well data. Once this area was delineated using model conceptualization, potential and existing contamination sources were recognized by utilizing various databases to locate source contaminant sites. Mechanisms to manage and protect the wellhead protection area were developed for the Township to implement, including a contingency plan. The WHPP may also serve as a source of information in selecting new well sites.

**The Township may implement an overlay zoning district to better protect and preserve the community's vital water resources.**

Public participation was incorporated into the process and the Township is dedicated to expressive citizen input. Public education and outreach included presenting the plan during public meetings of the Township Board and Planning Commission; publishing articles in public school newsletters, the Township newsletter, and local newspapers; wellhead protection area road signs; consumer confidence reports; and, a wellhead protection brochure. Public involvement in the process was key to deepening public understanding of groundwater protection concerns and to gaining public support for any protection measures that may be subsequently required.

The WHPP outlines a proactive plan for protecting Plainfield's public water supply while meeting requirements of the Michigan Department of Environmental Quality (MDEQ). Recommendations and observations contained within the WHPP include:

- ◆ The WHPP recognized that the Township would be amending the Master Plan and suggested including expansive language that encourages protection of groundwater resources in the Township. It is critical to incorporate the recommendations of the WHPP into the Master Plan, since information on vulnerable water resources will have implications for site plan standards and zoning implementation. As a result of the WHPP, the Township may implement an overlay zoning district to better protect and preserve the community's vital water resources.
- ◆ The WHPP stated that the Township would review existing site plan review standards and implement additional standards to protect groundwater resources throughout the Township. Items to be considered were listed as: storm water management, floor drain discharges, active or abandoned wells, use of hazardous substances and storage of these substances or wastes, on-site wastewater treatment and disposal systems, and management of existing site contamination.

- ◆ The WHPP states that the Township would adopt a procedure to notify property owners of well abandonment requirements so that abandoned wells - which can be direct conduits into the aquifer - are properly abandoned and sealed.
- ◆ In the future, system demands may increase, which would extend the wellhead protection area delineations as set forth in the WHPP. The plan recommended that a buffer zone be superimposed around the three main delineation areas (10-year, 5-year, and 1-year) to protect adjacent wells.

## SANITARY SEWER SYSTEM

Currently, wastewater from Plainfield Township is conducted to the Grand Rapids Wastewater Treatment Plant located on Market Avenue in the City of Grand Rapids. The plant is operated by the City of Grand Rapids, which, together with the Cities of Wyoming and Grandville, provide most treatment services for the metropolitan area.

The wastewater collection system (sewer system) in Plainfield Township is owned by the Township and maintained by the Kent County Department of Public Works under an agreement with the Township. Map 11 illustrates the location of the primary sewer collection in the Township. The Township system serves most of the densely developed portions of the Township, including virtually all of the area south of the Grand River and west of the Beltline. In addition, most of the area north of the River with significant population is served. New extensions of the collection system are typically undertaken in response to resident requests stemming from failing septic tank drainfields. These are implemented by the Township with the costs supported by special assessment. In addition, a developer may seek to extend the wastewater collection system to enable a new development to occur. This type of development is financed by the developer with pay-back arrangements as adjoining property owners are connected. Properties adjoining such an extension are given ten years to make that connection. The Township normally does not extend the sewer system to provide service at system expense.

**Most of the developed portions of the Township are either served with public wastewater or reasonably able to be served.**

Approximately 9,000 residences are currently connected to the Plainfield Township wastewater collection system. About 2,000 homes are served by individual on-site septic tank/drainfield systems. In some areas of the Township relatively dense development has occurred over the years served by on-site well and septic systems. As these systems begin to fail,

the public wastewater collection system has been and will continue to be extended. As discussed in the portion of Chapter 2 regarding soils, many areas of the Township are impacted by soils with some limitations for on-site wastewater disposal. However, the Township's engineer reports that in lower density developments, the Kent County Health Department has worked cooperatively with landowners to approve locations for private drainfields.

A private, free-standing community wastewater collection and treatment system currently serves the Leisure Village manufactured housing community at the far eastern edge of the Township. Such systems are permitted by the Department of Environmental Quality and maintained privately. The Township plans to eventually extend sanitary sewer service along Cannonsburg Road to enable this community to abandon their on-site treatment plant and connect to the public system.

Most of the developed portions of the Township are either served with public wastewater or reasonably able to be served. One possible exception to this may be the northwestern portion of the Township, north of 9-Mile Road and west of Harrington. This area is relatively low in elevation and includes the Freska Lake, Mirror Lake and Duck Lake complex, as well as several smaller ponds and wetlands. As such, this area has developed at relatively low densities and wastewater service may only be needed if there are significant septic tank failures.

Under an agreement with City of Grand Rapids, the North Kent Sewer Authority is permitted a fixed number of Residential Equivalency Units (REUs)<sup>38</sup> that it may discharge to the City System.

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<sup>38</sup> An REU is considered the approximate amount of wastewater generated by a single family home on a daily basis; normally 250 to 300 gallons per day.

Insert Map 11, wastewater system.

Back of map 11

Residents and businesses pay sewer fees to the City of Grand Rapids on a quarterly basis at rates determined by the City’s utility rate board, which is comprised of representatives of the City and all the suburban jurisdictions that depend on City wastewater treatment. In the recent past, the trunk sewer conducting sanitary sewer flow to the City was upgraded to handle additional capacity.

## PARCCSIDE CLEAN WATER PLANT

The current wastewater agreement with the City of Grand Rapids will expire in 2008. The members of the North Kent Sewer Authority have been in negotiations with the City regarding sewer rates for several years in advance of the agreement expiration. The members of the authority include Plainfield Charter Township, Alpine Charter Township, Cannon and Courtland Townships and the City of Rockford. Many representatives of the authority have come to the conclusion that it will not be possible to come to a balanced agreement with the City and in February, 2003, they decided to proceed with the development of a new wastewater treatment plant and allow the current agreement with the City to expire.



Image source: <http://www.nksa.us>

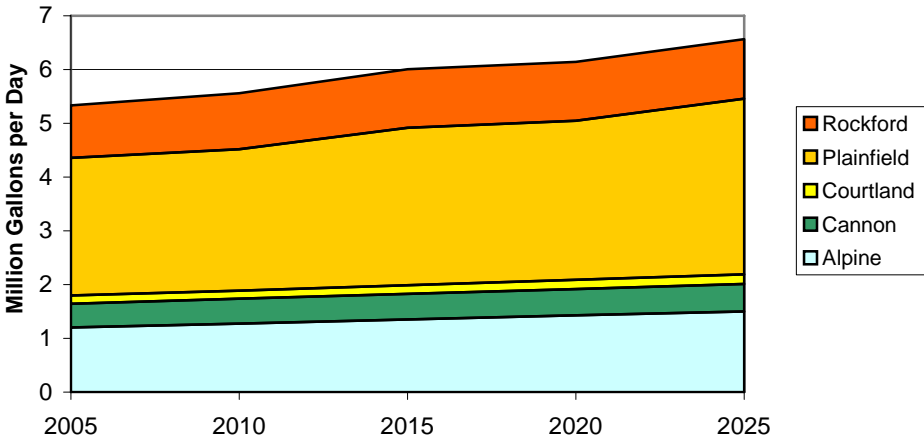
**The PARCCside Clean Water Plant is scheduled for completion near the end of 2008**

The proposed facility has been called the “PARCCside Clean Water Plant” and it will be located adjoining Lamoreaux Park in the Township. Although current wastewater flow from the North Kent Authority communities is currently about 4.84 MGD, the facility will have a design treatment capacity of 8 MGD and will be expandable to 12 MGD. The proposed design will incorporate state-of-the-art treatment technologies utilizing a synthetic membrane bioreactor. According to the Township engineer, this treatment technology is

superior to more conventional processes and will result in less odor from the facility, a smaller facility overall and cleaner effluent to the Grand River. Current cost estimates indicate the facility will cost about \$48 million for design and construction and about \$2.4 million annually to operate. The plant is scheduled to be operational in fall 2008.

Based on an analysis by the North Kent Sewer Authority, the PARCC-Side Clean Water Plant will eventually need to treat about 6.56 MGD by the year 2025. Figure 7.1 illustrates the projected rate of growth of the flow to the proposed facility.

**Figure 7.1 Projected North Kent Wastewater Flow**



Source: Prein & Newhof

**PRIVATE UTILITIES**

Most of the developed areas of Plainfield Township are served with a complete compliment of energy and communication systems. These include natural gas, electricity, telephone, cable television and broadband internet access. In some areas, natural gas has not been extended and residents rely on on-site fuel oil or LPG tanks for heating and cooking.

## CHAPTER 8. TRANSPORTATION

A transportation network links activities within a community to those in surrounding municipalities, and the larger region as a whole. Transportation plays a critical role in determining the nature and intensities of land uses that occur throughout a community. Plainfield Township has a wide variety of land uses and in turn a rather diverse transportation network, providing its residents with a mixture of transit experiences, from winding rural roads to congested rush hour traffic.

### FUNCTIONAL CLASSIFICATIONS

One approach to gaining a better understanding of transportation networks has been to classify the roads that make up these networks into groups based on the role or function that they play. One such classification scheme is that devised by the Federal Highway Administration, referred to as the National Functional Classification (NFC). Classes relevant to Plainfield Township are described below:

- *Principal arterials* are at the top of the NFC hierarchical system. Principal arterials generally carry long distance, through-travel movements. They also provide access to important traffic generators, such as major airports or regional shopping centers.
- *Minor arterials* are similar in function to principal arterials, except they carry trips of shorter distance and to lesser traffic generators.
- *Collectors* tend to provide more access to property than do arterials. Collectors also funnel traffic from residential or rural areas to arterials.
- *Local roads* primarily provide access to property. Examples could include residential streets or lightly-traveled country roads.

The Michigan Department of Transportation classified roads in Plainfield Township using this system in 1999. The following table contains a breakdown of roads in the Township by their functional class:

Table 8.1

Plainfield Township Road Function Classifications	Average Traffic Count (year)
<b>Principal Arterial Roads</b>	
US-131	33,428 (2004)
East Belt Line (from 4 mile North to Webber Ave.)	15,693 (2005)
Northland Dr (from Webber Ave. North to Mesa Dr)	34,030 (2004)
Northland Dr (from Mesa Dr to Wolverine Blvd )	22,351 (2004)
Wolverine Blvd (from Northland Dr to Belding Rd)	12,023 (2004)
Plainfield Ave (from 4 mile to Plainfield/Northland cutoff)	17,759 (2004)
West River Dr. (Township Boundary North east to Northland Dr)	10,277 (2005)
10 Mile Rd (from US-131 to Rockford)	18,419 (2003)
<b>Minor Arterial Roads</b>	
Coit Ave (from 4 mile northeast to Plainfield Ave.)	2,010 (2005)
Jupiter Ave (from Plainfield Ave. to Post Dr.)	5,943 (2005)
Post Dr (from Jupiter Ave. to US 131)	6,429 (2005)
5 Mile Rd (from Plainfield to E. Beltline)	3,925 (2005)
<b>Collector Roads</b>	
4 Mile Rd (from Plainfield Ave. west to Coit Ave.)	5,316 (2005)
6 Mile Rd (from Pine Island Dr west to Township Boundary)	3,057 (2005)
7 Mile Rd (from Pine Island Dr west to Township Boundary)	3,155 (1999)
10 Mile Rd (from Pine Island Dr west to Township Boundary)	6,083 (2005)
Belding Rd	2,246 (2004)
Belmont Ave	2,635 (2005)
Cannonsburg Rd	4,346 (2005)
Grand River Dr	2,109 (2005)
Hunsberger Ave	1,409 (2005)
N Division Ave (from West River north to 7 Mile)	2,817 (2004)
Northland Dr	3,930 (2004)
Pine Island Dr	4,114 (2005)
Post Dr	6,429 (2005)
Rogue River Rd	4,996 (2004)
Woodworth St (from Plainfield Ave. west to Coit Ave.)	4,810 (2004)

Source: Grand Valley Metro Council

Due to the rolling topography and natural features in Plainfield Township, there are very few straight north-to-south or east-to-west roadways in the Township. Most major roads are routed around natural features such as the Grand River or one of the inland lakes in the Township. There are only two crossing points along the Township's

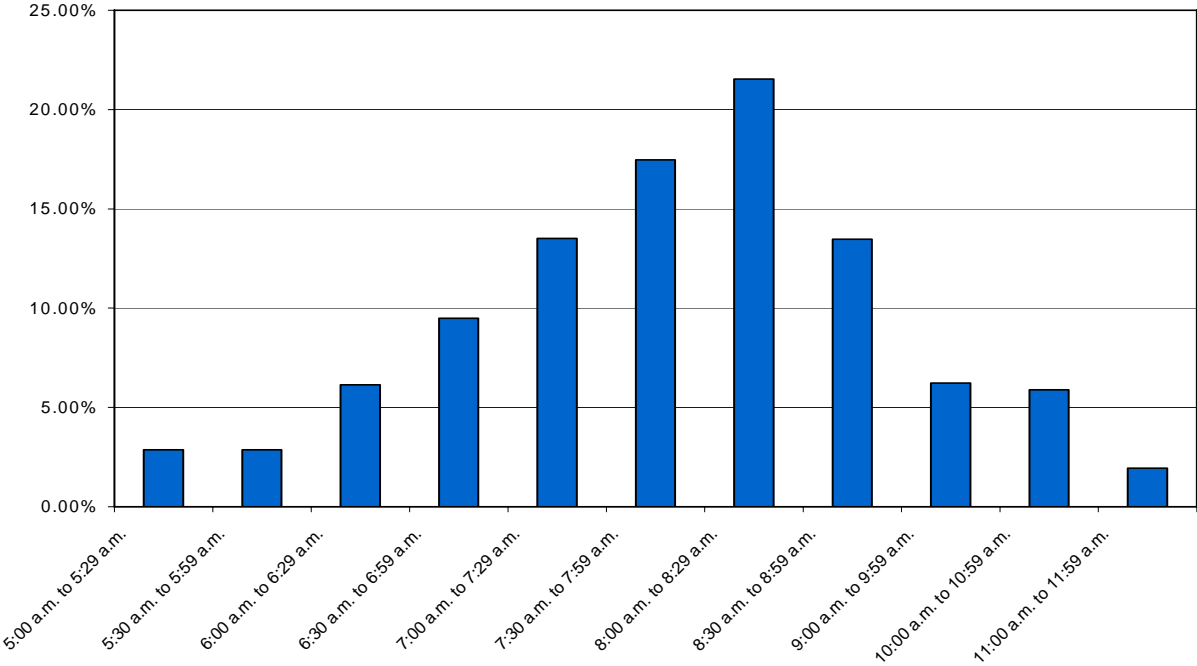
segment of Grand River; the bridges at Jupiter Avenue and Northland Drive.

### TRAFFIC VOLUME AND CONDITIONS

#### Commuting Patterns

According to the 2000 United States Census, 81% of the 15,702 workers 16 years and older who live in Plainfield Township work in another municipality. This results in the majority of the Township’s working residents having to utilize the regional transportation network while traveling to places of employment. The automobile is overwhelmingly the most popular form of transportation with 98% of residents either driving or riding to work. Of the people utilizing an automobile only 7% of them are in a carpool of some sort, with the most common being a carpool of two people.

**Figure 8.1 Peak Travel Times Morning Commute**



Source: United States Census, 2000

Most residents who work outside of the Township work within a 15 to 30 minute drive of the Township. The peak travel times during the morning commute expectedly coincides with the standard workday, with the greatest percentage of residents leaving their homes for work at around 8 am. Figure 8.1 illustrates morning commute peak travel times.

**Conditions**

US-131 is an important route both locally and regionally. US-131 in Michigan begins at the Indiana state line, 3 miles south of US-12 near White Pigeon, and terminates at US-31/Charlevoix Ave. in Petoskey, Michigan. US-131 has become an important route in Michigan, connecting Kalamazoo and Grand Rapids with northern and southern Michigan. Locally, US-131 serves as the major north/south connection between lower West Michigan and employment and commerce centers in the greater Grand Rapids area. Approximately 7 miles of US-131 are contained within Plainfield Township. This segment experiences on average 33,427 trips per day, with some segments experiencing volumes as high as 40,000 trips per day. During peak travel times, motorists on US-131 normally experience congestion.

The other major north/south route in the Township is the East Beltline/Northland Drive/Wolverine Boulevard/M-44 corridor. This route fulfills an important role by connecting major commerce and employment centers in the eastern portions of the Grand Rapids metropolis. In addition, the segment of Northland Drive south of the river has seen significant commercial growth, providing services to local and regional traffic.



**Until recently, the Northland Drive Bridge provided the only River crossing in the Township**

The river has seen significant commercial growth, providing services to local and regional traffic.

Northland Drive experiences traffic volumes similar to US-131. Volumes range as high as 38,355 trips per day north of Plainfield Avenue to an average of 28,166 trips per day on all other segments of the road. The East Beltline in Plainfield Township also has substantial traffic volume south of Grand River Drive to Five Mile Road, with traffic counts as high as 27,000 trips per day, and other areas averaging from 26,000 to 14,000 trips per day.

Plainfield Avenue experiences traffic volumes on average of 26,811 trips per day. The intense strip commercial development that has occurred along Plainfield Avenue has made travel somewhat cumbersome. Typical development in this area consists of clustered strip commercial buildings with overwhelming signage. The frequent access points to these sites further intensify the difficulties in navigating the road.

West River Drive generally follows the northern bank of the Grand River from US-131 east to Northland Drive. West River Drive has yet to experience the level of commercial development and access points found along Plainfield Avenue and Northland Drive, and the flow of traffic has

generally been preserved. However, the traffic volume along West River Drive is considerable, with an average of 19,775 trips per day.

Below is a table showing a break down of traffic volume for all of the Principal Arterial Roads in the Township.

**Table 8.2 Daily Traffic Volume  
Principal Arterial Roads<sup>39</sup>**

<b>West River Drive</b>		
<b><u>From</u></b>	<b><u>To</u></b>	<b><u>Count</u></b>
NB US-131 Ramps	Pine Island Drive	25,290
Buth Drive	Samrick Avenue	23,296
Division Avenue	SB US-131 Ramps	22,039
Samrick Avenue	Rogue River Road	21,775
Rogue River Drive	Belmont Avenue	21,590
Lamoreaux Drive	Division Avenue	20,797
SB US-131 Ramps	NB US-131 Ramps	20,000
Belmont Avenue	M-44 (Northland Drive)	18,979
Pine Island Drive	Buth Drive	18,563
4 Mile Road	Lamoreaux Drive	13,500
Bertha Street	4 Mile Road	11,706
<b>US-131</b>		
<b><u>From</u></b>	<b><u>To</u></b>	<b><u>Count</u></b>
West River Drive On Ramp	North Walker Limit	40,000
SB Off Ramp to West River	SB On Ramp From West River	37,000
SB On Ramp from 10 Mile	SB Off Ramp to Post	32,138
SB On Ramp from Post	SB Off Ramp to West River	30,000
SB Off Ramp to Post	SB On Ramp from Post	28,000
North Walker Limit	Off Ramp to West River Drive	40,000
NB Off Ramp to W. River	NB On Ramp from West River	37,000
NB On Ramp from Post	NB On Ramp from 10 Mile	32,138
NB On Ramp from W. River	NB Off Ramp to Post	30,000
NB Off Ramp to Post	NB On Ramp from Post	28,000
<b>Plainfield Avenue</b>		
<b><u>From</u></b>	<b><u>To</u></b>	<b><u>Count</u></b>
4 Mile Road	Woodworth Street	38,173
Woodworth Street	Hunsberger Avenue	33,000
Hunsberger Avenue	Jupiter Avenue	29,000
Jupiter Avenue	5 Mile Road	24,976

<sup>39</sup> Grand Valley Metro Council REGIS Traffic Count Database Website; accessed August, 2004

**Table 8.2 Daily Traffic Volume  
Principal Arterial Roads**

<b>Plainfield Avenue (cont'd)</b>		
<u>From</u>	<u>To</u>	<u>Count</u>
5 Mile Road	Airway Street	24,000
Airway Street	Coit Avenue	19,615
Coit Avenue	M-44 (Northland Dr)	18,914
<b>M-44 (Wolverine Blvd)</b>		
<u>From</u>	<u>To</u>	<u>Count</u>
Northland Drive	Belding Road	16,500
Belding Road	Northland Drive	16,500
<b>M-44 (Northland Drive)</b>		
<u>From</u>	<u>To</u>	<u>Count</u>
West River Drive	Rogue River Road	35,000
Rogue River Road	Blvd End	33,000
Blvd End	Northland Drive	16,500
M-44 Conn. Plainfield Ave	West River Drive	38,355
<b>M-44 (East Beltline Ave)</b>		
<u>From</u>	<u>To</u>	<u>Count</u>
5 Mile Road	4 Mile Road	15,599
Blvd End	5 Mile Road	13,500
Blvd End	5 Mile Road	13,500
4 Mile Road	5 Mile Road	15,599
5 Mile Road	Blvd End	13,500
Blvd End	Grand River Drive	27,000
Grand River Drive	M-44 (Plainfield)	25,615



**With the construction of the Jupiter/Belmont connection and bridge over the Grand River, the Belmont area enjoys significantly improved access to the metro area**

As discussed above, a primary challenge for accessibility and interconnections within Plainfield Township are the many natural and man-made barriers. With the construction of the Jupiter/Belmont connection and bridge over the Grand River, the Belmont area enjoys significantly improved access to the metro area. However, such facilities are extremely expensive and difficult to develop and it is clear that traffic within the Township will continue to be handicapped by limited route alternatives, especially for north-south travel.

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## PUBLIC AND AIR TRANSPORTATION

### Public Transit

The Interurban Transit Partnership (ITP) was created in January 2000 by the cities of Grand Rapids, East Grand Rapids, Grandville, Kentwood, Walker, and Wyoming under Act 196 of the Public Acts of the State of Michigan. The formation of ITP played a fundamental role in expanding public transportation in the Grand Rapids metro area.<sup>40</sup> Presently ITP is referred to as “The Rapid.”

The Rapid provides fixed-route services to the cities of Grand Rapids, East Grand Rapids, Grandville, Kentwood, Walker, and Wyoming and the townships of Byron, Gaines, Cascade and Alpine. While The Rapid’s fixed-route system currently does not serve Plainfield Township residents or businesses, given the Township’s proximity to downtown Grand Rapids, and the proximity of services along Plainfield Avenue to population centers in the City of Grand Rapids, a public transportation need in the Township may develop in the future.

North Kent Transit Services, a program offered by Hope Network of West Michigan, provides transportation services to Plainfield Township. Other communities served by North Kent Transit include: Algoma, Cannon, Courtland, Gratton, Lowell, Nelson, Oakfield, Solon, Sparta, Spencer, Tyrone, and Vergennes townships; Casnovia, Kent City, Lowell, Sand Lake, and Sparta villages; and, the City of Rockford. The service is available Monday through Friday, 8:00 am to 4:30 pm and primarily serves persons with disabilities and persons over 60 years of age.<sup>41</sup> Transportation is on a call-in basis; there is no fixed route.

