

Ray Township

Macomb County

Master Land Use Plan

Adopted by:
Ray Township Planning Commission
May 11, 2010

Endorsed by:
Ray Township Board of Trustees
June 1, 2010



RESOLUTION OF ADOPTION
TOWNSHIP OF RAY MASTER PLAN

MOTION BY:

SUPPORTED BY:

RESOLVED THAT:

WHEREAS, the Michigan Planning Enabling Act (P.A. 33 of 2008) provides the Ray Township Planning Commission with the authority to prepare and adopt a community-wide Master Plan and,

WHEREAS, the Plan, among others, is intended to serve as a guide for the future development of the Township, and

WHEREAS, the Township Planning Commission has developed a plan which contains an, Introduction Section, Demographic Section, Environmental Section, Existing Land Use Section, Planning Policy Section, Liabilities Assets Needs and Desires Analysis Section, Agricultural Areas Plan, Residential Plan, Nonresidential Plan, Community Facilities Plan, Thoroughfare Plan, Implementation Section, a Master Land Use Plan Map and associated appendices, and

WHEREAS, the Plan was distributed for review to regional, county and local planning agencies and municipalities as required by Statute, and

WHEREAS, notices were duly published to hold a Public Hearing on the Master Plan, and

WHEREAS, a Public Hearing was held at the regular meeting of April 13, 2010 on the Master Plan,

NOW THEREFORE BE IT RESOLVED, that the Ray Township Planning Commission, on the date, May 11, 2010, herewith adopts the Plan.

BE IT FURTHER RESOLVED, that the Ray Township Planning Commission shall forward this Plan to the Ray Township Board of Trustees, the Macomb County Planning and Economic Development Department, and all other required entities in accordance with Act 33 of the Public Acts of 2008, as amended.

Ayes:

Nays:

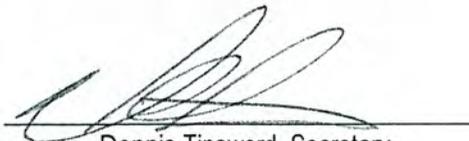
Absent:

Abstained:

I, Alvin Strauchman, Chairman of the Township of Ray Planning Commission, and I, Dennis Tipword, Secretary for the Ray Township Planning Commission, hereby certify that the above is a full and true copy of a resolution adopted by the Ray Township Planning Commission on May 11, 2010.



Alvin Strauchman, Chairman
Ray Township
Planning Commission



Dennis Tipword, Secretary
Ray Township
Planning Commission

**RESOLUTION OF ENDORSEMENT
TOWNSHIP OF RAY MASTER PLAN
Resolution Number 2010-04**

MOTION BY: STIER

SUPPORTED BY: ZOCCOLA

RESOLVED THAT:

WHEREAS, the Township Planning Act (P.A> 33 or 2009 as amended) provides the Ray Township Planning Commission with the authority to prepare and adopt a community-wide Master Plan and,

WHEREAS, the Township Planning Commission has develop a plan which contains an, Introduction Section, Demographic Section, Environmental Section, Existing Land Use Section, Planning Policy Section, Liabilities Assets Needs and Desires Analysis Section, Agricultural Areas Plan, Residential Plan, Nonresidential Plan, Community Facilities Plan, Thoroughfare Plan, Implementation Section, a Master Land Use Plan Map and associated appendices, and

WHEREAS, the Plan is intended to serve as a guide for the future development of the Township, and

WHEREAS, the Plan was distributed for review to regional, county and local planning agencies and municipalities as required by Statute, and

WHEREAS, a Public hearing was held at the regular meeting of April 13, 2010 on the Master Plan, and

WHEREAS, the Ray Township Planning Commission, on the date, May 11, 2010, adopted the Plan by resolution.

NOW, THEREFORE, BE IT RESOLVED, that the Ray Township Board of Trustees also adopts the Master Plan as its policy guide for future land use decisions.

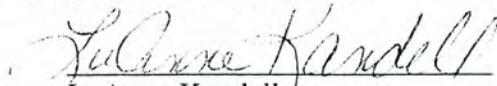
AYES: Stier, Zoccola, Grader, Bohm

NAYS: None

ABSENT: Artman

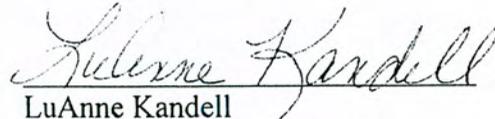
ABSTAINED: None

THE SUPERVISOR DECLARED THE RESOLUTION ADOPTED.


LuAnne Kandell,
Ray Township, Deputy Clerk

CERTIFICATE OF CLERK

I hereby certify that the attached constitutes a true and complete copy of a resolution adopted by the Township Board of the Township of Ray, County of Macomb, State of Michigan, at a regular meeting held on June 1, 2010, and that public notice of said meeting was given pursuant to Act 267, Public Acts of Michigan, 1976, including in the case of a special or rescheduled meeting notice by publication or posting at least eighteen (18) hours prior to the time set for the meeting.



LuAnne Kandell

Ray Township, Deputy Clerk

Acknowledgements

PLANNING COMMISSION

Chairman	Alvin Strauchman
Vice-Chair	Dave Ebert
Secretary	Dennis Tipsword
	John Zoccola
	Cynthia Banach
	Tom Penzien
	Tom Hancock

TOWNSHIP BOARD

Supervisor	Charles Bohm
Clerk	Ken Artman
Treasurer	Douglas Stier
Trustee	Betty L Grader
Trustee	John Zoccola

PLANNING & ZONING ADMINISTRATOR

Cathy Cichecki

TOWNSHIP PLANNING CONSULTANTS

Community Planning & Management, P.C.

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SECTION 1.0

INTRODUCTION



PURPOSE OF THE MASTER PLAN

The Master Plan is a comprehensive document that will provide direction for Ray Township over the next several decades; it is intended to guide the future decision-making process as related to land use and development, as well as overall community quality of life within the Township.

The Master Plan is Ray Township's official policy guide for physical improvement and development. It is comprised of both short and long term programs and policies. Since many factors influence land use development patterns, the plan is comprehensive in scope and coverage. It covers the use of land and buildings, the movement of vehicles and pedestrians through public rights-of-way, and the provision of public facilities such as parks, schools and utilities.

The Master Plan serves as an aid for every day decision making. The goals, programs and policies outlined in the Master Plan guide the Planning Commission and Township Board in their decision making on zoning, subdivisions, capital improvements, and other matters relating to land use and development. This every day guide provides a stable, long-term instrument for decision-making.

It ensures that individual developments are moving toward the common vision and ensures that public dollars are spent wisely. The Master Plan also provides a basis for refining the zoning ordinance, subdivision regulations and other development codes, all of which aid in the implementation of planning policies adopted as part of this plan.

Finally, the Master Plan can serve as a marketing tool to promote Ray Township as a unique place to live and establish a business. By promoting the community vision, officials can use the plan to attract new families and desirable investment to the community for years to come.

THE PLANNING PROCESS

Ray Township adopted its last Master Plan in 2004. This plan has served as the blueprint for development in Ray Township until the adoption of this plan