The fare price for those with disabilities and persons who are at least 60 years of age is \$3.00 if the destination is within the principal service area or connecting trips to fixed bus routes in Grand Rapids. The price is \$6.00 for other destinations within Kent County. For the general public, fees are \$5.50 and \$11.00, respectively, for destinations within the principal service area or connecting trips to fixed bus routes in Grand Rapids, and for other destinations within the county.<sup>42</sup>

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<sup>40</sup> Grand Valley Metropolitan Council 2030 Long Range Transportation Plan

<sup>41</sup> Website for the Hope Network; [www.hopenetwork.org](http://www.hopenetwork.org)

<sup>42</sup> Ibid

### Air Transportation

Commercial passenger air service is available through the Gerald R. Ford International Airport, located approximately 10 miles from Plainfield Township. The Gerald R. Ford International Airport is Michigan's second busiest commercial airport, offering 12 passenger airlines that serve 5,000 travelers each day. The airport provides daily service to regional hubs throughout the Midwest.<sup>43</sup>

Also located near Plainfield Township, the Paul C. Miller - Sparta Airport is located in Sparta Township. The Village of Sparta maintains the airport for public use. The airport accommodates light, heavy, and ultra light aircraft and also provides pilot training. On an average day, the airport sees 20 aircraft operations.<sup>44</sup>

## NORTH EAST BELTLINE JOINT DEVELOPMENT PLAN

Regional transportation plans are helpful in analyzing current traffic conditions. In 1996, Plainfield Township joined Grand Rapids Township and the City of Grand Rapids - in conjunction with the Grand Valley Metro Council and the Michigan Department of Transportation - in facing some common challenges along the East Beltline corridor. In addition to the land use recommendations discussed in Chapter 5, this inter-municipal effort brought about an agreement to plan development jointly and to work toward common standards for development near the state highway.

The joint development plan included recommendations and example regulations on architectural, landscaping, and setback requirements as well as land use. In addition, the plan included sample amendments to regulatory documents, such as subdivision and zoning ordinances, to promote more attractive development along the East Beltline corridor.

For example, for subdivision and site condominium ordinances, the joint development plan suggested the following addition:

*Walkways are required in the middle of long blocks and at the ends of cul de sacs and shall connect as much as possible to existing and anticipated walkways. Walkways shall be provided to provide access to adjacent parks, shopping areas, residential areas, and institutions. If the Planning Commission has adopted a pedestrian access plan for the area, walkways shall be provided to implement that plan.*

<sup>43</sup> Website for the Gerald R. Ford International Airport; [www.grr.org](http://www.grr.org)

<sup>44</sup> Website for the Paul C. Miller - Sparta Airport; [www.spartaairport.com](http://www.spartaairport.com)

For site plan review language in a zoning ordinance, the joint development plan recommended the following addition:

*Walkways shall be provided to provide access to adjacent parks, shopping areas, transit stops, anticipated walkways and institutions. If the Planning Commission has adopted a pedestrian access plan for the area, walkways shall be provided to implement that plan. Pedestrian movement must be accommodated across parking lots. These walkways must be separated from automobile travel lanes and parking spaces.*

It was also recommended that sidewalks be provided along the East Beltline and intersecting roads, including Five Mile Road in Plainfield. Five Mile Road is listed as a critical link in a proposed pedestrian network contained within the plan. These suggested modifications would have the effect of fostering a more pedestrian-friendly environment along one of West Michigan's busiest state highways. Finally, the land use concept included Office, Park/Open Space, Institutional, and High Density Residential future land uses along portions of the East Beltline in Plainfield Township.

## TEN MILE ROAD CORRIDOR STUDY

Plainfield Township also participated in another cooperative transportation planning effort. Working alongside the City of Rockford and Algoma Township, Plainfield helped to develop a set of objectives surrounding the Ten Mile Road corridor. The following transportation objectives, in addition to the land use objectives discussed in Chapter 5, will help the three municipalities achieve the common vision of a roadway where traffic capacity is preserved, rural character is maintained, and motorist safety is paramount.

- ◆ Reserve 120 feet of right-of-way (60' either side of section line) for the eventual widening of Ten Mile Road for a five lane or boulevard roadway.
- ◆ Limit new driveways onto Ten Mile Road, and require frontage roads and shared access between properties as they develop.
- ◆ Require connection of internal roadways to facilitate access between properties.
- ◆ Require pathways for pedestrians and bicyclists on both sides of Ten Mile Road.

- ◆ Require new developments to provide internal pedestrian and bicycle paths to better link neighborhoods.
- ◆ Explore redesign options for the Ten Mile Road/US 131 interchange.

## SIDEWALK ORDINANCE

The Township enacted a sidewalk ordinance in 1998 that requires the construction of sidewalks with new developments. In addition, the ordinance sets forth standards regarding the removal of obstructions, repair and construction of sidewalks within the Township.

Map 12 shows the current and proposed sidewalks in the Township. The map, updated by the Township in 2005, illustrates several connections to the White Pine Trail, offering residents an opportunity to connect to a regional trail system at several points in the Township. As the Township continues to develop, additional sidewalks required by this ordinance will enhance the pedestrian connections to neighborhoods, shopping and recreational opportunities.

Non-motorized forms of transportation can help improve regional air problems and help combat obesity, which may lead to heart disease, diabetes, certain cancers, high blood pressure and other health maladies.<sup>45</sup> Plainfield Township contains about 55 miles of sidewalks, and another 64 miles have been proposed. Most of the Township's sidewalks lie within the southern third of the Township, although sidewalks have been proposed along portions of Post Drive, and 10 Mile Road.

In 2007, the Township began the process of developing a pedestrian and pathways plan. When completed, the plan will contain updated information regarding the locations of all trails and sidewalks in the Township.

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<sup>45</sup> Grand Valley Metro Council 2030 Long Range Transportation Plan

Insert map 12 sidewalks

Back of map 12

## CHAPTER 9. IMPLICATIONS

The preceding chapters presented a broad range of summary information related to current conditions and the planning trends that are apparent and emerging in Plainfield Charter Township and in the larger West Michigan region. In the context of the update of the Comprehensive Plan, it is important to ask and answer the question: What does it all mean? The following sets forth key implications of these materials. In Section III, this plan presents land use and growth management approaches to address these implications.

**Population growth implies a number of land use challenges.**

1. The natural features of the Township - including its lakes, rivers and streams and woodlands - will continue to serve as a magnet for residential development. While the pace and scale of growth is expected to be manageable, there is a risk that without effective planning, this growth will begin to degrade the very resources that draw it.
2. The population of the Township will continue to grow at rates in excess of those experienced in other portions of the State. The primary cause of this is the natural amenities discussed above and the proximity to the urban center in Grand Rapids. Even with a declining pace of growth, the population expansion implies a number of land use challenges:
  - ◆ About 3,000 additional housing units by 2030, based on the 2000 average household size of 2.73 persons.
  - ◆ Up to an additional 29,850 additional automobile trips per day.<sup>46</sup>
  - ◆ Over one and one-third square miles of vacant land consumed by residential growth, at current R-1 densities.
3. Current patterns of development indicate that the Township is spreading out in relatively low-density patterns. This implies a continued reliance on the private auto for most day-to-day activities.
4. The City of Rockford has planned and zoned for relatively high-density residential land uses along its border with Plainfield, while the Township has planned and zoned for low-density development. This inconsistency may present itself as an opportunity for the Township to plan and zone for higher density conservation

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<sup>46</sup> Institute of Traffic Engineers, *Trip Generation*, 7<sup>th</sup> Edition, 2003.

development which clusters home sites away from significant natural features while preserving rolling hillsides, woodlands, and wetlands.

5. Over the next twenty to thirty years, Plainfield Township will see a larger percentage of its population made up of aging “Baby Boomers” with a consequent increase in demands for housing, health, recreation and transportation services.
6. Plainfield Township will likely remain primarily a bedroom community. Most residents will travel outside the community for employment and the vast majority of real property value in the community is residential. The predominance of residential development in the Township implies a need to ultimately address the cost-revenue ratio for the Township and other municipal services. Residential uses require between \$1.10 and \$1.30 in municipal services (i.e., schools, police, fire, roads, parks, etc.) for every \$1.00 contributed in tax base. Communities that concentrate on residential development ultimately need to face the prospect of higher local tax rates to support the higher demands for services.<sup>47</sup>
7. The development of the PARCC-Side Clean Water Plant offers the Township greater control over development decisions. With substantial additional wastewater treatment capacity, the Township may encourage higher density development patterns that require sanitary sewer service. In addition, by proactively directing where utilities may be placed, the Township will be in a better position to implement its growth management goals.
8. Given the topographic obstacles that fragment the Township, a few key roadways will continue to carry the bulk of local commuter traffic. This implies increasing levels of congestion on some roadways, but may also suggest that volumes on non-through routes will remain relatively manageable.
9. The Township’s former Comprehensive Plan included a wide range of goals and objectives, including East Beltline cooperative planning, the Belmont Towne Center and Plainfield Avenue redevelopment. Some of these objectives have been achieved, while others require further attention. This implies a need to evaluate carefully the policy statements expressed in earlier planning exercises in the context of updated demographic and social information to either renew and re-energize those plans or alter them as appropriate.

**By proactively directing where utilities may be placed, the Township will be in a better position to implement its growth management goals.**

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<sup>47</sup> Thomas, Holly L. *The Economic Benefits of Land Conservation, Planning & Zoning News*, January, 1993

## SECTION III. COMPREHENSIVE PLAN

**Input from the public participation sessions contributed significantly to the planning process**

Section II of this Plan outlined the current conditions and planning trends facing Plainfield Charter Township. The information and findings of that section were used to inform the policy basis of this Plan. Input from the public participation sessions contributed significantly to the planning process. The township conducted a community opinion survey in 2005, and the survey's respondents indicated that the preservation of natural areas, water quality and open space should be high priorities for the Township. The survey also asked about issues of particular concern and traffic, the fast pace of growth and pollution of lakes and rivers were top concerns among respondents.

This final section of the Master Plan outlines the future land use goals and objectives and sets forth specific land use strategies. Specifically, Chapter 10 condenses the input received in the planning process into sixteen goal statements about the state of the township in 20 to 25 years. Each goal is accompanied by several objectives that if accomplished, will contribute to the achievement of the goal.

Chapter 11 establishes general guidelines for growth and development. This chapter contains the Future Land Use map as well as text supporting each Future Land Use District. The intent of this chapter is to foster efficient patterns of development that preserve the community's unique character while accommodating additional residents.

Chapter 12 lays out several strategies that the Township should seek to implement to accomplish the Plan's overall goals. In order for the overall vision of this plan to be achieved, these strategies must be employed.

The report of the findings resulting from the community opinion survey is presented in Appendix A.



## CHAPTER 10. GOALS AND OBJECTIVES

As a result of the Township's efforts to form a community consensus opinion about growth and development in the community, a series of sixteen broad goal statements has been developed. Each goal is supported by more specific objectives, and the policies of this plan are founded on these statements. The goals are intended to describe a desirable end state or the condition of the Township about twenty-five years into the future. They are intentionally general but are felt to be attainable through concerted effort. The objective statements tend to be more specific and may be regarded as milestones in the journey to achieve the larger goal.

An effective goal serves as a useful guide for policy decisions by the Planning Commission, Township staff and the Township Board. For a goal to be useful, it must meet the following criteria:

- ◆ **Define a desired end.** A goal statement should describe a desired end state, outcome or result. The statement may be worded in either the present or future tense, but if the future tense is used, it should be stated as a prediction, rather than a hope.
- ◆ **State in positive terms.** For a goal to be effective, it should state a positive outcome, as opposed to avoidance of an undesirable result. It is tempting to state goals as the reversal of an undesirable trend, such as "Plainfield Township will limit significant additional development in woodlands and natural areas." This statement, however, does not address the idea of preservation, nor does it address the underlying issue: Protection of woodlands for the benefit of future generations.
- ◆ **Bold, but realistic.** For a statement to be meaningful, it needs to require effort to achieve. If goals were achieved without effort, they would simply be re-statements of current trends. On the other hand, a goal also needs to be realistic. Goals that are impossible to achieve will languish, resulting in community frustration and acrimony.
- ◆ **Reflect a consensus.** Most importantly for goal setting, the goal must reflect a community consensus on a particular issue. Since implementation of these goals will require broad community support, the goals need to reflect community ideas and values. A statement that does not reflect the ideas and values of a broad section of the community is doomed to failure.

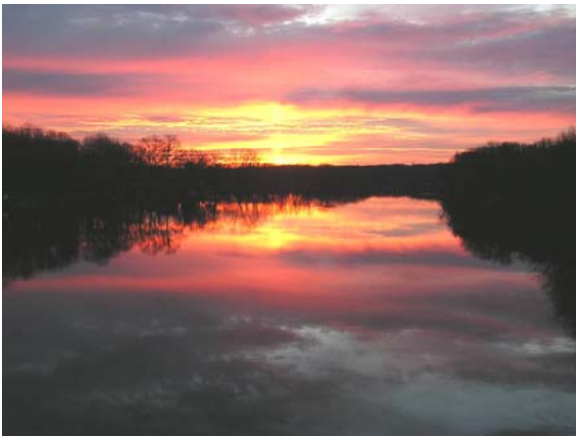
**Clear and meaningful goals provide the policy foundation for the Master Plan.**

## NATURAL FEATURES

**Goal 1.** The Township will contain environmentally viable and attractive natural features including mature and emerging woodlands, open meadows, wetlands and stream corridors. These areas will amount to about 8,000\* acres, or about one-third of the Township, and will include lands protected from development and areas that have been carefully developed to preserve and protect features while allowing low intensity use of the lands.

### Objectives:

- a. Prepare an inventory of natural features to clearly define features with environmental and aesthetic significance in the community.
- b. Develop and adopt a tree protection ordinance to limit land clearing and to require re-forestation within developed sites, and develop mechanisms to encourage and/or require sustainable forestry practices in key woodland areas.
- c. Survey the owners of significant areas of natural features to discover their development and preservation intentions and mutually develop programs that support private and public objectives.
- d. Complete an evaluation of the feasibility of implementing a program of transferable development rights (TDR) either on the Township level or regionally.



**The Township will continually work to bring into public ownership or into conservation status, key riverbank and floodplain areas**

## WATER QUALITY

**Goal 2.** The Grand River, Rogue River and the lakes and streams in the Township will be characterized by clean and cold water, natural riparian areas and vital habitats for wildlife, while serving as a sustainable resource for human recreation and use.

### Objectives:

- a. The Township will take a leadership role in working with upstream communities on both rivers and with the appropriate watershed councils to continually improve water quality.
- b. The Township will seek a Natural Rivers designation for appropriate segments of the Grand River.
- c. The Township will continually work to bring into public ownership or into conservation status, key riverbank and floodplain areas that are important to protection of water quality.

- d. Establish standards to promote natural filter/buffer strips along the edges of rivers, lakes and streams to mitigate the impacts of runoff on sensitive water bodies.

**Goal 3.** Groundwater within Plainfield Township will be clean, protected and plentiful for use by residents.

**Objectives:**

- a. Work with the Health Department to establish and maintain groundwater quality baseline measures and a system of periodic testing.
- b. Develop an inventory of existing and potential land uses and practices that may threaten groundwater and evaluate regulatory approaches to govern them.
- c. Work with the Health Department to evaluate and, if feasible, implement a program of periodic inspection of private septage facilities.

## RECREATION AND OPEN SPACE

**Goal 4.** Public parks and recreational facilities and private recreation lands will be conveniently located, safe and well-maintained to serve existing and emerging neighborhoods.

**Objectives:**

- a. Township policies will recognize and support both publicly sponsored facilities and activities and recreation uses on private lands.
- b. The parks and recreation planning function of the Township will be coordinated with its land use planning and the planning of the public school systems that serve the community.

**Goal 5.** The shores of the Grand and Rogue Rivers will be protected against high-impact development and further residential development within floodplain areas will be prohibited, while allowing increased access by residents for environmentally-appropriate recreational purposes.

**Objectives:**

- a. Survey the owners of significant areas of natural features to discover their development and preservation intentions and mutually develop programs that support private and public objectives. (Repeats 1, c above)

- b. The Township will continually work to bring into public ownership or into conservation status, key riverbank and floodplain areas that are important to protection of water quality. (Repeats 2, c above).
- c. The Township will seek a Natural Rivers designation for appropriate segments of the Grand River. (Repeats 2, b above)

## TRAFFIC AND TRANSPORTATION

**Goal 6.** All modes of travel will proceed through and within the Township safely and at reasonable speeds along safe and attractive roadways dispersed through the community.

**Objectives:**

- a. Build and strengthen relationship with the Road Commission and MDOT to facilitate cooperative approaches to road planning and design, and with The Rapid with regard to mass transit. This will include the development of a Township Transportation Improvement Master Plan.
- b. Develop and implement flexible road design standards and right-of-way requirements that are appropriate for the specific application.
- c. Develop and implement a plan of future roadways to improve connections across the Township and within the region.
- d. Develop site and roadway design standards to anticipate and accommodate future mass transit systems.

**Goal 7.** A network of safe and convenient pedestrian and non-motorized pathways, sidewalks and trails will connect neighborhoods to commercial centers, allowing residents to enjoy the community's many natural features.

**Objectives:**

- a. Develop and implement a non-motorized pathways plan to address both recreational uses and local non-motorized commuting needs.
- b. Incorporate the recommendations of the Grand Valley Metro Council's *Non-motorized Transportation Plan* to increase opportunities for recreational and commuting needs.

UTILITIES AND PUBLIC SERVICES

**Goal 8.** The land use plans of the Township will guide and direct the rational and sequential expansions of the public water and wastewater systems in the Township.

**Objectives:**

- a. Establish land use and zoning policies that reflect residential densities and commercial and industrial intensities that take into account existing and planned extensions of utility systems.
- b. Develop and adopt utility policies to ensure that expansion of the systems will be driven by land use objectives and not by revenue considerations.
- c. Establish and periodically evaluate an urban growth boundary and prevent the expansion of utilities beyond the growth boundary until objective and pre-determined threshold requirements are met.

**Develop and adopt utility policies to ensure that expansion of the systems will be driven by land use objectives and not by revenue considerations**

**Goal 9.** New residential and commercial development in the Township will be sited and developed with careful attention to best practices for public safety and property protection.

**Objectives:**

- a. Establish and implement practical design standards to support the requirements of first responders while creating attractive and inviting neighborhoods and developments.
- b. Decisions related to the capital requirements of public safety services will be guided and informed by the growth policies and future land use plan of the Township.

**Goal 10.** Storm water will be effectively managed through advanced techniques that are sensitive to environmental impacts and offer aesthetic amenities for the community.

**Objectives:**

- a. Establish and implement storm water design standards that result in functional facilities to control flooding, protect surface waters from contamination and provide an aesthetic amenity for residents and businesses.
- b. Explore innovative storm water management techniques, such as pervious pavement, rain gardens and similar facilities to minimize downstream impacts resulting from growth.

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## ECONOMIC DEVELOPMENT

**Goal 11.** New businesses in the Township will be clean, responsible and economically viable corporate citizens located in attractive and well-defined commercial centers. The Township will contain a diverse mix of businesses providing meaningful employment opportunities.

**Objectives:**

- a. Establish and implement standards for new commercial and industrial developments to require and/or incentivize attractive development forms.
- b. Establish and implement a program to reclaim and redevelop underutilized and/or contaminated commercial and industrial areas of the Township.
- c. Work with regional economic development efforts to promote the health of Township businesses and to attract desirable commercial and industrial land uses.

## PEOPLE AND HOUSING

**Goal 12.** Neighborhoods in Plainfield Township will include housing for the entire spectrum of society, arranged in walkable, pedestrian-oriented patterns incorporating spaces for social interaction.

**Objectives:**

- a. Establish programs to coordinate the pace and distribution of new residential growth in accord with the Township's future land use plan and population projections.
- b. Develop and implement standards to incorporate and maintain, where appropriate, pedestrian facilities and neighborhood gathering places, such as community greens and tot-lots, to foster social interaction among neighbors.

**Goal 13.** Older, established neighborhoods in the Township will be strong and stable communities, characterized by well-maintained homes and public areas.

**Objectives:**

- a. Develop and implement property maintenance standards.
- b. Strengthen and enforce neighborhood housekeeping requirements.

**Goal 14.** New developments in rural areas of Plainfield Township will be designed in a manner that maximizes the retention of the rural character of the Township through consolidated open space and/or low density development patterns.

**Objectives:**

- a. Implement a program of community information to heighten public understanding of alternative approaches to protect rural character and the advantages and disadvantages of each.
- b. Prepare an inventory of natural features to clearly define features with environmental and aesthetic significance in the community. (Duplicates 1, a)

**COOPERATIVE PLANNING**

**Goal 15.** Plainfield Township will take a leadership role in fostering cooperative communication within the Township and with other townships, cities, school districts and regional agencies for the benefit of the region.

**Objectives:**

- a. Work with Grand Rapids Township, the City of Grand Rapids and impacted property owners in the development and implementation of an improvement plan for the Plainfield Avenue corridor.
- b. Work with the City of Grand Rapids and Grand Rapids Township in the revision and implementation of the North East Beltline corridor plan.
- c. Work with Algoma Township and the City of Rockford in the development and implementation of a development plan for the 10-Mile Road corridor, including the US-131 interchange.
- d. Implement periodic meetings and exchanges with the public school districts to share information and plans and to jointly plan for capital improvements and recreation facilities.

**Goal 16.** Zoning standards and regulatory requirements of the Township will be clear, fair and broadly understood in the community. All standards will be structured to support the goals of this plan while providing maximum flexibility to protect the property rights of residents and businesses.

**Objectives:**

- a. Prepare and adopt Zoning Ordinance revisions to implement the policies of the new Master Plan.

- b. Develop programs to disseminate information on planning and zoning standards and procedures, including extensive use of the Township’s website to expand and improve communication with citizens concerning land use and zoning issues.

## SUSTAINABILITY

**Goal 17.** Plainfield Township will develop in a form and manner that meets the needs of the generation without compromising the ability of future generations to meet their own needs.

**Objectives:**

- a. Develop environmental design standards consistent with Leadership in Energy and Environmental Design (LEED) requirements to apply to new sites and buildings and, as appropriate, to redevelopment.
- b. Develop standards to promote water conservation, including site and development standards for such innovative techniques as “rain gardens” and “green roofs.”
- c. Establish standards to promote natural filter/buffer strips along the edges of rivers, lakes and streams to mitigate the impacts of runoff on sensitive water bodies. (Duplicates 2, d)
- d. Establish and implement a program to reclaim and redevelop underutilized and/or contaminated commercial and industrial areas of the Township. (Duplicates 11, b)

## CHAPTER 11. FUTURE LAND USE PLAN

The Plainfield Charter Township Master Plan establishes general patterns of land use to guide growth and development for the next twenty to twenty-five years. This Plan constitutes a practical and integrated approach to accommodate the impacts of growth suggested by the implications of existing growth patterns. The chief intent is to foster efficient patterns of development that preserve the community’s significant natural features and unique character while accommodating the estimated 3,000 additional households anticipated in the Township by 2030.

**This Plan constitutes a practical and integrated approach to accommodate the impacts of growth suggested by the implications of existing growth patterns**

The residents of Plainfield Township have indicated that they wish to preserve water quality within Township and protect the Township’s woodlands, wetlands and other natural areas. They also recognize the emerging suburban nature of the Township, and this Plan will provide guidance for new development while protecting critical natural resources. To honor these values, the community devised a land use framework that seeks to preserve open space and natural features, encourage redevelopment in appropriate areas, provide for economic opportunity and services, and preserve the rural aesthetic and recreational areas.

The overall purpose of the future land use designations is to guide new development in logical and viable patterns while offering fair, and in some cases, value-enhancing opportunities for development, where reasonable and appropriate. Many areas of the Township are served with public utilities, and most new development is to be directed in these areas.

The following paragraphs describe the future land use designations as illustrated on the Future Land Use Map (Map 13). Each Future Land Use category is intended to foster a character distinctive of that district and unique to Plainfield Township. Furthermore, it is intended that as the community develops over the next twenty to twenty-five years, a significant share of the natural features existing today will have been preserved. Note that the future land use designations on the map are meant to be seen as general with indistinct edges. Along the margins, where two or more designations adjoin, either land use class may be appropriate.



Insert map 13, future land use

Back of map 13

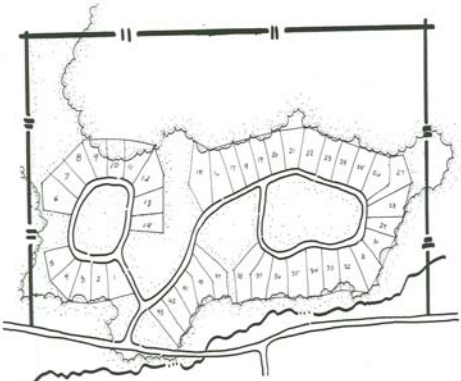
# FUTURE LAND USE DESCRIPTIONS

## RURAL PRESERVE

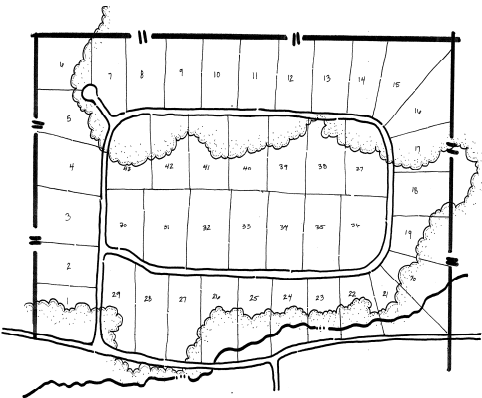
Plainfield Charter Township is blessed with significant areas of river valleys and corridors, inland lakes, wetlands and groundwater recharge areas, wildlife habitat, recreation areas and forestlands. These lands contribute an important rural aspect to the Township’s character and an over-arching focus of this Plan is to preserve such features so that future generations may continue to enjoy the benefits of a well-preserved natural environment. The lands designated as Rural Preserve represent about 5,181 acres, or about 24% of total land area in the Township. Of that area, the vast majority falls either near the Grand River and Rogue River floodplain or in area of about 2,200 acres in the northwest corner of the Township, adjoining Alpine to the west and Algoma Township to the north. This area includes Little Pine Island, Freska, Duck and Mirror Lakes as well as much of the remaining woodlands in the Township.



**A central goal of this Plan is the practical protection of those lands that serve as habitat for the wildlife**



**Open space and conservation cluster developments (above) preserve a greater number of natural features than a traditional subdivision (below)**



While some of the Rural Preserve area is in public or quasi-public ownership, efforts should be directed to protect and provide for additional public stewardship. This will include a broad range of activities including cooperative efforts to expand Township and County parks and encouraging conservation easements within sensitive areas. Lands not in public ownership may experience very low-density development integrated with the key natural features. Conservation design mechanisms, such as encouraging open space designs in new development projects, should be utilized as development occurs with conservation easements encouraged to assure the perpetual protection of key natural areas. Public utilities currently extend to some portions of the Rural Preserve area. However, the existence of water and wastewater services should not be regarded as inviting higher intensity land uses. On the contrary, utility service within the Rural Preserve areas will be intended to enable low density development that is the least disruptive of natural areas.

Lands in the Rural Preserve designation host many unique wildlife and ecological corridor areas and these are key to the character of the Township. A central goal of this Plan is the practical protection of those lands that serve as habitat for the wildlife. As development occurs, it is expected that prime ecological corridor areas as outlined in a natural features inventory (see Chapter 12) will be preserved. Those features may include riverine corridors, steep slopes, ridgelines, wetlands, lowland forests, old growth forests, upland openings, critical habitat areas, creeks and streams, and natural meadows. Where considerable or vulnerable wildlife populations are identified, this Plan seeks to connect wildlife habitats and potential corridors to prevent isolation and fragmentation, which ultimately threaten a species.

Uses in the Rural Preserve areas may include single-family dwellings, resource conservation and resource-based production, and natural resource based recreation. As resource-based production activities proceed, some land modification is likely to occur such that portions of those areas may become appropriate for low intensity development. In addition, environmentally friendly agricultural activities that do not permanently and negatively modify the natural landscape of the area are likely to continue. A very low density development pattern, averaging between one unit in three to five acres throughout this district, is desired. However, individual parcel sizes may vary significantly based on zoning standards, and pockets of higher density are likely within this district, depending on local conditions. The primary consideration when considering proposals for development

within the Rural Preserve future land use area will be the degree such proposals advance and support the objectives of this Plan. Thus, measures to protect and enhance wildlife habitat, natural features, ecological corridors and rural character are more important than simple residential densities.



**Vegetative buffers along lakes and streams help filter runoff and preserve wildlife corridors.**

Based on the Natural Features Inventory (see Chapter 12) the Zoning Ordinance will include one or more zoning districts and development standards that will support these objectives. Where high priority features are present, development activity must be very carefully managed to minimize and mitigate the effect of development on those important features. A part of this will be attention to the form of development and the

intensity of development. Development form refers to how construction impacts features while the intensity of development refers to the nature and density of particular uses. With regard to form, on

sites with very high priority features, development form may be regulated with standards for impervious surfaces, deep isolation distances, standards for vegetative buffers and similar measures. With regard to development intensity, either very large lots or very small, cluster patterns may be effective. In the former instance, large lots would include standards to restrict the clearing of vegetation and habitat and to regulate impervious surfaces so that the natural environment on each lot is protected. With regard to smaller lots, the standards for development on the lots would be related to protection of features, but large portions of the entire parcel would be permanently preserved in a natural state.

Many of the roadways in the Rural Preserve traverse heavily wooded portions of the Township. To maintain the rural and scenic character of these roads, scenic easements of at least one hundred feet in depth should be encouraged. These scenic easements will consist of natural vegetation to balance development objectives with the community values associated with preservation of natural features, conservation development techniques should be enabled and encouraged. Such techniques will not increase the overall density of development in the area. However, to offset the lands consumed by the conservation easement, certain dimensional requirements, such as setbacks and parcel area, may be adjusted.

## COUNTRY RESIDENTIAL

This land use designation is intended primarily to address the need for scattered single-family development in relatively rural and low-density patterns. These uses are positioned where little or no important natural features exist and a conventional lot split or large lot subdivision would not negatively impact environmental quality. About 4,671 acres or approximately 21.7% of the Township’s land area falls in this district. Much of the lands in this area consist of former farm fields that have been fragmented into parcels ranging from 2 to forty acres. Also included are parts of the riverine corridors in the Township. The primary land use in this district will include single-family detached residential development in large lot patterns or in conservation cluster developments. In addition, so-called hobby farms and some field crop production may be expected in this area.



**These areas are characterized generally by rolling meadowlands and wooded hillsides**

The Country Residential area is generally found west of the Rogue River and north of Post Road, with another area south of Rockford extending to Courtland Avenue,

along the southern bank of the Rogue River and in the southeastern portion of the Township in a rolling and wooded area adjoining Grand Rapids Township. These areas are characterized generally by rolling meadowlands and wooded hillsides. This Master Plan anticipates a continuation of this pattern with a minimum lot size of one dwelling unit per 1.5 acres which, at build out, will achieve an overall density of less than 1 dwelling unit per 2 acres. Where public water and sanitary sewer are available, open space clustering will be encouraged with smaller lot sizes while not exceeding an average density for any specific development of one dwelling unit per 1.5 acres.

**Childsdale/Rockford.** This neighborhood will materialize over the life of this plan adjacent to the western Rockford City limits, south of Ten-Mile Road and north of the Rogue River. This area currently is characterized by country residential patterns on larger intact parcels. However, the desirable rolling and wooded terrain and proximity to Rockford and the Ten Mile corridor offers an opportunity for high quality residential development. Such developments may be formed in traditional subdivisions and/or in conservation design patterns intended to protect key natural features. Using innovative design patterns such as conservation cluster design some areas of higher density may be encouraged if they result in the protection of key natural features.

## LOW DENSITY RESIDENTIAL

This is the broadest future land use district and it has been established in recognition of the emerging suburban nature of much of the Township. This district recognizes this characteristic and anticipates and facilitates an orderly and sequential transition from rural area to attractive and functional neighborhoods. Areas designated Low Density Residential represent 8,051 acres or approximately 37.3% of the Township.



**A balanced mix of housing types will strengthen existing patterns.**

Although this area is the largest of the future land use designations, there are some particular attributes of parts of the Township that should be recognized and respected, even as changes occur. Residential densities will range from as low as one unit per acre to as high as three units per acre, depending on existing conditions and established patterns. The following paragraphs discuss some portions of the Low Density Residential district.

**Northview/Riverbend.** A significant portion of the area south of the Grand River and generally west of the East Beltline consists of mature suburban residential neighborhoods characterized by smaller lots served with public water and wastewater services. Much of the residential character of this portion of the Township is well established and this Master Plan seeks to strengthen and support these areas. This area includes a broad range of single family housing, ranging from modest pre- and post-war single-family subdivisions to well-established and high-quality developments.

Within this area, both north and south of Five Mile Road and in other scattered undeveloped parcels, this plan will foster the consolidation of vacant and underutilized lands to form new residential neighborhoods. The neighborhoods in this region should be developed at densities and with amenities to encourage family living, including walkable streets, convenient access to schools, services and shopping and with a range of housing values to encourage a balanced mix of housing types. Development will be limited to single family detached homes and supporting public facilities such as parks and schools. Neighborhood uses may be considered through the PUD process.

**Comstock Park.** The Comstock Park community extends from the southwestern corner of the Township along the northwest side of the Grand River to Scott Creek and westerly to US-131. The primary land use in this district will continue to be single-family detached housing located primarily along local streets. The margins between the Comstock Park commercial and industrial corridors along West River Drive and this low density residential area will be marked by effective transitions and buffers to contain the effects of higher intensity uses and protect the residential character of the area.



**The White Pine Trail connects the Comstock Park, Belmont and Rockford/Childsdale neighborhoods.**

The essential character of the area is well established and the land use policies of this plan are intended to stabilize and strengthen existing neighborhoods, while encouraging the rational and sequential expansion of low density residential uses on the few remaining larger parcels within the district. Portions of the district, such as the area within the Comstock Park settlement will be formed in relatively urban patterns of walkable streets with good pedestrian and vehicular connections to shopping and services. Other emerging portions of this community will transition to the Country Residential areas to the

north and west of the community, providing a gradual shift to areas of lesser density.

**Belmont Residential.** An area of low-density residential development will surround and blend with the mixed-use area at the Belmont settlement (see Mixed Use Area #5). This area will extend east and west of the Jupiter/Post corridor from Scott Creek to the Rogue River and extending north to the Consumers Energy right-of-way. Development within this area will consist largely of single-family detached residential development formed along collector roads and within newer subdivisions. Remaining areas of unfragmented lands will transition into subdivisions of new neighborhoods at densities consistent with the surrounding area. In this area, attention will be given to connections within and among emerging neighborhoods to disperse traffic and to foster communication within similar areas.

**Pine Island.** This area of low density residential will emerge along the western Township boundary with Alpine Township extending easterly to US-131, between Six Mile and the Scott Lake development. While much of this area is currently formed in country residential patterns, low-density residential subdivisions have developed in the recent past and the area’s proximity to both US-131 and Alpine Avenue to the west will likely stimulate further development interest.



**The Pine Island area will likely transition from large lot land divisions to traditional subdivisions.**

Land uses in this area will consist largely of newer single-family detached neighborhoods arranged either in traditional subdivisions or in conservation cluster forms that protect rural characteristics, such as viewsheds, woodlands or stream corridors.

**Blythefield/Boulder Creek.** East of the Rogue River, another area of low-density development will continue to emerge. This area is found along and north of the Seven Mile/Rogue River Drive corridor and extending north of the Rockford Public Schools property, but not beyond the riverine topography north of Kroes. Development patterns are well established in the Blythefield Acres portions of the area and in the developing Boulder Creek neighborhood. This area includes some high value properties along the eastern bank of the Rogue River. This plan anticipates that remaining undeveloped lands to the north within this community will attract development in patterns and densities consistent with the remainder of the area. The predominate land use will be single-family detached units.



**This area includes some high value properties along the eastern bank of the Rogue River.**

**All areas within the low density residential designation will ultimately be served with public utility systems**

Within each of the areas in Low Density Residential designation, average overall densities will vary based on existing patterns and will range from one to three units per acre, although it is likely that pockets of lower densities will emerge to accommodate natural features and to fulfill the other objectives of this Plan. Within innovative design patterns – such as conservation cluster design – some areas of higher density may be encouraged if they result in the protection of key natural features so long as the average density for any specific development does not exceed an average density of three units per acre. All areas within this designation will ultimately be served with public utility systems. Developments occurring on lands classified as Low Density Residential should have direct access to a paved roadway, and should accommodate public utilities. Innovative storm water runoff detention and treatment will be encouraged to protect water quality and features.

Waterfront development along the Rogue River should be scaled and designed taking into account the health of the stream. Efforts should be advanced to protect the riverbank by maintaining established native vegetation and wildlife corridors while permitting low intensity human uses.

## MODERATE DENSITY RESIDENTIAL



**Development will typically take the form of low-to-mid rise buildings, townhouses and duplex units**

The Moderate Density Residential designation is intended to accommodate residential options for people of varying age and income levels formed in inviting communities. For example, this designation is expected to serve as a catalyst for high-amenity “empty-nester” and senior living arrangements and more affordable single-family homes on smaller lots that are incorporated into the area’s natural features. While moderate density residential will be a common feature in several of the mixed use areas, an existing area in the vicinity of Five-Mile Road and the East Beltline is well established and may expand slightly.

Overall residential densities within the moderate density residential area will range from two to six units per acre and development will typically take the

form of low-to-mid rise buildings, townhouses and duplex units. This classification comprises about 351 acres, or about 1.6% of the Township’s land area. Development types may include senior living facilities, single-family detached homes or multi-unit buildings developed in clusters, depending on the availability of utilities. Within this relatively intense development form, flexible conservation design mechanisms will be encouraged, as appropriate, to establish open space preserves and neighborhood recreational facilities. Some existing moderate density residential uses found along key travel corridors may experience some characteristics of functional obsolescence, and these areas may emerge as nodes of office uses over the life of this plan.

Playgrounds and sitting areas to provide recreational opportunities should be incorporated in new development. Developments should include pedestrian walkways and street layouts should be designed to connect with future developments as they occur. Pedestrian facilities should be incorporated into new developments and should be positioned to join with walkways within future developments.

**MIXED-USE AREAS (MAP NUMBERS 2, 4, 5 AND 7)**

Plainfield Charter Township is experiencing a steadily growing population, which results in an increased need for commercial and professional services, with high-amenity and affordable housing in close proximity. While it is the goal of the Township to avoid heavy commercial concentrations or development patterns that would fundamentally alter the character of the community, modest scale developments intended primarily to serve local residents are desired. Such developments reduce the need for some automobile trips to the City and may offer walkable shopping opportunities when linked to neighborhoods with safe pathways and sidewalks. This Plan includes five predominately non-residential mixed-use areas. Some of these areas exist as this plan is being developed while others are likely to emerge over the course of the planning horizon. Thus, each mixed-use area will have its own characteristics and



**The Plainfield Avenue corridor faces a number of challenges**

personality. Some may be characterized by a predominate land use, such as higher density residential, neighborhood or regional commercial or office. Others may include a mixture of these use types.

The following paragraphs present a brief overview of each of the five primarily non-residential mixed use areas including their current form

and their desired form under the policies of this plan. The mixed-use areas and the mixed residential areas described below are simply numbered one through nine for the purposes of this plan, although a few already have an established identity. As the plan is implemented, the Township will seek to create stronger local identities for all areas.

**Mixed-use Area #2: Plainfield Corridor.** The Plainfield Avenue corridor faces a number of challenges – from functional and economic obsolescence, to access management, to corridor aesthetics. A mixed use land use plan for this corridor must account for these challenges and seek to capitalize on the unrealized commercial potential of the area. Under Act 280 of 2005, a Corridor Improvement Authority has been established in conjunction with Grand Rapids Township. A detailed plan for this corridor will emerge which will establish detailed design standards that may be flexibly applied to address the aesthetic, access management and redevelopment needs of the corridor. This Master Plan anticipates a mix of regional and neighborhood scale commercial, office and service uses fronting the arterial road, with higher density residential land uses formed in neo-traditional patterns. The proximity of this mixed-use area to the emerging area at Coit/Woodworth (see Area #1, below) offers an opportunity for a non-motorized connection between these two areas and, ultimately, to the River corridors.

**Mixed Use Area #4: West River Road/Jupiter.** The intersection of West River Road and Jupiter includes a partially developed planned unit development and low-density residential development. This is a key intersection in the community and there may be continued pressure to take advantage of the arterial traffic flow with regional commercial development. However, this portion of the West River Road corridor is a poor candidate for “big box” commercial development as it is too far removed from highway connections and too constrained by the Grand and Rogue Rivers and surrounding residential development. Other regional commercial uses may find some limited success, but the existing regional commercial areas on Northland Drive and on West River Road near US-131 offer better advantages. Nevertheless, this intersection may emerge as a small-scale node of personal or professional service uses or moderate density residential land uses.



**West River Road and Jupiter may emerge as a small-scale node of personal or professional service uses or moderate density residential land uses**

These should be arranged in planned patterns to minimize access and traffic conflicts and promote interconnections among uses. The southwest part of the

intersection may incorporate some small-scale office uses along the road frontage with a boat launch or recreation area on the river.

**Mixed Use Area #5: Belmont.** The existing community at Belmont includes single-family residential, some limited commercial and office development as well as institutional uses including churches, schools, Township offices and the YMCA. This is an historic population center and some of its housing is nearing the end of its useful life. The challenge for the Belmont Mixed Use Area will be to redevelop the housing stock and potentially strengthen small-scale commercial uses while preserving the small, rural charm of the community. In addition to the existing uses in Belmont, attached housing units and some moderate density development targeted at empty-nesters and the elderly should be considered.

**Mixed-use Area #7: Wolverine/Belding Road.** The Wolverine and Belding Road corner includes a small commercial node, but is challenged with access limitations imposed by the high traffic volumes and topography. This plan anticipates a continuation of service and office uses formed in a planned development with roads established to provide safe and appropriate access without encumbering regional traffic patterns.

## MIXED RESIDENTIAL AREAS (MAP NUMBERS 1, 3, 6, 8 AND 9)

**Mixed Residential Area #1: Coit/Woodworth Reclaimed Mine.** This is an area of former farmlands currently committed to active sand and gravel mining. As the mining activity draws to a close, this area will be reclaimed in a residential development form consisting of moderate density housing arranged in attractive and walkable neighborhoods. The mining activity may result in water features that will add an attractive benefit to the community. This site will accommodate a high-amenity community arranged with walkable patterns to support family housing, pocket parks, institutional uses like schools and churches and some limited convenience commercial. This plan anticipates a detailed reclamation plan for this 360 acre area that will be phased over an extended period with the objective of providing a broad variety of housing for about 1,000 families.

**Mixed Residential and Mixed Use Area #3: Beltline/Four Mile.** The area either side of the East Beltline, north of Four Mile Road is currently in orchard and agriculture, which is nearing the end of its economic viability. The East Beltline is subject of a regional land use



**A mixed use development formed in “neo-traditional” patterns will be generally faithful to the North East Beltline Plan.**

plan, which identified this area as a location for moderate density housing. Some of the partners in the regional land use study for the East Beltline have departed from its vision and strong pressures toward strip commercial and “big box” threaten to undermine the vision for the regional artery. A better approach for this area may be office or institutional uses in a thoughtfully designed suburban environment primarily on the east side of the East Beltline transitioning to residential uses to the north and east. These might include attached or detached single-family housing or specialty housing for seniors, for example.

Moderate density housing is the best overall use for the westerly portion of this area. The impact of the traffic on the Beltline will need to be buffered with deeper setbacks, and potentially some office uses along the frontage. Thus, this plan seeks to foster a mixed-use center consisting primarily of single-family and townhouse development arranged in “neo-traditional” form interspersed with higher density residential. To prevent “big box” intrusion into this environment, standards for this area should include a maximum footprint area for any one use of less than 10,000 square feet.

**Mixed Residential Area #6: Rogue River/Seven Mile.** A relatively small area at Seven-Mile Road and Wolverine offers good visibility to traffic on the arterial network and may experience pressure for highway commercial development that would undermine the character of the area.

This would not be desirable as it would foster sprawling strip commercial patterns and unnecessarily compete with the existing commercial development to the south. Therefore, commercial retail development is strongly discouraged. This corner could be developed in a planned unit development form incorporating flexible design standards and good connections to emerging residential development in the vicinity. The desired uses for the site would include moderate-density residential development and/or senior-oriented housing with the potential for a limited office or institutional component arranged in keeping with the surrounding residential land uses. Such a development pattern will likely



**Representational Graphic**

**With deeper setbacks and effective buffering, the 7-Mile and Rogue River intersection may develop as a high amenity residential environment.**

incorporate deeper setbacks and/or intensive landscape treatment to buffer residential uses from the impacts of arterial traffic.

**Mixed Residential Area #8: Post and Pine Island.** This area includes an existing manufactured housing community as well as an established neighborhood and nearby vacant lands. The area is found along US-131, north and south of Post Road. The future land uses anticipated in this mixed-used area includes a continuation of the low-to-moderate density residential patterns reflected in the existing uses, along with some modest institutional (such as schools and churches) uses both to serve the residents of the community and the region. Highway commercial uses currently exist between the US-131 interchange and Pine Island Drive, however, these uses are not encouraged to expand beyond this area.

**Mixed Residential Area #9: Childsdale/Rogue River.** The existing industrial uses at Childsdale and the Rogue River may become obsolete during the life of this plan and a redevelopment plan for this area may be necessary. Assuming any residual environmental impacts can be effectively addressed, the proximity to the desirable River corridor make this site an ideal locale for a mixed development and potentially some public recreation space, all arranged to take advantage of the site, while protecting the river from development impacts.

## COMMERCIAL/OFFICE

The Commercial/Office future land use designation is intended to provide for employment and goods and professional services to serve the broader community including and extending beyond Plainfield Township. This area is comprised of about 465 acres, or about 2.2% of the Township’s total land area. Four key areas are identified in this future land use plan, along with the mixed-use area along Plainfield Avenue, which is largely commercial in character. These areas include, a limited node at the US-131 interchange with Ten Mile Road; the extensive Comstock Park commercial area, generally consistent with the Township’s DDA area; a small emerging commercial/office area at Post Road, east of US-131; and the most vital commercial/office area in the Township along eastern Plainfield Avenue and Northland Drive, south of the River.



**These areas will be characterized by regional-scale development to provide shopping and employment for Township residents and the larger community.**

A small commercial/office node along West River Drive east of Mixed Use area #4 is also recognized, but is not anticipated to expand.

Other than the small node on West River Drive, these areas will be characterized by regional-scale commercial or office development to provide shopping and employment for Township residents and the larger community. It is recognized that modern regional commercial and office facilities must accommodate considerable vehicular travel, but the Township will continue to stress pedestrian accommodation and attractive landscaping to soften the development presentation and make these centers more inviting. This may be accomplished with landscape standards and site and building design requirements that work to balance the vehicular and pedestrian circulation patterns with aesthetic considerations, with the realities of the marketplace. However, the Township will continue to strive to achieve a higher standard in commercial and office design to help foster attractive developments that continue to remain functional and vibrant throughout the term of this plan.

Development of the westerly portion of the commercial and office node at the US-131 interchange with Ten Mile Road, must be effectively coordinated with the availability of utilities. As indicated in Chapter 10, utilities will become available only in support of the future land use objective of the Township. West of US-131, the Future Land Use plan anticipates Rural Preserve and Country Residential land uses in Sections 4 through 7 and a westerly extension of wastewater service along Ten Mile Road is not anticipated. Nevertheless, in view of the extensive commercial and office development north of Ten Mile Road some commercial and office uses immediately adjacent to the US-131 interchange is appropriate.

## INDUSTRIAL



**Industrial development provides investment in the community and jobs for local residents**

Industrial development provides investment in the community and jobs for local residents. While some industrial uses may generate objectionable off-site impacts, existing manufacturing operations in the Township have not presented significant problems for neighboring uses. The Township is home to two existing industrial areas and under this Master Plan, an additional area may be formed. The existing industrial pattern along West River Road will be supported and strengthened. Existing residential development in proximity of these uses are

well established and further expansion of either use is not planned.

Along Belmont Road, east of US-131 at Ten Mile Road, a modern industrial park has been formed. This area includes manufacturing and transportation uses, as well as some regional commercial and service destination uses. This pattern is desirable in this location and should be strengthened. The area east of Belmont Road includes some single family homes and therefore industrial uses should only be encouraged in accordance with a plan for the entire area. Piecemeal industrial development that would create small islands of residential uses should not be permitted.

On the former North Kent sanitary landfill property an area of approximately 80-acres is planned for further industrial development. This area will not include reclaimed landfill area, but will provide an economically important land use, which will be carefully designed and landscaped. This industrial area will also be effectively buffered from surrounding Country Residential future land uses by a planned park and recreational area, also formed on the former landfill property.

## CHAPTER 12. IMPLEMENTATION STRATEGIES

For a Master Plan to truly impact growth and development, it must be followed and carried out. The following strategies are established to implement the goals and objectives and land use recommendations of this Plan. It is recognized that many strategies will be long-term in nature and that many entities in addition to Plainfield Charter Township will need to cooperate in order to fully implement the recommendations of this Plan. The descriptions of strategies in this Plan are intentionally general to allow the Township the flexibility to prepare specific work assignments and prioritize each strategy as a part of its overall municipal operations. Therefore, an initial implementation task will be the development by the Township Board and staff of a detailed set of work task assignments to set this plan in motion.

Primary responsibility for implementing the Plan rests with the Township Board, the Planning Commission, and Township staff. In order for the Future Land Use Plan to serve as an effective guide for continued preservation and growth in the Township, it must be implemented. This is done through a number of methods that may include ordinances, programs, and administrative procedures, which are described in this Chapter. Some of the implementation strategies require significant public and private investment. Each strategy is important; as it contributes to achieving the overall vision expressed by the Plan.

### 1. NATURAL FEATURES INVENTORY

A central theme of the Township's Master Plan is the idea of preserving natural beauty and significant natural features within the community. The key component for doing so is the preparation of an inventory of important natural features and the identification of the likely trends or conditions that may threaten them. Significant natural features and valuable open spaces should be documented to help identify preservation priorities that may arise for private conservation and possible land acquisition.

Plainfield Township is fortunate to have access to a significant amount of geographic information documented through REGIS. Utilizing this data as a base, the Township should develop a series of mapped exhibits to serve as a guide for future land use decisions or to encourage private protection of natural features. Acquiring additional data will require support from an environmental consultant with expertise in Michigan wildlife, forestry systems and fresh water biology. The Township may partner with various environmental agencies, volunteers, and higher

education institutions to assist in research, funding, and feature delineation.

Further inventory activity may also occur as private property owners submit site plans for review and consideration. Independent and professionally prepared natural features cataloging can be made a required component of site plan submittals for certain critical properties, such as those adjacent to lakes and streams. The information provided can be considered for incorporation into this inventory.

**Responsibilities.** This strategy must be led by the Township Planning Commission with Planning staff utilizing outside consultants – planning and environmental – as needed to complete field work and to develop specific Zoning Ordinance language.

**2. ZONING ORDINANCE REVISIONS**

**The Zoning Ordinance is the primary implementation mechanism for this Plan.**

The Zoning Ordinance is the primary implementation mechanism for this Plan. This strategy contemplates a comprehensive evaluation of the entire Ordinance in light of the community’s goals, objectives, and Future Land Use Plan. This will include a revision of the Zoning Map, as appropriate, to support the future land use map, and a revision of some zoning classifications to better conform to the future land use designations in this Plan. In addition, the Ordinance should be evaluated for flexibility to address innovative development techniques and for its ability to control inefficient development patterns.

Clearly, there will be some portions of the Zoning Ordinance that will require adjustment to conform to the plan. Not the least of these will be the zoning map, but other elements may include design standards for some areas (such as form-based codes), language to eventually implement TDRs, pedestrian and trail connectivity and other areas. Revisions to the Ordinance should promote walking connections within the Township as well as transit-oriented features such as Park ‘n’ Ride lots.

In addition, some of the larger future land use designations (e.g., Rural Preserve, Country Residential and Low Density Residential) may necessitate some adjustment in the implementing Zoning district standards. This may include adjustments of the dimensional standards and/or refining uses or even the establishment of new and more refined zoning districts.

**Responsibilities.** The Planning staff and the Planning Commission may implement this strategy. This is likely to be an extensive task with multiple elements – each with unique challenges that may require each activity to be addressed independently – and it is likely that outside

support will be needed. Any resulting amendments to the Ordinance will require the review of the Township’s legal staff and ultimately adoption by the Township Board.

**3. PLAINFIELD AVENUE REDEVELOPMENT PLAN**

The intense strip commercial development that has occurred along Plainfield Avenue has made travel somewhat cumbersome. Typical development in this area consists of clustered strip commercial buildings with overwhelming signage. Plainfield Avenue is a key transportation corridor in the Township and a redevelopment plan will address many of the concerns of the community.

This task will revolve around the Corridor Improvement Authority and will include both a redevelopment strategy and specific design standards that may be flexibly applied to address the aesthetic, access management, land use and redevelopment challenges of the corridor.

**Responsibilities.** The Planning staff and the Planning Commission may implement this strategy, in conjunction with the Corridor Improvement Authority Board of Directors appointed by the Plainfield and Grand Rapids Township Boards. This element will likely require significant community involvement and it is possible that outside planning support will be needed.

**4. COMMUNITY TRAILS PLAN**

Quality of life and recreational opportunities would be enhanced by formation of a trail network that connects neighborhoods with certain natural and cultural features, schools and commercial areas of the Township. Trails offer users a wide range of rewards including mobility, recreation, and an alternative form of transportation that encourages people to exercise.

**Quality of life and recreational opportunities would be enhanced by formation of a trail network.**

The Future Land Use Map includes the White Pine Trail as well as some likely trail links between existing and emerging features. This plan would require both a refinement of the likely trail corridors and, more importantly, a set of implementation tasks.

A Community Trails Plan should evaluate current land use patterns, environmental characteristics, potential greenway corridors and other features of the community to identify best locations for future construction of trails. In addition, the Plan should recommend alternative funding sources, staging and other recreational areas.

Furthermore, the Township should consider the recommendations of the Grand Valley Metro Council’s *Non-Motorized Transportation Plan* planning the location and nature of future non-motorized trails.

**Responsibilities.** Initial responsibility for implementation will rest with the Township Board and Planning Commission, with support from Township staff and the Parks & Recreation Department. The work to develop the Plan would be undertaken by Township staff with policy guidance from the Planning Commission and Parks & Recreation Department with assistance from environmental and planning consultants.

## 5. UTILITY ORDINANCE

**Sewer and water facilities are an important growth control mechanism.**

This task would involve developing an ordinance that governs where, when and how utilities will be extended all driven and guided by the Master Plan. This will also establish a growth boundary that the Township must be willing to enforce. Policies that direct the location of public water and sanitary sewer services are an important growth control mechanism. Water and wastewater utilities should be extended in a rational and sequential manner to serve new development only when the areas currently served are nearing full build-out. By encouraging new development located in proximity to existing or proposed sewer and water facilities, the Township will be in the strongest position to guide and direct growth. In addition, extensions of utilities through undeveloped areas to serve areas of proposed development should be avoided as such extensions are inefficient and they promote “leap frog” patterns that exacerbate sprawl. A new utility ordinance would outline standards to promote expansions to contiguous parcels with established threshold standards to trigger such extensions. In addition, such an ordinance should include regulations concerning time of sale septic tank and drainfield inspections to assure that existing and new on-site systems are functioning properly to protect groundwater and surface water resources.

**Responsibilities.** The Planning Commission and Township Board should work in conjunction with one another to implement this strategy, with support from the Township’s engineering consultant.

## 6. RIVERFRONT PRESERVATION AND ACQUISITION

A strong priority that emerged early in the planning process was a desire to preserve and protect riverfront property for community use, and the primary focus was on the Grand River.

This strategy would involve an inventory of land uses on a parcel-by-parcel basis, identification of potentially available properties, establishment of mechanisms to acquire or preserve land and an active and on-going strategic plan to carry out the policy.

The location of these properties within the floodplain presents certain risks with regard to flooding, and in 2007 the Township completed a floodplain mitigation plan that addresses these issues. The goals of this plan are categorized into safety, mitigation, prevention/regulation and education. The action plan portion of the plan sets forth several tasks for the Township to accomplish to implement the plan, such as purchasing watercraft, raising roads above the floodplain, training fire department staff in rescue/recovery operations, among many others.

**Responsibilities.** The Planning Commission and Township Board will work together with and various Township departments to implement this strategy.

## 7. MARKET-BASED DEVELOPMENT REVIEW

Local units of government are often faced with development proposals with little evidence that the proposal will succeed in the marketplace. Most communities rely on the market to govern success on the assumption that developers and lenders will not risk their investments with an infeasible proposal. However, this approach is not always successful. Many communities have been disappointed when an attractive proposal has not found favor in the market and the result can be a partially complete development that impinges on natural features and stunts the growth potential of the surrounding area.

To address this, the Township Planning Commission may establish standards to require a reliable demonstration of market feasibility for new residential developments. This will entail the development of zoning and site plan review standards for an objective market analysis for larger projects to address the form and type of development proposed, the supply of competing developments in the area, an estimate of full build-out and occupancy and documentation of the projected demand. A development that cannot provide a strong indication of feasibility may require adjustment in terms of schedule, scale or amenities.

**Responsibilities.** The Planning Commission, staff and Township Board will work together with the development community to develop feasibility standards.



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The following agencies, websites, official reports, and individuals were consulted in the compilation of the Plainfield Township Master Plan. Where conclusions or specific data was drawn from a source, it is noted in parentheses or in footnotes within the text. In all instances, the reader is encouraged to consult the sources noted below.

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APPENDIX A.

COMMUNITY OPINION SURVEY REPORT



## PLAINFIELD CHARTER TOWNSHIP COMMUNITY OPINION SURVEY

In early July 2005, the Plainfield Charter Township Planning Commission issued opinion surveys to a random sample of registered voters in the Township to determine citizen views related to growth and development in the community. The Planning Commission desired this input to inform the current effort of updating the Township Master Plan. This appendix to the Township Master Plan presents the findings of that survey; it includes a summary of the information garnered from the survey both in terms of the quantified data received, and an analysis of the significant conclusions that may be drawn from that data. In addition, the survey methodology that was used in the process is also described. In September 2005, the complete survey results were published in a report to the Township. This appendix includes the essence of that report but for the complete text, the reader is referred to the original report.

The following summarizes the primary findings of the survey.

### GENERAL INFORMATION

**A total rate of response of 24% was achieved, which is considered adequate for reliable results.**

1. A total of 3,266 survey forms were mailed to a random sample of the 21,850 registered voters in the Township, and a total of 784 responses were completed and returned by the cut-off date of July 31, 2005. This results in a rate of return of 24%, which is considered adequate for reliable results with a level of confidence of plus or minus 4%. The total population represented by the survey was 2,167 persons – 1,601 being adults and 566 being children under the age of eighteen. This is about 7% of the Township's 2000 population.<sup>48</sup>
2. Since the sample was drawn from registered voters, it only included adults of voting age whom have made the effort to register to vote. The population between the ages of eighteen and twenty-five years represented only 2.68% (n=21) of the responses; and 10.38% (n=81) of the respondents were between twenty-six and thirty-five years. The other age ranges were better represented and more evenly distributed: 36-45 years (20.92%; n=164); 46-55 years (24.36%; n=191); 56-65 years (17.86%; n=140); and 65+ years (21.17%; n=166).

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<sup>48</sup> The 2000 population was 30,195 persons, per the United States Census Bureau.

3. School district is an indicator of what area in the Township respondents live. A plurality of survey respondents, or 44%, lives within the Northview district, relatively the most developed and densely populated portion of the community.

**Table 1. Geographic Distribution of Responses**

School District	Total Responses	% of Responses
Comstock Park	135	17.22%
Northview	347	44.26%
Rockford	284	36.22%
<i>Don't Know</i>	7	0.89%
<i>No Answer</i>	11	1.40%
TOTALS	784	100%

**Retirees accounted for about 27.04% (n=212) of the respondents.**

4. The vast majority of respondents (95%; n=747) live in owner-occupied homes. Further, when asked to describe where they lived, 50% (n=396) said they resided on a lot in a subdivision. About 18% (n=140) said they lived on a rural homesite of one acre or more; about 15% (n=121) said they lived on a rural homesite of less than one acre. Responses from condo and townhome residents accounted for 7.02% (n=55), while 7.91% of respondents (n=62) resided in an apartment or a mobile home.
5. Average household size in the survey sample was 1.49 persons, which is significantly smaller with the average household size of 2.73 persons in the Township.<sup>49</sup> Households with children comprised about 52% (n=410) of the responses, similar to the 55.7% of families living with related children in the Township, as reported by the 2000 Census.
6. Responses largely came from long-time residents, with the average respondent living in the Township for 13.74 years.
7. It appears that approximately 15-20% of responses represent one-person or single-headed households, as 19.52% (n=153) of the respondents did not answer when asked the age of the other principal adult in the household; and 18.62% (n=146) did not answer when asked the employment status of any other adult in the household.
8. Slightly more than half (59.19%; n=464) of the primary adult respondents were employed and 58.2% (n=239) of the "other adults" in the household were employed. Retirees accounted for about

<sup>49</sup> United States Census, 2000

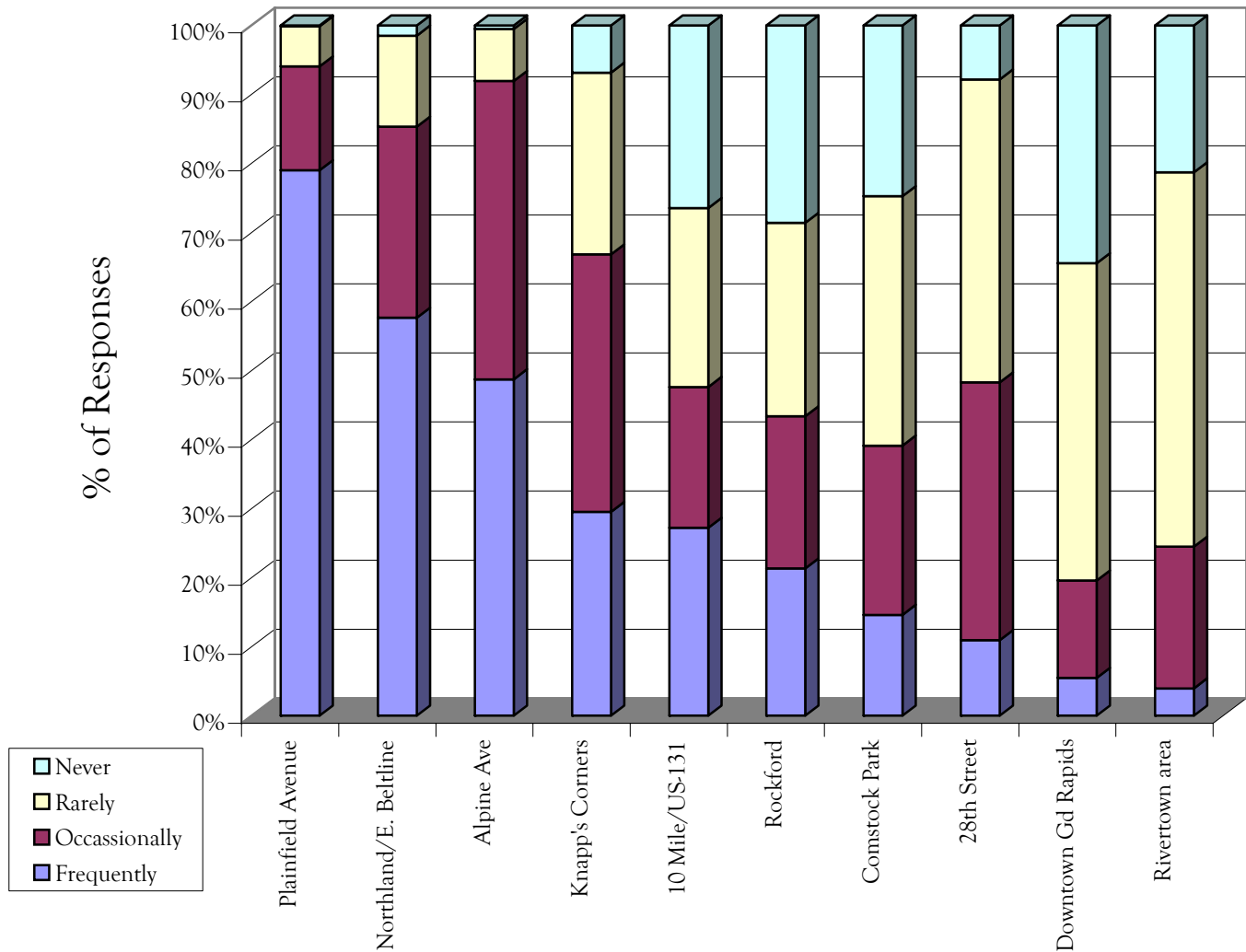
**Of those employed,  
about one-half of the  
primary adult  
respondents report  
working outside of the  
Township.**

- 27.04% (n=212) of the primary respondents. This is compared with 6.3% of total households reported as aged 65 or older in 2000.<sup>50</sup>
9. Respondent's place of employment is reflective of the "bedroom community" nature of the Township. Of those reporting themselves as employed, slightly less than one-half (45.54%; [n=357] of the primary adult respondents and 45.66% [n=358] of the "other adults") report working outside of the Township. Only 9.57% (n=75) of respondents and 6.89% (n=54) of other adults indicate employment within the Township.
  10. On average, respondents report a commute distance of 10.36 miles. This figure for other adults is 12.67 miles. Interestingly, 52.81% (n=414) did not respond when asked what general direction one travels to work. Of those that responded, a majority, or 32.78% (n=257), report traveling south for employment, which is not surprising since major employment centers exist in Grand Rapids, Wyoming, Kentwood, and other areas south of the Township.
  11. When asked if their neighborhood has sidewalks, 67.73% (n=531) of respondents said, "No," which implies that the majority of participants in the survey rely on automobiles for most trips.
  12. In terms of patronage of a particular retail area, a majority indicates that they are most likely to go to Plainfield Avenue for services, illustrated by Figure 1.

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<sup>50</sup> United States Census, 2000

Figure 1. Areas Where Respondents Obtain Services



**SAMPLE VALIDITY**

The validity of a sample depends on two considerations: its accuracy and its precision. An accurate sample must first be unbiased. In other words, the sample must either be a random selection of the larger population or it must be carefully designed to properly balance all key parameters of interest to faithfully represent the larger population. A random approach was used to assemble this sample due to its efficiency and the budgetary constraints of the assignment. A random sample is unbiased if each member of the population had an equal chance of falling into the sample and the selection of one member of the sample does not preclude the selection of another member. As described in

Methodology, a subsequent section of this report, the sampling technique meets this test. Another element of the accuracy criteria is the absence of systematic variance in the sample. Systematic variance is essentially the inclusion of known or unknown influences that may cause scores to lean in one direction.<sup>51</sup>

One method of measuring systematic variance is to examine the degree to which the profile of the sample corresponds to that of the larger population. A random sample may have some limitations and clearly some of those limitations are present in this study. Based on the above summary description, it will be important to bear in mind the following probable systematic variations found in the Plainfield Township survey:

**Systematic variance is essentially the inclusion of known or unknown influences that may cause scores to lean in one direction.**

- ◆ Respondents tend to be older than the general population, with 21.07 % (n=166) reporting their age at 65 years or older, as compared with 6.3% in this range in the 2000 Census.
- ◆ Home owners are slightly over-represented in the sample when compared to their proportion in the Township population: 95.28% (n=747) of respondents report owning their home, while this figure was 82.1% at the 2000 Census.
- ◆ Smaller households were over-represented in the survey sample, with respondents reporting an average household size of 1.49 persons and the 2000 Census reporting 2.73 persons.
- ◆ The sample was drawn from registered voters and thus only included adults of voting age whom have registered to vote. In addition, the population of the Township between eighteen and twenty-five years of age represented only 2.68% (n=21) of the responses, while the 2000 Census indicates that 5.2% (1,562 persons) of the Township is between twenty and twenty-four years of age.

These variances need not undermine the validity of the sample process; however, it will be important to keep them in mind as the Township makes use of the survey results for policy decisions.

## PREFERENCES

The balance of this report attempts to summarize the key findings from the survey. The reader is directed to the Frequency Distribution (page 13), which presents the complete results of the survey.

<sup>51</sup> Emory, C. William and Cooper, Donald R., *Business Research Methods, 4<sup>th</sup> Edition*, Richard D. Irwin, Inc., 1991

**Protecting natural areas; protecting private property rights; protecting water quality in lakes, rivers and streams; and protecting the quality of ground water, are considered the most important priorities.**

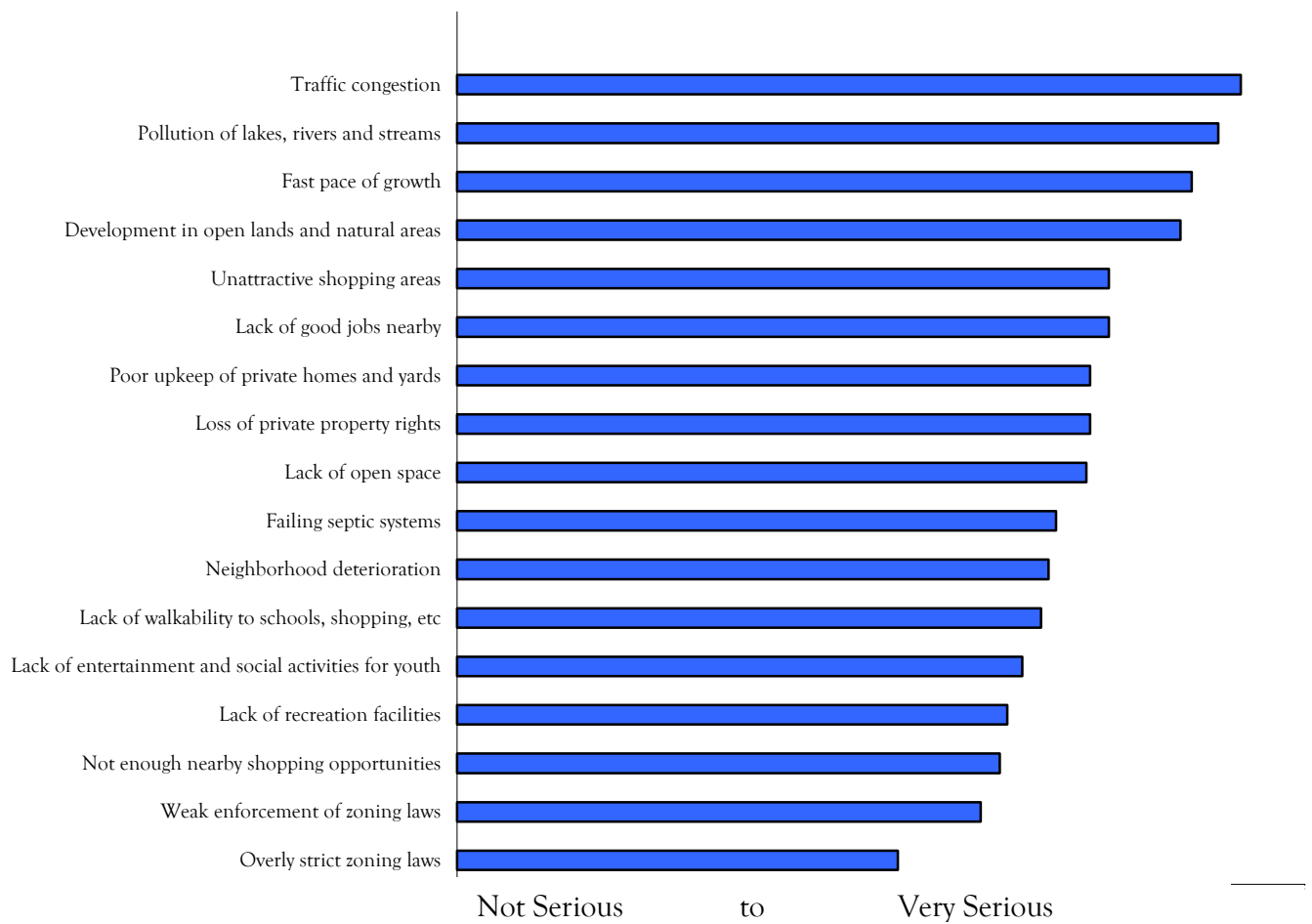
1. Item 12 sought to gauge concerns about various land use issues in the Township. These were presented with an ordinal scale to rank the issues in terms of importance from “Very Important” to “Not Important.” The question was structured in terms of priorities of the Township, as contrasted to Item 13, which asked for the respondent’s viewpoint regarding just the area where the respondent resided. This data would indicate that protecting natural areas; protecting private property rights; protecting water quality in lakes, rivers and streams; and protecting the quality of ground water, are considered the most important priorities. On the other hand, such issues as establishing wireless internet capabilities in the Township and building more sidewalks to connect neighborhoods were considered to be low priorities or not important at all. Table 2, on the following page, presents the entire listing of issues from Item 12.

Cross tabulating the output from Item 12 with Item 1, which asked the question, “Which school district do you live within?” shows that respondents living within the Northview district believe that “renovating older neighborhoods” is a greater priority than do respondents living within the Comstock Park or Rockford districts. For this issue, 53% (n=184) of Northview respondents answered very important or between very and somewhat important, while 27.3% (95) answered somewhat important. Comparatively, 42.6% (n=121) of those in the Rockford district and 44.4% (n=60) in the Comstock Park district answered very important or between very and somewhat important; and 35.9% (n=102) and 39.3% (n=53), respectively, answered somewhat important. This may be reflective of the older, more established neighborhoods in Northview adjacent to Plainfield Avenue and the City of Grand Rapids, in contrast to the newer subdivisions and “rural estates” which characterize the other two districts.



2. Using an ordinal scale similar to Item 12, Item 13 asked respondents to determine the seriousness of issues in the area near where the respondent resided. The scale was presented from “Very Serious” to “Not Serious.” This data would indicate that traffic congestion, pollution of water bodies, the fast pace of growth and development in natural areas are considered the most serious issues. In addition, overly strict zoning laws and weak enforcement of zoning laws were considered to be either not a serious concern or not a problem at all. Figure 2 presents the entire listing of issues from Item 13, in rank order from most “serious” to least “serious.”

**Figure 2. Relative Seriousness of Issues in Area Where Respondent Resides**



3. Item 13 can be analyzed further. Cross-tabulating the data above with Item 1, it becomes apparent that certain topics may be more serious depending on where respondents live within the Township. This is important since the Township is comprised of various communities each with distinct characteristics. For example, in the Northview school district, which includes the heavily trafficked and aging Plainfield Avenue commercial corridor, 31.4% (n=109) of respondents felt that “unattractive shopping areas were “Very Serious,” while only 9.6% (n=13) of those residing in the Comstock Park district noted this issue as the same. The following tables are provided to illustrate topic areas where slight or significant variation occurred based on school district.

**Respondents from the Northview school district felt that unattractive shopping areas was more of an issue than respondents from the Comstock Park or Rockford districts.**

**Table 3. Cross-Tabulation: Item 13 & Item 1**

Seriousness: Lack of open space	1. In what school district do you live?		
	13c	Comstock Pk	Northview
Not Serious	42.2%	41.7%	36.9%
Somewhat serious	37.7%	31.4%	35.2%
Very serious	14.8%	17.8%	20.4%

Seriousness: Lack of recreational facilities	1. In what school district do you live?		
	13e	Comstock Pk	Northview
Not Serious	40%	51%	51%
Somewhat serious	42.9%	32%	31.6%
Very serious	8.8%	9.5%	7.3%

Seriousness: Unattractive shopping areas	1. In what school district do you live?		
	13g	Comstock Pk	Northview
Not Serious	48.1%	25%	46.4%
Somewhat serious	34.8%	38.3%	32.7%
Very serious	9.6%	31.4%	12.6%

**Table 3. Cross-Tabulation: Item 13 & Item 1**  
 (...continued)

**Respondents from the Rockford school district felt that the fast pace of growth was more of an issue than respondents from the Northview district, reflective of development patterns.**

Seriousness: Traffic congestion	1. In what school district do you live?		
	13m	Comstock Pk	Northview
Not Serious	22.9%	29.9%	17.9%
Somewhat serious	31.1%	36.8%	33.8%
Very serious	43.7%	28.8%	42.9%

Seriousness: Fast Pace of Growth	1. In what school district do you live?		
	13n	Comstock Pk	Northview
Not Serious	22.2%	37.4%	17.2%
Somewhat Serious	44.4%	33.1%	36.9%
Very Serious	31.1%	20.7%	39.4%

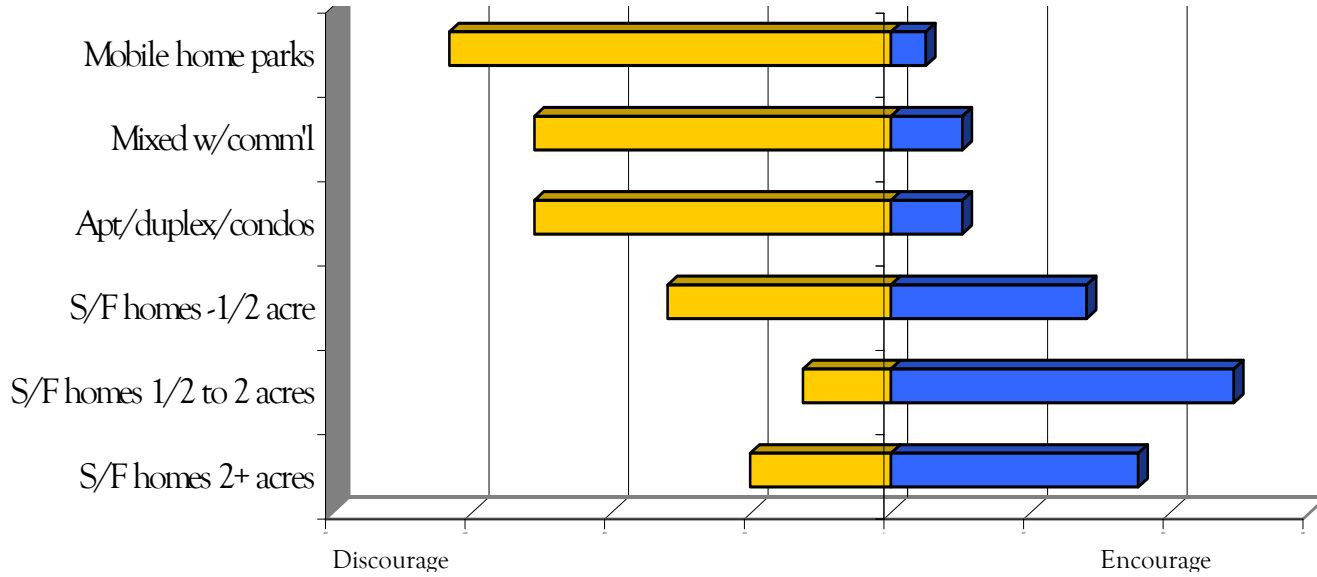
- Items 14, 15, 16, and 17 sought input on the types of residential and commercial development that should be encouraged or discouraged both in the Township at large, and in the respondents’ area of the Township. In terms of residential development in the Township, the only forms that would be supported by a plurality or majority of the respondents is “Single family homes on 2+ acre lots” and “Single family homes on ½ to 2 acre lots.” A total of 45.15% (n=354) and 62.63% (n=491) of the respondents, respectively, would encourage those forms in the Township. The only form of residential development that would be supported by a majority of respondents in their community is “Single family homes on ½ to 2 acre lots.” A total of 52.17% (n=409) would encourage this form of housing in their community. Approximately equal proportions of the respondents would encourage “Single family homes on 2+ acre lots” in their community as would discourage that form.

**Approximately equal proportions of the respondents would encourage “Single family homes on 2+ acre lots” in their community as would discourage that form.**

With regard to commercial development, the responses are somewhat more mixed. Not surprisingly, there is much greater tolerance for additional development in the Township, but somewhat less willingness to entertain it in the respondents’ community. However, fast food restaurants are overwhelming discouraged, while sit down restaurants are encouraged, with respect to both the broader Township and the local community. Figures 3 and 4 summarize the results on these items.

Figure 3. Comparison of Housing Development Preferences

In Plainfield Township



In Your Community

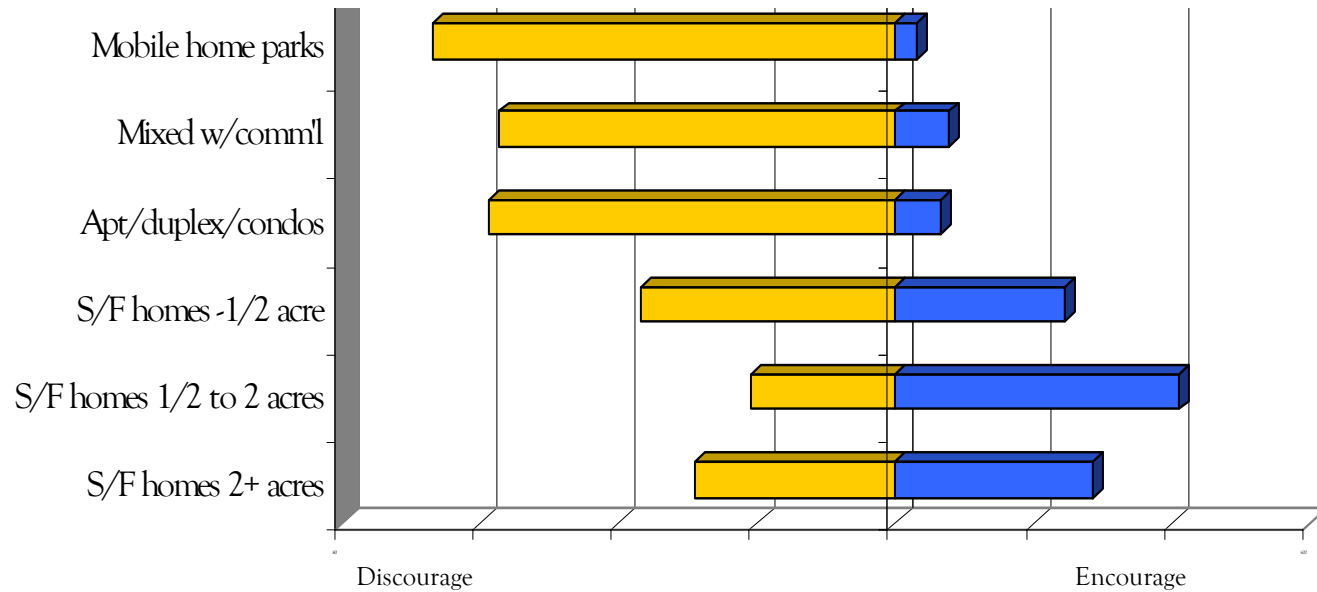
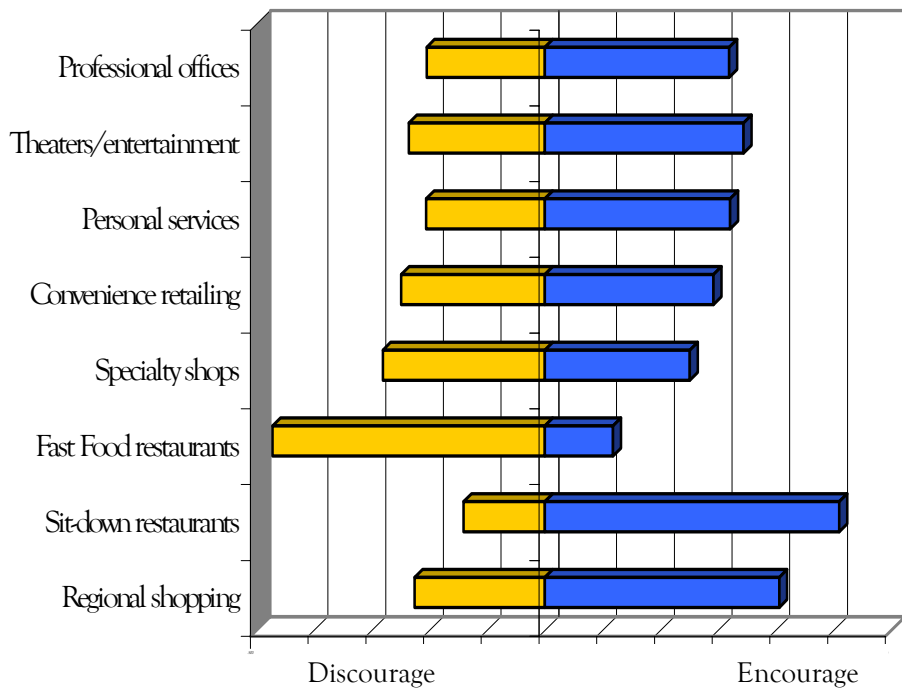
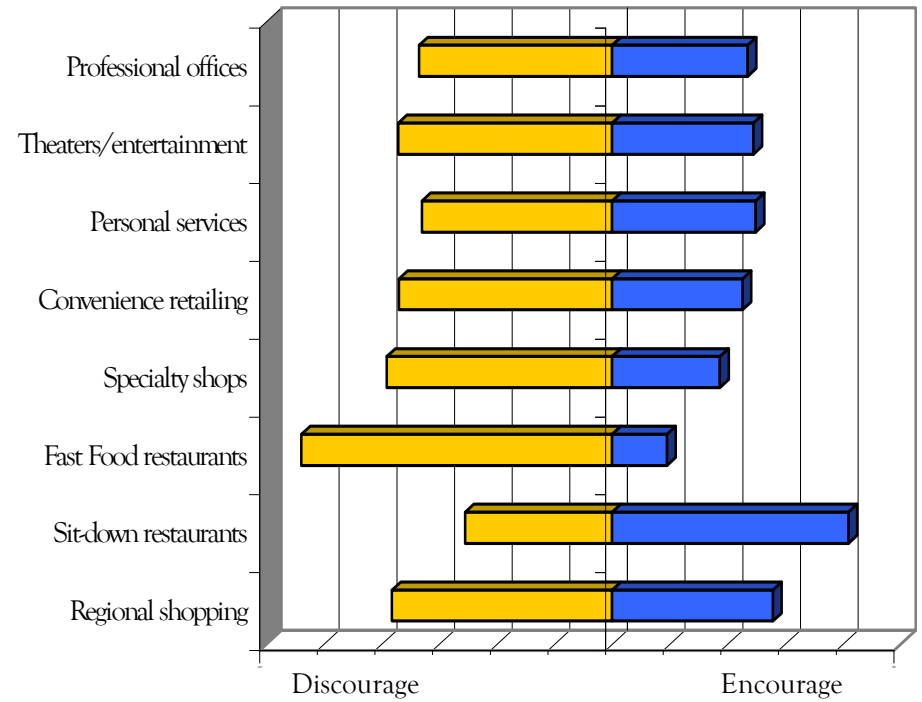


Figure 4. Comparison of Commercial Development Preferences

Commercial Development in Plainfield Township



Commercial Development in Your Community



**None of the statements generated strong agreement or disagreement.**

6. In Item 18, respondents were asked to indicate whether they agree or disagree with a series of nine statements about planning, zoning, growth and development in the Township. Interestingly, none of the statements generated strong agreement or disagreement: the highest percentage of respondents who indicated “Strongly Agree” on a topic was 38.65% (n=303), on the issue of supporting increased controls on development to protect water quality. Not surprisingly, the highest percentage of respondents who selected “Strongly Disagree” on an issue was 21.94% (n=172), regarding support for a tax millage to purchase flood-prone lands along the Grand River. In addition, respondents in the Comstock Park school district seem to think more pedestrian connections are needed than respondents residing in the Rockford district:

**Table 4. Cross-Tabulation: Item 18 & Item 1**

My neighborhood needs pedestrian connections 18d	1. In what school district do you live?		
	Comstock Pk	Northview	Rockford
Strongly disagree	7.4%	7.7%	12.6%
Disagree	36.2%	33.4%	40.8%
Agree	25.1%	31.9%	23.2%
Strongly Agree	17.7%	13.8%	11.9%

**FREQUENCY DISTRIBUTION**

On the following pages, the complete survey response is duplicated as a frequency distribution. In each case, the percentage responding to a particular item is provided along with the “raw score.” Where appropriate, averages are also presented.

## Plainfield Charter Township Community Survey Frequency Distribution

The following presents the “raw” input from the survey responses. The “count” or “total” column indicates the number (n) selecting a particular response. Unless otherwise noted, the “percent” column reflects the useable responses to a particular survey element as a percent of total responses to that item.

### 1. Which school district do you live within?

School District	Total	Percent
No Answer	11	1.40%
Comstock Pk	135	17.22%
Northview	347	44.26%
Rockford	284	36.22%
Don't Know	7	0.89%
<b>TOTAL</b>	<b>784</b>	<b>100.00%</b>

### 2. How many persons are in your household?

A: Adults (18+ yrs)    B: Children (0-17 yrs)

# Adults	Total	Percent
No Answer	29	3.70%
1	100	12.76%
2	513	65.43%
3	98	12.50%
4	39	4.97%
5	5	0.64%
<b>TOTAL</b>	<b>784</b>	<b>100.00%</b>
<b>AVG Adults / HH</b>	<b>2.12</b>	

# Children	Total	Percent
No Answer	125	15.94%
0	374	47.70%
1	100	12.76%
2	115	14.67%
3	52	6.63%
4	14	1.79%
5	2	0.26%
6	1	0.13%
8	1	0.13%
<b>TOTAL</b>	<b>784</b>	<b>100.00%</b>
<b>AVG Children / HH</b>	<b>0.85</b>	
<b>No. HH w/ Children</b>	<b>285</b>	

3. What is your approximate age and that of the other principal adult (if any) in the household?

Age of Other	Total	Percent
No Answer	153	19.52%
18-25	15	1.91%
26-35	60	7.65%
36-45	153	19.52%
46-55	164	20.92%
55-65	124	15.82%
65 +	115	14.67%
<b>TOTAL</b>	<b>784</b>	<b>100.00%</b>

Age of Respondent	Total	Percent
No Answer	21	2.68%
18-25	21	2.68%
26-35	81	10.33%
36-45	164	20.92%
46-55	191	24.36%
55-65	140	17.86%
65 +	166	21.17%
<b>TOTAL</b>	<b>784</b>	<b>100.00%</b>

4. Do you own or rent your home?

	Total	Percent
No answer	7	0.89%
Own	747	95.28%
Rent	30	3.83%

5. About how long have you lived in your current home?

No Answer	9	
Minimum	0	Years
Maximum	60	Years
Average	13.74	Years

6. Which of the following best describes where you currently live?

		PERCENT
No answer	10	1.28%
Rural homesite, 1 acre or more	140	17.86%
Rural homesite, less than 1 acre	121	15.43%
Lot in a subdivision	396	50.51%
Condo/townhome	55	7.02%
Apartment or mobile home park	62	7.91%

7. Do you live in a neighborhood with sidewalks?

	Total	Percent
No answer	15	1.91%
Yes	238	30.36%
No	531	67.73%

8. What is your employment status and that of any other adult in the household?

Other Adult	Total	Percent
No Answer	146	18.62%
Employed, work at home	28	3.57%
Employed, in Twp	54	6.89%
Employed, outside of Twp	358	45.66%
Not employed	24	3.06%
Retired	139	17.73%
Homemaker	35	4.46%

Respondent's Status	Total	Percent
No Answer	22	2.81%
Employed, work at home	32	4.08%
Employed, in Twp	75	9.57%
Employed, outside of Twp	357	45.54%
Not employed	19	2.42%
Retired	212	27.04%
Homemaker	67	8.55%

9. About how far do you and any other adult in the household travel one-way to work?

	Respondent	Other Adult
Minimum	0 miles	0 miles
Maximum	170 miles	360 miles
Average	10.36 miles	12.67 miles

10. If you and/or any other adult in the household travel outside Plainfield Township to work, in what general direction do you go to work?

	Respondent		Other Adult	
	Total	Percent	Total	Percent
No Answer	414	52.81%	413	52.68%
North	24	3.06%	25	3.19%
South	257	32.78%	258	32.91%
East	46	5.87%	42	5.36%
West	43	5.48%	46	5.87%

**11. How frequently do you or your family members shop or obtain services in the following locations?**

	No Answer		Frequently		Occasionally		Rarely		Never	
	Total	Percent	Total	Percent	Total	Percent	Total	Percent	Total	Percent
Plainfield Avenue	18	2.30%	605	77.17%	115	14.67%	45	5.74%	1	0.13%
Northland/E. Belt.	45	5.74%	426	54.34%	205	26.15%	97	12.37%	11	1.40%
Rockford	71	9.06%	140	17.86%	214	27.30%	273	34.82%	86	10.97%
10 Mile/US-131	74	9.44%	193	24.62%	145	18.49%	184	23.47%	188	23.98%
Comstock Park	81	10.33%	103	13.14%	172	21.94%	254	32.40%	174	22.19%
Alpine Ave	34	4.34%	365	46.56%	324	41.33%	57	7.27%	4	0.51%
Knapp's Corners	52	6.63%	216	27.55%	273	34.82%	193	24.62%	50	6.38%
28 <sup>th</sup> Street	55	7.02%	80	10.20%	272	34.69%	320	40.82%	57	7.27%
Downtown G.R.	68	8.67%	39	4.94%	101	12.88%	329	41.96%	247	31.51%
Rivertown area	73	9.31%	28	3.57%	146	18.62%	386	49.23%	151	19.26%

**12. In terms of Plainfield Township priorities, in your opinion, how important are the following?**

**A: Building more sidewalks to connect neighborhoods**

	Count	Percent
No answer	12	1.53%
Very Important	148	18.88%
	122	15.56%
Somewhat Important	192	24.49%
	105	13.39%
Not Important	205	26.15%

**B: Creating local job opportunities**

	Count	Percent
No answer	17	2.17%
Very Important	300	38.27%
	187	23.85%
Somewhat Important	173	22.07%
	52	6.63%
Not Important	55	7.02%

**C: Expanding nearby shopping opportunities**

	Count	Percent
No answer	10	1.28%
Very Important	173	22.07%
	176	22.45%
Somewhat Important	189	24.11%
	108	13.78%
Not Important	128	16.33%

**D: Protecting natural areas**

	Count	Percent
No answer	11	1.40%
Very Important	437	55.74%
	180	22.96%
Somewhat Important	122	15.56%
	23	2.93%
Not Important	11	1.40%

**E: Establishing pedestrian and bike trails to link shopping, schools, parks, etc**

	Count	Percent
No answer	11	1.4%
Very Important	194	24.74%
	204	26.02%
Somewhat Important	218	27.81%
	88	11.22%
Not Important	69	8.80%

**F: Increasing housing opportunity for young families**

	Count	Percent
No answer	11	1.40%
Very Important	75	9.57%
	132	16.84%
Somewhat Important	277	35.33%
	160	20.41%
Not Important	129	16.45%

**G: Increasing housing opportunity for seniors**

	Count	Percent
No answer	13	1.66%
Very Important	109	13.90%
	171	21.81%
Somewhat Important	279	35.59%
	136	17.35%
Not Important	76	9.69%

**H: Improving aesthetics of Plainfield Ave**

	Count	Percent
No answer	21	2.68%
Very Important	220	28.06%
	213	27.17%
Somewhat Important	192	24.49%
	80	10.20%
Not Important	58	7.40%

**I: Preserving “rural” character**

	Count	Percent
No answer	12	1.53%
Very Important	281	35.84%
	212	27.04%
Somewhat Important	184	23.47%
	60	7.65%
Not Important	35	4.46%

**J: Increasing public access to lakes, rivers and streams**

	Count	Percent
No answer	13	1.66%
Very Important	128	16.33%
	203	25.89%
Somewhat Important	242	30.87%
	129	16.45%
Not Important	69	8.80%

**K: Renovating older neighborhoods**

	Count	Percent
No answer	10	1.28%
Very Important	135	17.22%
	237	30.23%
Somewhat Important	256	32.65%
	105	13.39%
Not Important	41	5.23%

**L: Creating “pedestrian friendly” neighborhoods**

	Count	Percent
No answer	16	2.04%
Very Important	177	6.38%
	244	11.86%
Somewhat Important	204	26.02%
	93	31.12%
Not Important	50	22.58%

**M: Protecting private property rights**

	Count	Percent
No answer	12	1.53%
Very Important	454	57.91%
	170	21.68%
Somewhat Important	117	14.92%
	20	2.55%
Not Important	11	1.40%

**N: Preserving open space**

	Count	Percent
No answer	13	1.66%
Very Important	340	43.37%
	218	27.81%
Somewhat Important	161	20.54%
	39	4.97%
Not Important	13	1.66%

**O: Protecting water quality in lakes, rivers and streams**

	Count	Percent
No answer	7	0.89%
Very Important	558	71.17%
	158	20.15%
Somewhat Important	50	6.38%
	5	0.64%
Not Important	6	0.77%

**P: Protecting the quality of ground water**

	Count	Percent
No answer	8	1.02%
Very Important	608	77.55%
	137	17.47%
Somewhat Important	25	3.19%
	2	0.26%
Not Important	4	0.51%

**Q: Redeveloping downtown Comstock Park**

	Count	Percent
No answer	17	2.17%
Very Important	52	6.63%
	108	13.78%
Somewhat Important	248	31.63%
	178	22.70%
Not Important	181	23.09%

**R: Establishing wireless internet capabilities in the Township**

	Count	Percent
No answer	13	1.66%
Very Important	78	9.95%
	121	15.43%
Somewhat Important	192	24.49%
	164	20.92%
Not Important	216	27.55%

**S: Reuse of old gravel pits**

	Count	Percent
No answer	22	2.81%
Very Important	77	9.82%
	214	27.30%
Somewhat Important	297	37.88%
	98	12.50%
Not Important	76	9.69%

**T: Improving zoning enforcement**

	Count	Percent
No answer	25	3.19%
Very Important	147	18.75%
	178	22.70%
Somewhat Important	290	36.99%
	96	12.24%
Not Important	48	6.12%

### 13. In the area where you live, how serious do you think the following issues are?

#### A. Pollution of lakes, rivers and streams

	Count	Percent
No answer	17	2.17%
Very Serious	259	33.04%
Somewhat Serious	303	38.65%
Not Serious	167	21.30%
No Opinion	38	4.85%
Average Score:	2.02	

#### B: Failing septic systems

	Count	Percent
No answer	16	2.04%
Very Serious	183	23.34%
Somewhat Serious	193	24.62%
Not Serious	291	37.12%
No Opinion	101	12.88%
Average Score:	1.59	

#### C: Lack of open space

	Count	Percent
No answer	25	3.19%
Very Serious	143	18.24%
Somewhat Serious	265	33.80%
Not Serious	315	40.18%
No Opinion	36	4.59%
Average Score:	1.67	

#### D: Development in open lands and natural areas

	Count	Percent
No answer	21	2.68%
Very Serious	242	30.87%
Somewhat Serious	266	33.93%
Not Serious	213	27.17%
No Opinion	42	5.36%
Average Score:	1.92	

#### E: Lack of recreation facilities

	Count	Percent
No answer	22	2.81%
Very Serious	67	8.55%
Somewhat Serious	265	33.80%
Not Serious	383	48.85%
No Opinion	47	5.99%
Average Score:	1.46	

#### F: Lack of walkability to schools, shopping, etc

	Count	Percent
No answer	22	2.81%
Very Serious	121	15.43%
Somewhat Serious	242	30.87%
Not Serious	338	43.11%
No Opinion	61	7.78%
Average Score:	1.55	

#### G: Unattractive shopping areas

	Count	Percent
No answer	20	2.55%
Very Serious	162	20.66%
Somewhat Serious	279	35.59%
Not Serious	285	36.35%
No Opinion	38	4.85%
Average Score:	1.73	

#### H: Poor upkeep of private homes and yards

	Count	Percent
No answer	12	1.53%
Very Serious	168	21.43%
Somewhat Serious	225	28.70%
Not Serious	350	44.64%
No Opinion	29	3.70%
Average Score:	1.69	

**I: Weak enforcement of zoning laws**

	Count	Percent
No answer	19	2.42%
Very Serious	115	14.67%
Somewhat Serious	200	25.51%
Not Serious	324	41.33%
No Opinion	126	16.07%
Average Score:	1.39	

**J: Overly strict zoning laws**

	Count	Percent
No answer	34	4.34%
Very Serious	55	7.02%
Somewhat Serious	173	22.07%
Not Serious	367	46.81%
No Opinion	155	19.77%
Average Score:	1.17	

**K: Loss of private property rights**

	Count	Percent
No answer	31	3.95%
Very Serious	231	29.46%
Somewhat Serious	165	21.05%
Not Serious	248	31.63%
No Opinion	109	13.90%
Average Score:	1.69	

**L: Neighborhood deterioration**

	Count	Percent
No answer	26	3.32%
Very Serious	136	17.35%
Somewhat Serious	209	26.66%
Not Serious	369	47.07%
No Opinion	44	5.61%
Average Score:	1.57	

**M: Traffic congestion**

	Count	Percent
No answer	19	2.42%
Very Serious	289	36.86%
Somewhat Serious	271	34.57%
Not Serious	189	24.11%
No Opinion	16	2.04%
Average Score:	2.08	

**N: Fast pace of growth**

	Count	Percent
No answer	27	3.44%
Very Serious	231	29.46%
Somewhat Serious	285	36.35%
Not Serious	214	27.30%
No Opinion	27	3.44%
Average Score:	1.95	

**O: Lack of good jobs nearby**

	Count	Percent
No answer	23	2.93%
Very Serious	176	22.45%
Somewhat Serious	276	35.20%
Not Serious	237	30.23%
No Opinion	72	9.18%
Average Score:	1.73	

**P: Not enough nearby shopping opportunities**

	Count	Percent
No answer	18	2.30%
Very Serious	109	13.90%
Somewhat Serious	183	23.34%
Not Serious	415	52.93%
No Opinion	59	7.53%
Average Score:	1.44	

**Q: Lack of entertainment and social activities for youth**

	<b>Count</b>	<b>Percent</b>
No answer	18	2.30%
Very Serious	118	15.05%
Somewhat Serious	238	30.36%
Not Serious	320	40.82%
No Opinion	90	11.48%
Average Score:	1.50	

14. In Plainfield Township overall, should the following types of new housing be encouraged?

**A: Single family homes on 2+ acre lots**

	Total	Percent
No answer	24	3.06%
Yes	354	45.15%
No opinion	204	26.02%
No	202	25.77%

**B: Single family homes on ½ to 2 acre lots**

	Total	Percent
No answer	20	2.55%
Yes	491	62.63%
No opinion	147	18.75%
No	126	16.07%

**C: Single family homes on less than ½ acre lots**

	Count	Percent
No answer	17	2.17%
Yes	280	35.71%
No opinion	167	21.30%
No	320	40.82%

**D: Apartments/duplex or attached condos**

	Count	Percent
No answer	14	1.79%
Yes	102	13.01%
No opinion	157	20.03%
No	511	65.18%

**E: Mixed housing and commercial development**

	Count	Percent
No answer	22	2.81%
Yes	120	15.31%
No opinion	193	24.62%
No	449	57.27%

**F: Mobile/Modular (in parks)**

	Count	Percent
No answer	12	1.53%
Yes	50	6.38%
No opinion	89	11.35%
No	633	80.74%

15. In the area where you live, should the following types of new housing be encouraged?

**A: Single family homes on 2+ acre lots**

	Count	Percent
No answer	36	4.59%
Yes	286	36.48%
No opinion	173	22.07%
No	289	36.86%

**B: Single family homes on ½ to 2 acre lots**

	Count	Percent
No answer	28	3.57%
Yes	409	52.17%
No opinion	139	17.73%
No	208	26.53%

**C: Single family homes on less than ½ acre lots**

	Count	Percent
No answer	29	3.70%
Yes	245	31.25%
No opinion	144	18.37%
No	366	46.68%

**D: Apartments/duplex or attached condos**

	Count	Percent
No answer	25	3.19%
Yes	67	8.55%
No opinion	106	13.52%
No	586	74.74%

**E: Mixed housing and commercial development**

	Count	Percent
No answer	26	3.32%
Yes	77	9.82%
No opinion	110	14.03%
No	571	72.83%

**F: Mobile/Modular (in parks)**

	Count	Percent
No answer	23	2.93%
Yes	32	4.08%
No opinion	62	7.91%
No	667	85.08%

16. In Plainfield Township overall, should the following types of commercial development be encouraged?

**A: Regional shopping center**

	Count	Percent
No answer	22	2.81%
Yes	406	51.79%
No opinion	130	16.58%
No	226	28.83%

**B: Sit-down restaurants**

	Count	Percent
No answer	21	2.68%
Yes	510	65.05%
No opinion	112	14.29%
No	141	17.98%

**C: Fast food restaurants**

	Count	Percent
No answer	25	3.19%
Yes	118	15.05%
No opinion	169	21.56%
No	472	60.20%

**D: "High-end" specialty shops**

	Count	Percent
No answer	28	3.57%
Yes	251	32.02%
No opinion	224	28.57%
No	281	35.84%

**E: Convenience retailing**

	Count	Percent
No answer	28	3.57%
Yes	292	37.24%
No opinion	215	27.42%
No	249	31.76%

**F: Personal services (i.e., barber, beauty)**

	Count	Percent
No answer	25	3.19%
Yes	321	40.94%
No opinion	232	29.59%
No	206	26.28%

**G: Theaters and entertainment**

	Count	Percent
No answer	25	2.81%
Yes	321	43.88%
No opinion	232	23.21%
No	206	30.10%

**H: Professional offices**

	Count	Percent
No answer	22	2.81%
Yes	319	40.69%
No opinion	238	30.36%
No	205	26.15%

17. In the area where you live, should the following types of commercial development be encouraged?

**A: Regional shopping center**

	Count	Percent
No answer	26	3.32%
Yes	279	35.59%
No opinion	97	12.37%
No	382	48.72%

**B: Sit-down restaurants**

	Count	Percent
No answer	26	3.32%
Yes	410	52.30%
No opinion	93	11.86%
No	255	32.53%

**C: Fast food restaurants**

	Count	Percent
No answer	25	3.19%
Yes	95	12.12%
No opinion	125	15.94%
No	539	68.75%

**D: "High-end" specialty shops**

	Count	Percent
No answer	26	3.32%
Yes	187	23.85%
No opinion	180	22.96%
No	391	49.87%

**E: Convenience retailing**

	Count	Percent
No answer	28	3.57%
Yes	226	28.83%
No opinion	160	20.41%
No	370	47.19%

**F: Personal services (i.e., barber, beauty)**

	Count	Percent
No answer	27	3.44%
Yes	249	31.76%
No opinion	178	22.70%
No	330	42.09%

**G: Theaters and entertainment**

	Count	Percent
No answer	21	2.68%
Yes	245	47.32%
No opinion	147	18.75%
No	371	31.25%

**H: Professional offices**

	Count	Percent
No answer	24	3.06%
Yes	235	29.97%
No opinion	190	24.23%
No	335	42.73%

**18. Please indicate whether you agree or disagree with these statements.**

A: New housing spread out on large lots helps to preserve the rural feel of parts of the Township.

Response	Count	Percent
No Answer	22	2.81%
Don't Know	52	6.63%
Strongly Disagree	37	4.72%
Disagree	119	15.18%
Agree	375	47.83%
Strongly Agree	179	22.83%
<b>Total</b>	<b>784</b>	
<b>Average</b>	<b>2.7769</b>	

B: This area needs more industry and office developments to provide local jobs.

Response	Count	Percent
No Answer	23	2.93%
Don't Know	82	10.46%
Strongly Disagree	108	13.78%
Disagree	266	33.93%
Agree	255	32.53%
Strongly Agree	50	6.38%
<b>Total</b>	<b>784</b>	
<b>Average</b>	<b>2.109</b>	

C: Strong enforcement is needed to get some messy properties cleaned up.

Response	Count	Percent
No Answer	17	2.17%
Don't Know	98	12.50%
Strongly Disagree	16	2.04%
Disagree	90	11.48%
Agree	376	47.96%
Strongly Agree	187	23.85%
<b>Total</b>	<b>784</b>	
<b>Average</b>	<b>2.7014</b>	

D: My neighborhood needs pedestrian connections between schools, trails and shopping.

Response	Count	Percent
No Answer	18	2.30%
Don't Know	85	10.84%
Strongly Disagree	75	9.57%
Disagree	283	36.10%
Agree	215	27.42%
Strongly Agree	108	13.78%
<b>Total</b>	<b>784</b>	
<b>Average</b>	<b>2.2428</b>	

E: If more sidewalks and trails were provided, I would use them regularly.

Response	Count	Percent
No Answer	19	2.42%
Don't Know	109	13.90%
Strongly Disagree	75	9.57%
Disagree	178	22.70%
Agree	250	31.89%
Strongly Agree	153	19.52%
<b>Total</b>	<b>784</b>	
<b>Average</b>	<b>2.3437</b>	

F: Zoning rules are intended to help me make the best use of my property.

Response	Count	Percent
No Answer	27	3.44%
Don't Know	126	16.07%
Strongly Disagree	50	6.38%
Disagree	122	15.56%
Agree	381	48.60%
Strongly Agree	78	9.95%
<b>Total</b>	<b>784</b>	
<b>Average</b>	<b>2.3104</b>	

G: I support increased controls on development to protect water quality in the rivers, lakes and streams.

Response	Count	Percent
No Answer	17	2.17%
Don't Know	34	4.34%
Strongly Disagree	5	0.64%
Disagree	31	3.95%
Agree	394	50.26%
Strongly Agree	303	38.65%
<b>Total</b>	<b>784</b>	
<b>Average</b>	<b>3.2086</b>	

H: I would support a special tax millage for a couple years to buy flood-prone lands along the Grand River if it were used for public recreation and open space.

Response	Count	Percent
No Answer	14	1.79%
Don't Know	126	16.07%
Strongly Disagree	172	21.94%
Disagree	193	24.62%
Agree	204	26.02%
Strongly Agree	75	9.57%
<b>Total</b>	<b>784</b>	
<b>Average</b>	<b>1.909</b>	

I: Housing developments with smaller lots clustered and preserved open space offer a good way to protect the rural feel of the Township.

<b>Response</b>	<b>Count</b>	<b>Percent</b>
No Answer	17	2.17%
Don't Know	147	18.75%
Strongly Disagree	113	14.41%
Disagree	269	34.31%
Agree	195	24.87%
Strongly Agree	43	5.48%
<b>Total</b>	<b>784</b>	
<b>Average</b>	<b>1.8357</b>	

## METHODOLOGY

### Sample and Survey Instrument

**The total survey sample was 3,266, representing about 11% Of the Township.**

The community opinion survey was completed using a written survey instrument mailed to a list of addresses drawn from voter registration records. The Township had 21,850 registered voters and for budgetary reasons a 15% sample of 3,266 names was drawn. Each voter registration record was assigned a random number using an Access® database function. The records were then sorted based on that random number and the 3,266 records with the lowest random numbers were selected for the sample. This resulted in a sample equivalent to about 11% of the total population of the Township.

The survey instrument included a brief explanation indicating that the Township Planning Commission is undertaking an update of the Master Plan. The format of the survey enabled respondents to provide confidential replies using a “check-the-box” format to expedite the completion of the form and to maximize the rate of response. This format also facilitates consistent scoring of the returned instruments. The survey was prepared with return postage provided.

**In a random sample, each respondent must have an equal chance to be included and the inclusion of one must not affect the chances of another to be counted. This survey meets both of these tests.**

The overall sample was 3,266 with 784 surveys completed and returned; the response rate for the survey was 24% (n=784). This rate of response is considered good if the respondents are generally representative of the larger community population. A sample size of 784 will result in a confidence interval of plus-or-minus 4%, for a response approaching 50/50. The confidence interval decreases with a greater marginal difference among responses. For example, with this sample if a particular response indicated 45% believed “X” to be true, one could say that this represented the view of the entire Township with a confidence interval of plus-or-minus 4%. However, if in this sample 95% of the respondents reflected a particular point of view, the confidence interval narrows to about plus-or-minus 1.86%.

Some respondents returned the surveys, but left some items blank. However, all surveys had at least some responses that could be scored, so none of the returns were considered invalid.

### Write-In Comments

The survey instrument included seven areas where respondents were encouraged to write in suggestions or comments. Item 2 sought the number of persons in the respondent’s household. Item 5 asked how long the respondent has lived in his or her current home. Item 9 asked

**41% (n=322) of the respondents took advantage of the opportunity to write in any other ideas or concerns regarding the development of the Township.**

how far the respondent and any other adult traveled to work. Item 11 sought locales where respondents might shop and seek services other than those listed. Items 12 and 13 offered an opportunity to write in issues of concern other than those listed. Finally, Item 19 provided the opportunity to write in any other ideas or concerns regarding the development of the Township. A total of 41% (n=322) of the respondents took advantage of this space provided in Item 19.

Every attempt was made to record the comments faithfully. Where spelling and grammar mistakes were obvious, corrections were made. However, due to occasionally illegible handwriting and/or damaged forms, there may have been some error in recording these written comments. A few of the surveys were returned with additional comments beyond the write-in space. These comments were not recorded, but the survey forms are preserved and available for review. Write-in comments are presented in the original community opinion survey report, but have been excluded from this appendix to the Master Plan.

## Data Entry and Measurement

As the surveys were gathered for data entry, each form was assigned a sequential number to aid in finding data and in crosschecking data. The data was recorded on an automated database using Microsoft Access®. A database program was used both for ease of entry and relatively simple convertibility to other statistical or database programs for further manipulation later on, if desired. A standardized data entry convention was utilized which limited data entry by restricting acceptable entries to those required by the form.

Three scoring scales were used to report the data received: nominal, ordinal and ratio scales. Most of the responses were scored on a nominal scale. A nominal scale merely counts responses by particular classification (for example, resident or non-resident). This scale is useful to separate responses into working groups or to evaluate the overall sample to determine whether it represents the larger population. Items 1, 3, 4, 6, 7, 8, 10, 11, 14, 15, 16, 17, and 18 were scored on a nominal scale.

An ordinal scale is more useful in gaining insight into respondent beliefs because it includes the characteristic of rank order. That is, one item is greater or lesser than another, or it has more or less of a particular quality, based on a commonly understood standard. An ordinal scale enables some greater judgment about the relative strength or weakness of particular responses (for example, “greater than,” “more important

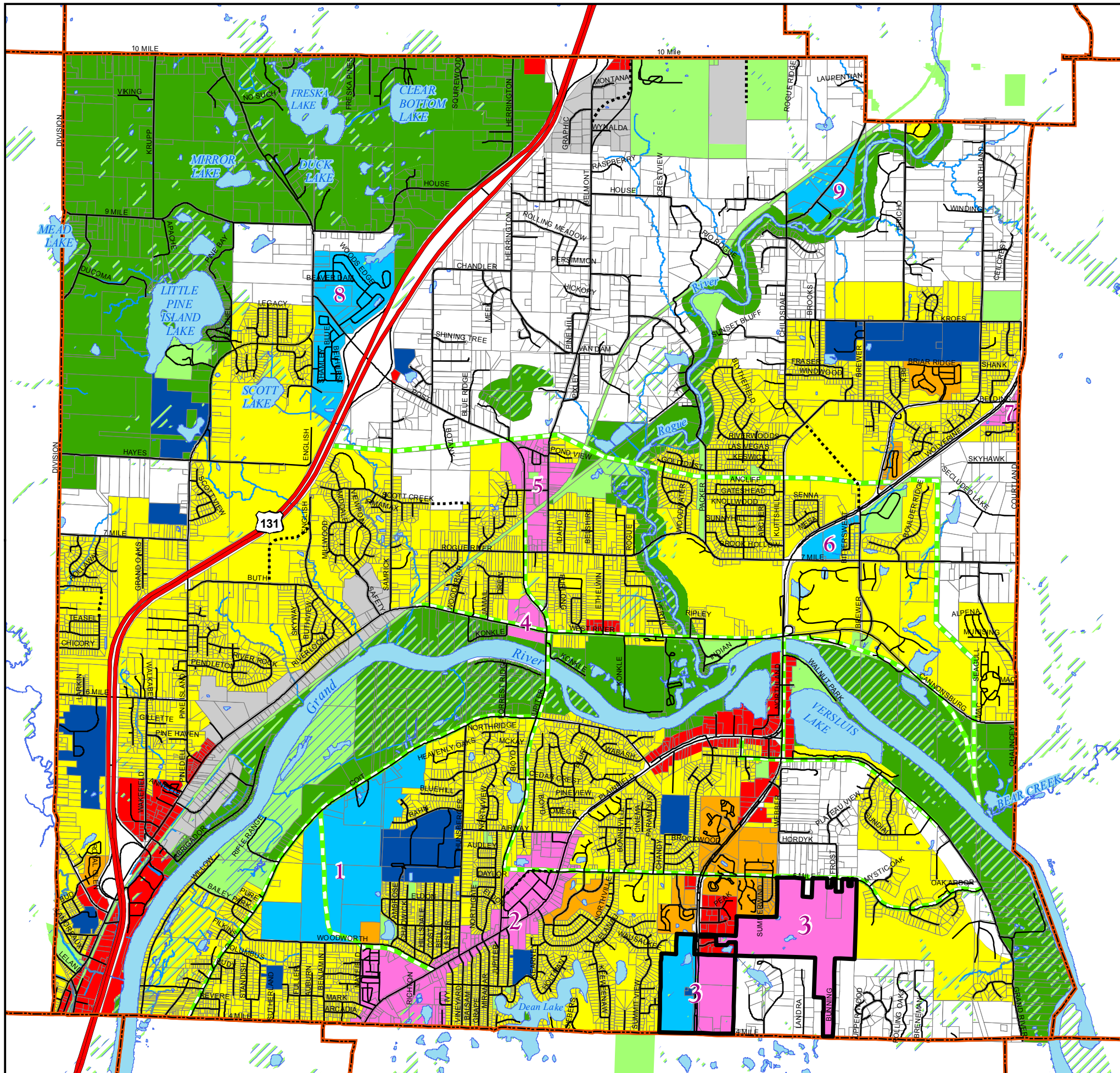
than,” etc.). It does not, however, include a quantifiable or consistent interval between the various points in the scale. Items 12 and 13 were scored on an ordinal scale.

For the purposes of reporting the results of the survey, the ordinal scales used were converted to interval scales. This merely means that a numeric value was assigned to each response with an interval of “1” between each point on the scale. For example, in Item 13, “Very Serious” responses were assigned the number 3, “Somewhat Serious” responses were assigned the number 2, and so forth. This was done to enable the measurement of central tendency of all responses, which is accomplished by determining the arithmetic mean (or average) response for the Item. However, it must be recognized that the assignment of value to the intervals of the scale does not automatically result in a true interval scale, since each respondent will have his/her own interpretation of the interval. Nevertheless, in aggregate, this procedure does enable comparison of opinions from one to the next.

A ratio scale can be used for questions 2, 5, and 9, since in these questions, respondents were asked for specific numeric response (for example, the numbers of adults and children in the household).

# Plainfield Charter Township

Map 13  
Future Land Use



**Legend**

- Political Boundaries
- Surface Water
- Streams
- Plainfield Twp Streets
- Wetlands
- Proposed Roadway Connections
- Future Land Use - Potential Trails
- Mixed Use Area #3

**Future Land Use Districts**

- Country Residential
- Low Density Residential
- Moderate Density Residential
- Commercial/Office
- Mixed Use
- Mixed Residential
- Industrial
- Schools
- Recreation
- Rural Preserve



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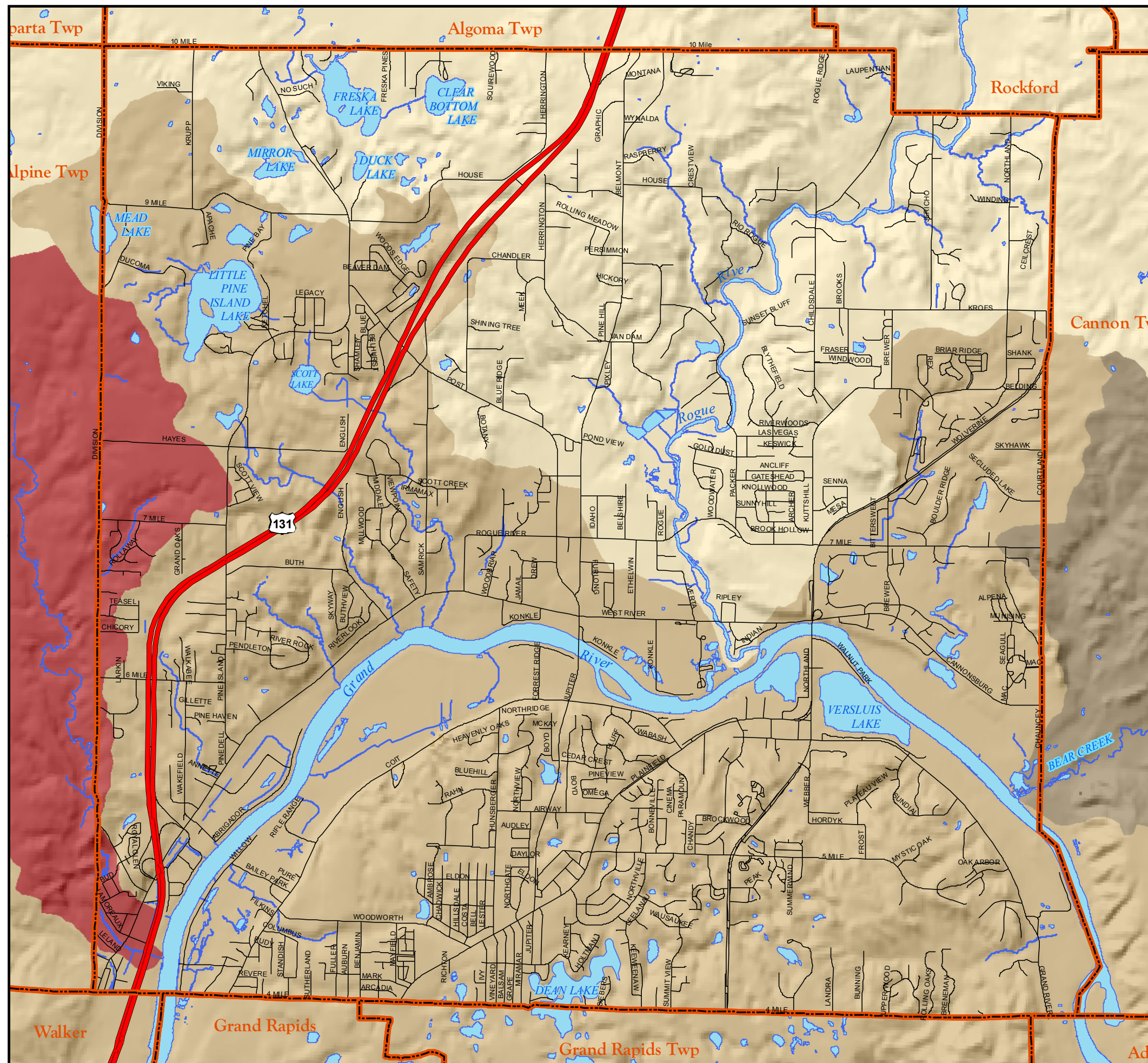


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549 Ottawa Avenue NW · Grand Rapids, MI 49503

Source: REGIS and Plainfield Township

# Plainfield Charter Township

## Map 2 Watersheds



**Legend**

- Political Boundary
- Interstate Highways
- Plainfield Twp Streets
- Surface Water
- Streams

**Watershed**

- Bear Creek
- Grand River
- Mill Creek
- Rogue River



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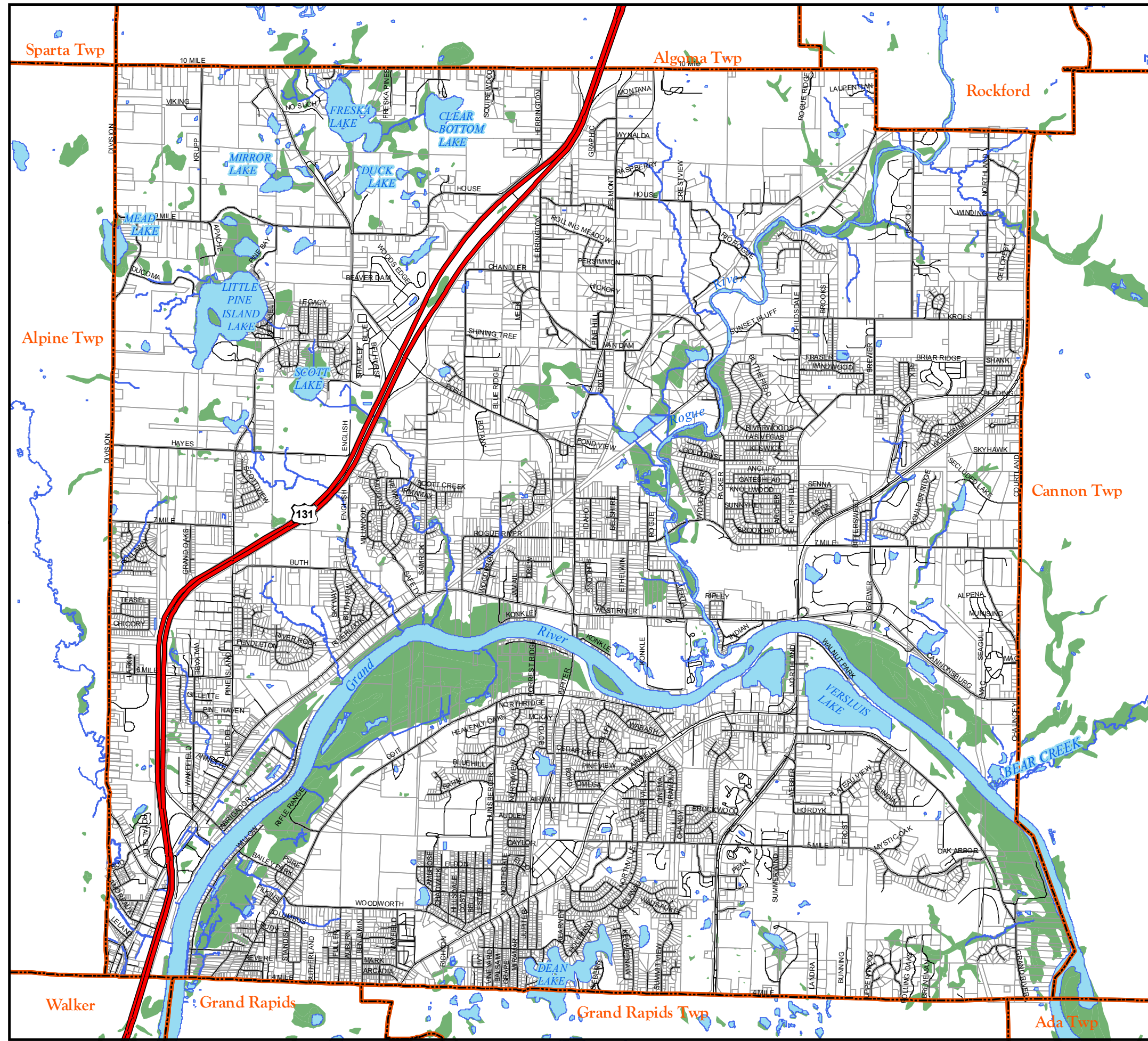
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Source: REGIS and Plainfield Township.



# Plainfield Charter Township

## Map 4 Wetlands



**Legend**

- Political Boundaries
- Interstate Highway
- Street Centerlines
- Parcels
- Streams
- Surface Water
- Wetlands\*

\*This Wetlands Inventory Map is intended to be used as one tool to assist in identifying wetlands and provide only potential and approximate locations of wetlands and wetland conditions.

This map is not intended to be used to determine specific locations and jurisdictional boundaries of wetland areas subject to regulation under part 303 Wetlands Protection Act, 1994 PA 451, as amended. Only an on-site evaluation performed by MDEQ in accordance with Part 303 shall be used for jurisdictional determination. A permit is required from the MDEQ to conduct certain activities in jurisdictional wetlands.



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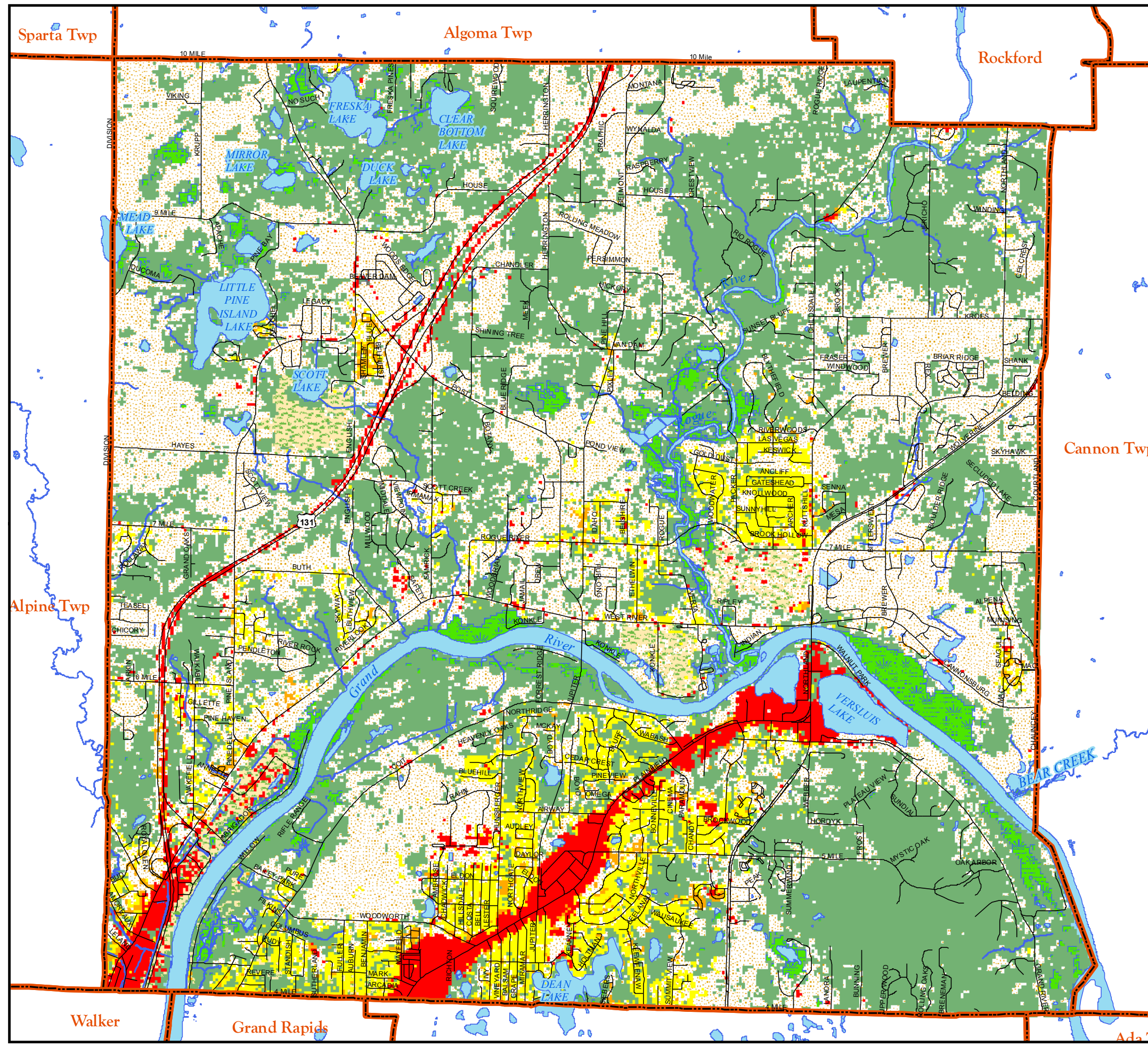
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Source: REGIS and Plainfield Township

# Plainfield Charter Township

## Map 5 Land Cover



### Legend

- Political Boundary
- Plainfield Twp Streets
- Streams
- Surface Water
- Land Cover**
- Agricultural
- Forest
- Open Water
- Transitional
- Wetlands
- Urban/Recreational Grasses
- Low Intensity Residential
- High Intensity Residential
- Commercial/Industrial/Transportation



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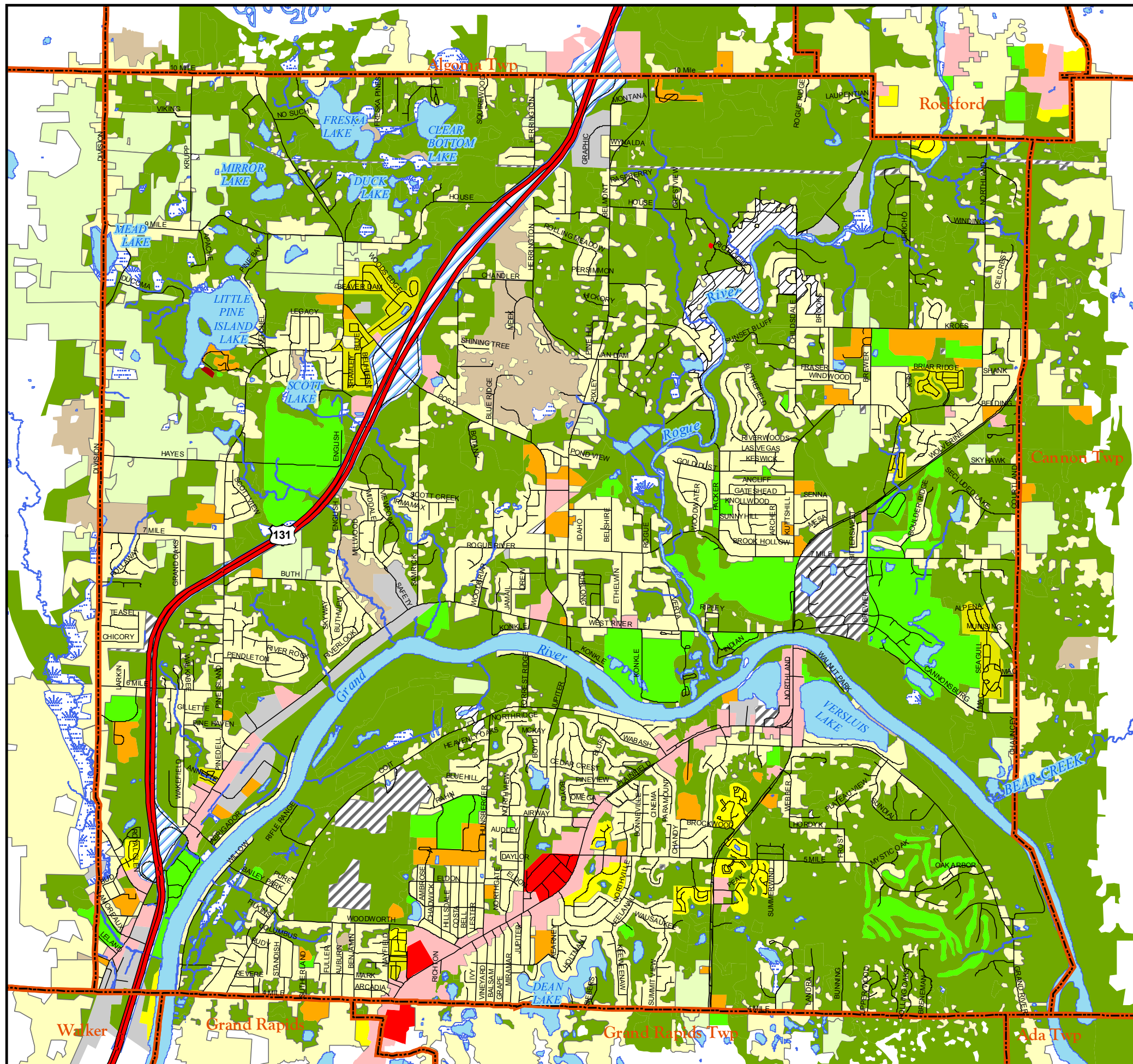


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**Plainfield Charter  
 Township**

Map 6  
 Updated Land Cover/Land Use



**Legend**

	Political Boundary		Institutional
	Interstate Highway		Industrial
	Plainfield Twp Streets		Transportation
<b>Current Land Use</b>			Utilities / Waste Disposal
	Other		Recreational
	Single Family Residential		Agricultural
	Multi-Family Residential		Forested
	Mobile Home Park		Open Water
	Commercial Services / Retail		Wetland
	Shopping Center		Sand / Gravel / Bare Rock
	Office		



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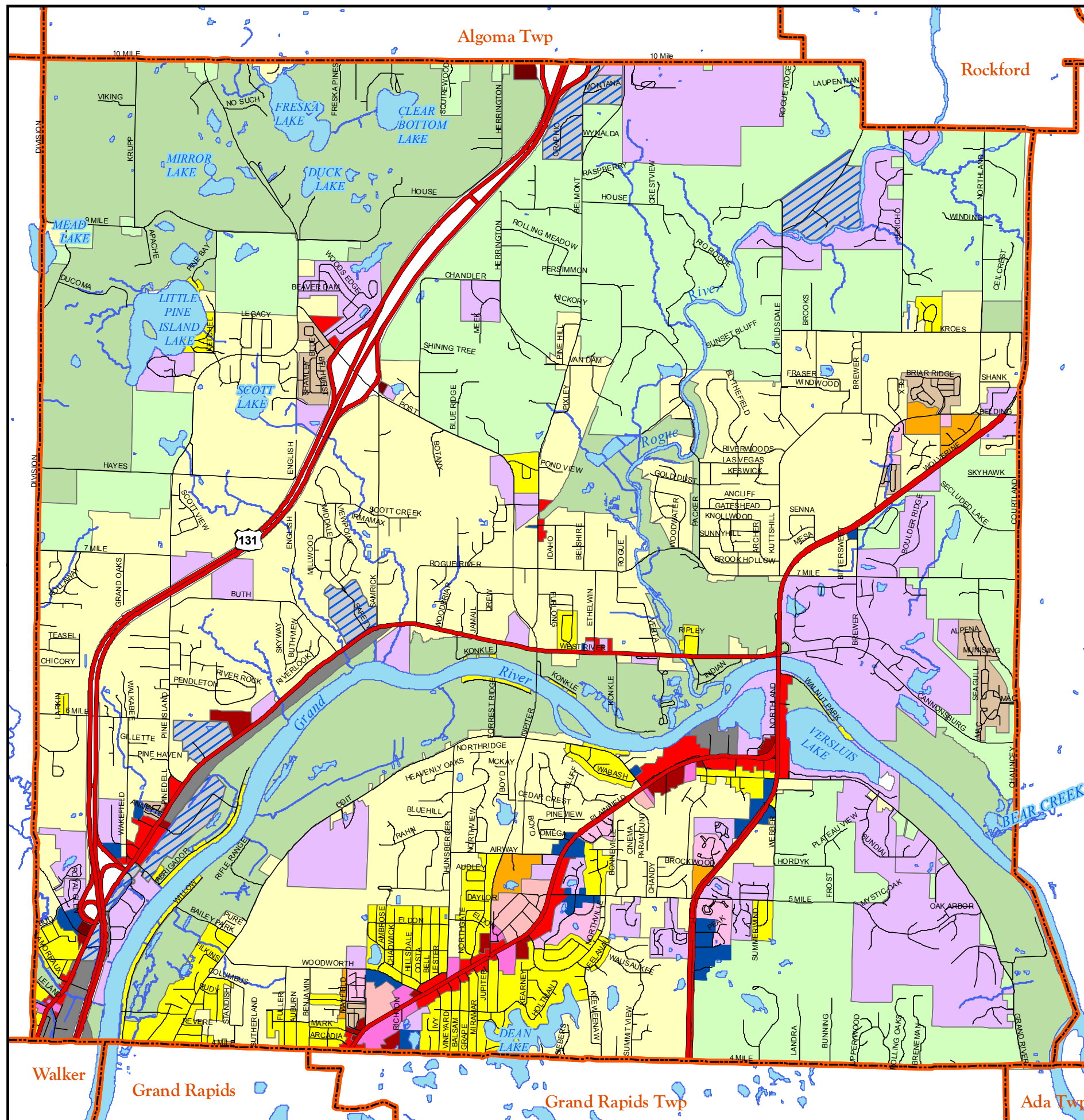
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# Plainfield Charter Township

## Map 7 Zoning



**Legend**

- Political Boundaries
- Principal Arterial Streets
- Plainfield Twp Streets
- Surface Water
- Streams

**Zoning**

- RP - Rural Preservation
- RER - Rural Estate Residential
- R-1 - Low Density Residential
- R-1A - Low Density Residential
- R-2 - Medium-low Density Residential
- R-3 - Medium Density Residential
- R4 - High Density Residential
- R-5 - Special Residential
- R-6 - Mobile Home Residential
- C-1 - Neighborhood Commercial
- C-2 - Regional Commercial
- C-3 - Specialized Commercial
- C-4 - Planned Shopping Centers
- C-5 - Highway Commercial
- I - Industrial
- LI - Light Industrial
- O - Office
- PUD - Planned Unit Development



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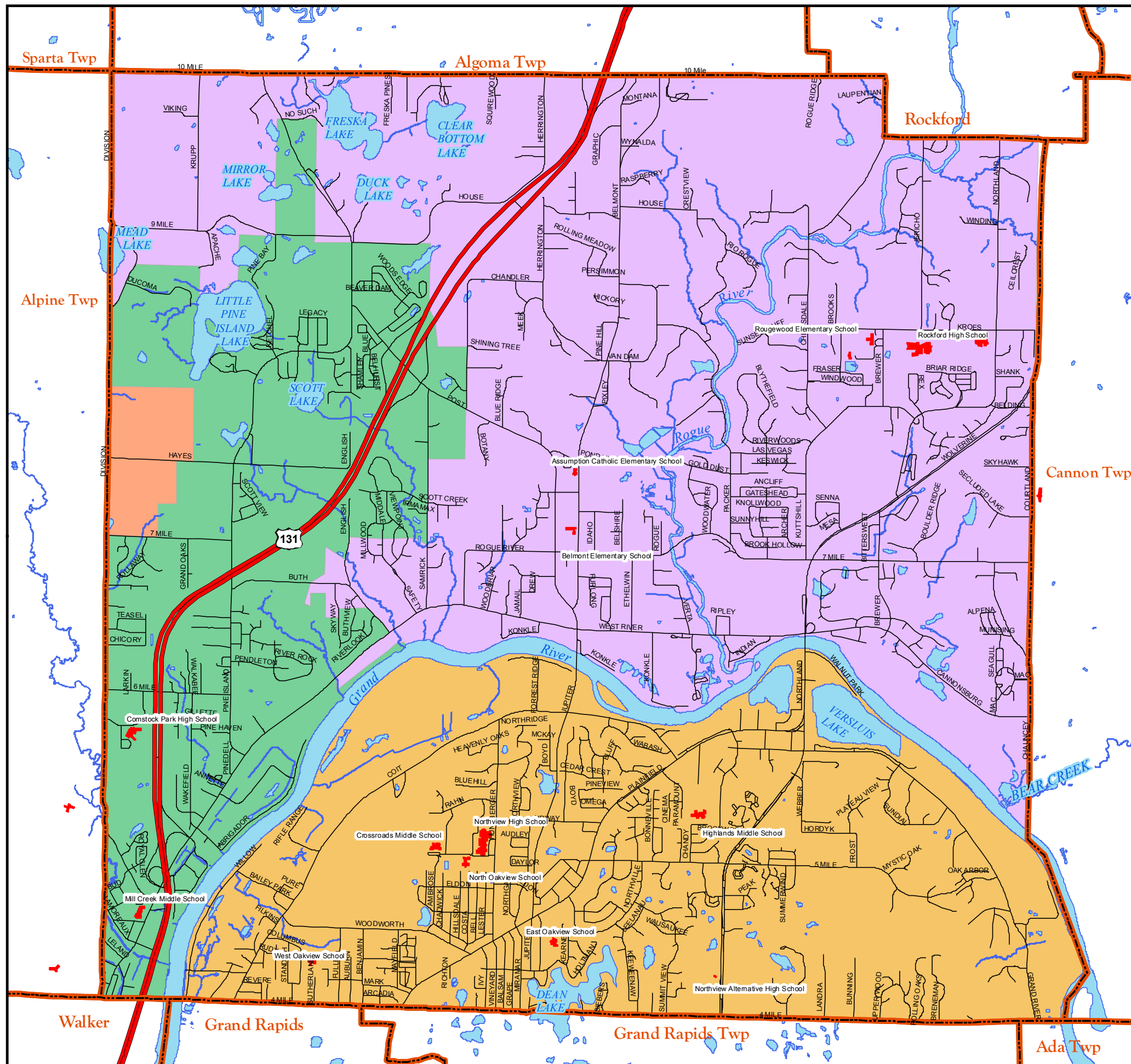
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# Plainfield Charter Township

## Map 8 School Districts



**Legend**

- Political Boundary
- Interstate Highway
- Plainfield Twp Streets
- Streams
- Surface Water
- School Facilities

**School District**

- Comstock Park Public Schools
- Kenowa Hills Public Schools
- Northview Public Schools
- Rockford Public Schools



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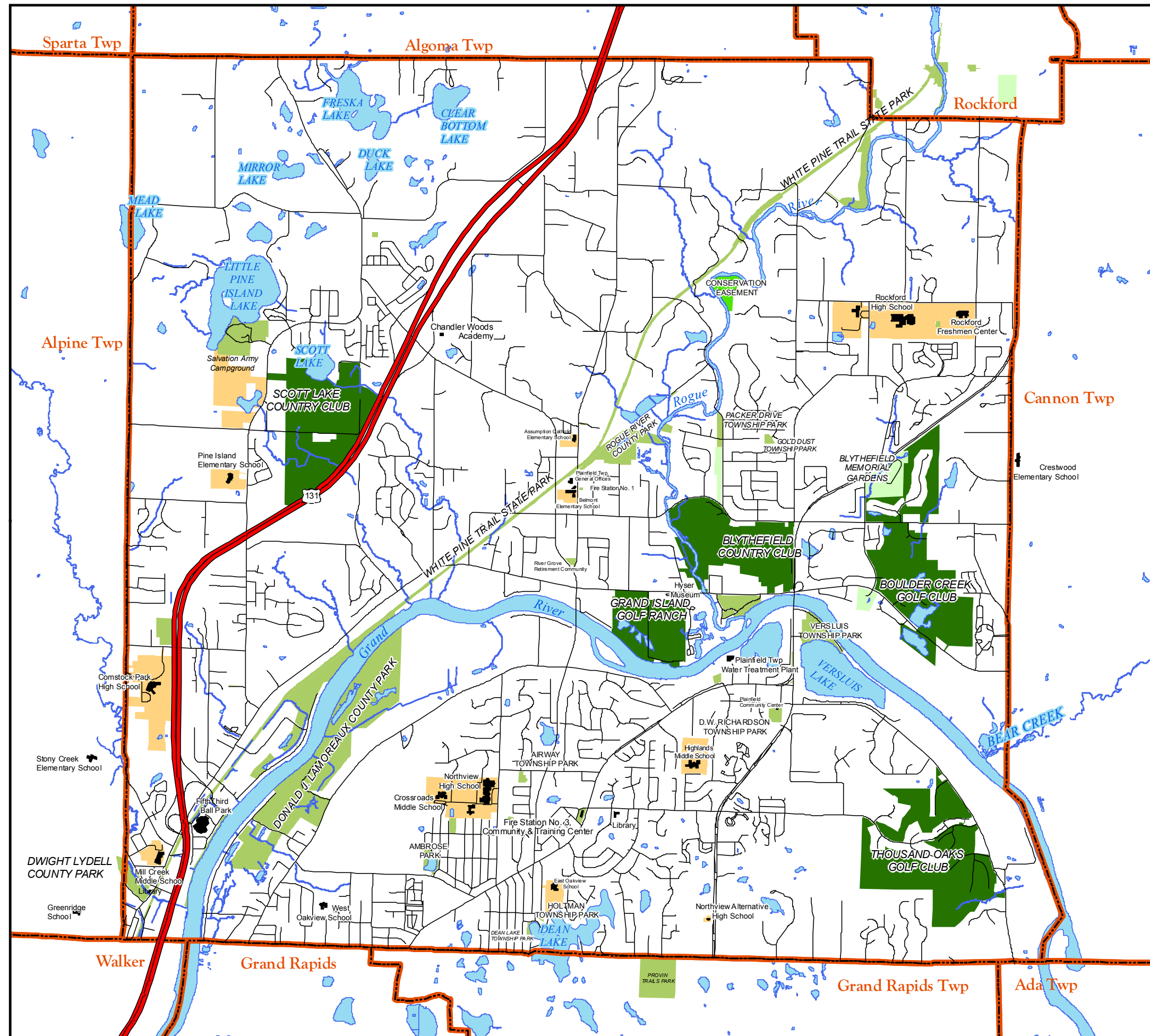
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# Plainfield Charter Township

## Map 9 Community Facilities



**Legend**

- Community Facility
- Interstate Highway
- Plainfield Twp Streets
- Political Boundary
- Surface Water
- Streams
- School Boundary
- Golf Course
- Green Space
- Nature Preserve
- Public Park



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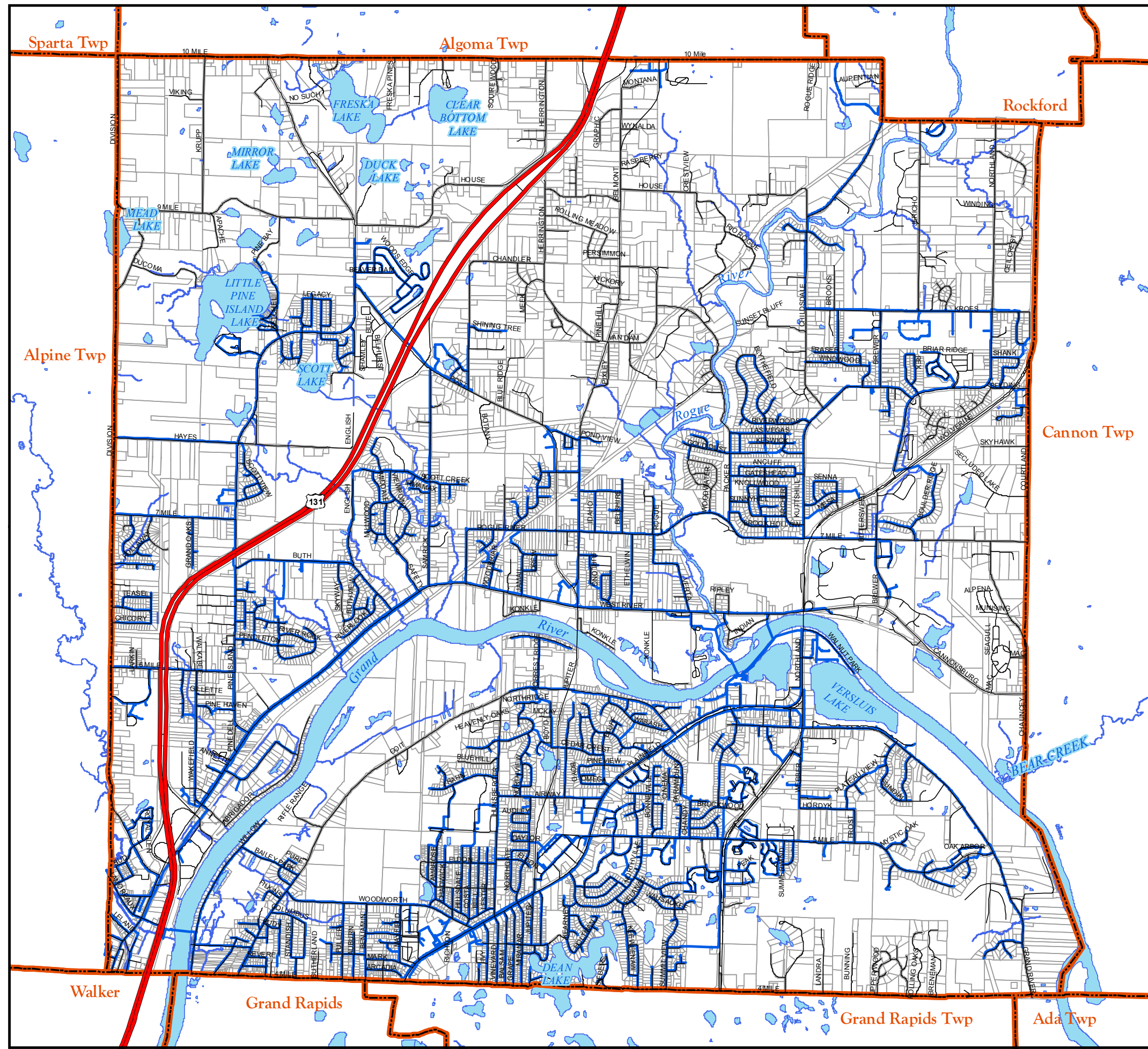


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




Source: REGIS and Plainfield Township

# Plainfield Charter Township

## Map 10 Municipal Water System



**Legend**

-  Political Boundary
-  Interstate Highway
-  Plainfield Twp Streets
-  Streams
-  Surface Water
-  Parcels
-  Watermains



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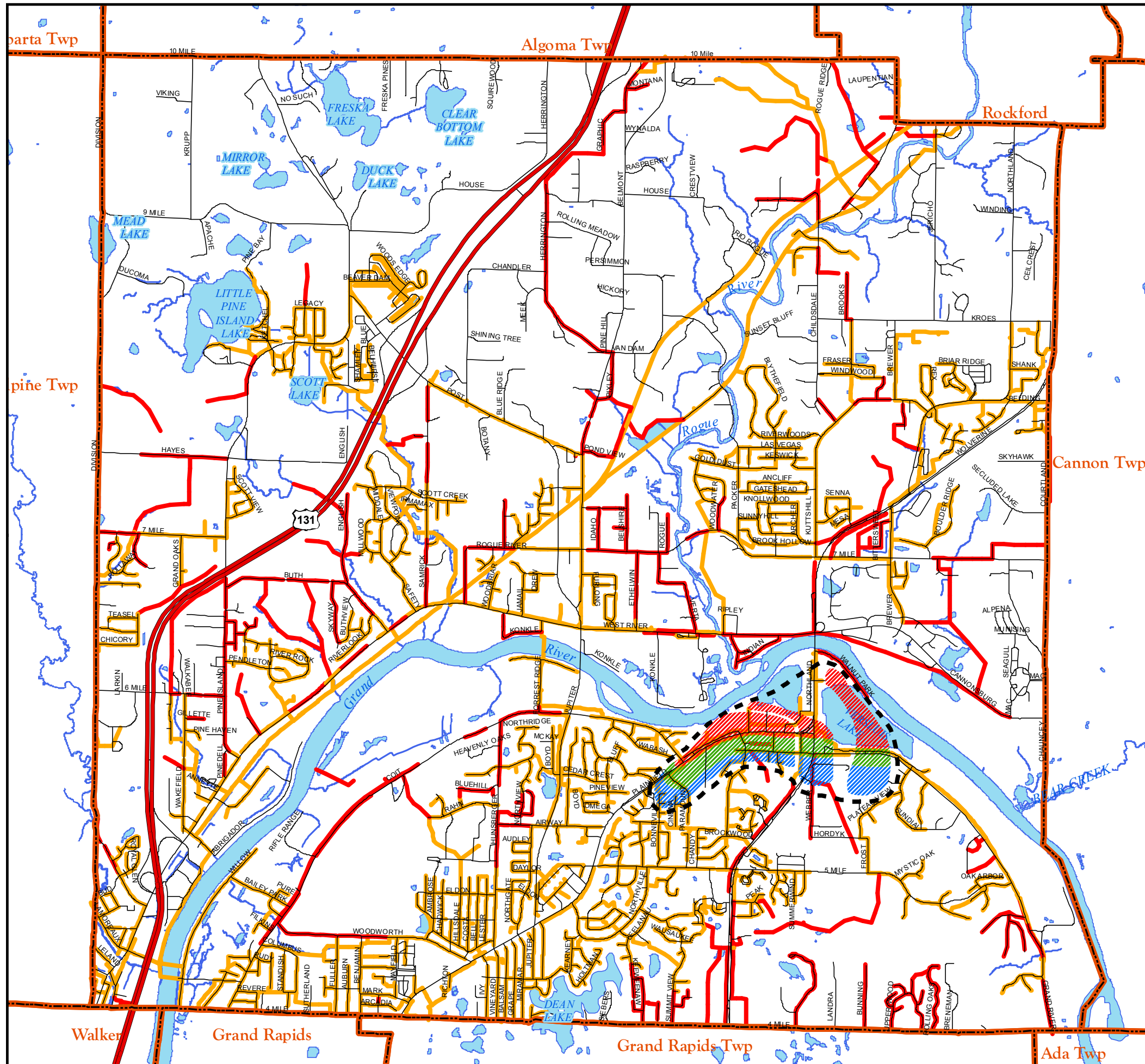
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## Map 11 Municipal Wastewater System



**Legend**

- Political Boundary
- Interstate Highway
- Street Centerlines
- Streams
- Surface Water

**Wellhead Protection Areas\***

- 1 Year Wellhead Delineation Area
- 10 Year Wellhead Delineation Area
- 5 Year Wellhead Delineation Area
- Recommended Wellhead Protection Area

**Sewer mains**

- Active
- Proposed

\* Wellhead delineation areas have been approximated



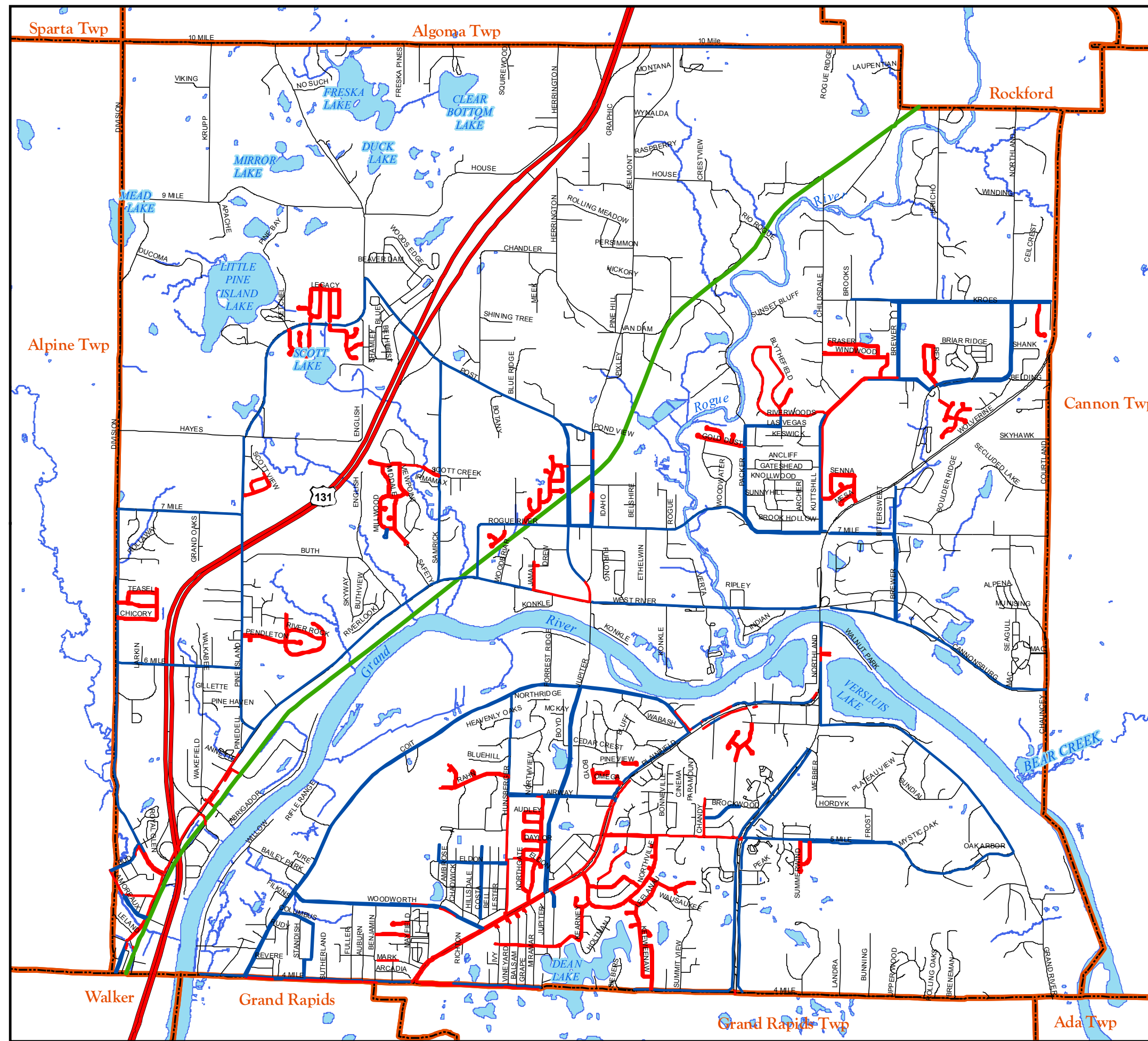
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# Plainfield Charter Township

## Map 12 Sidewalks



**Legend**

- Interstate Highway
- Plainfield Twp Streets
- Political Boundary
- Surface Water
- Streams

**Plainfield Twp Sidewalks**

- Existing
- Proposed
- White Pine Trail



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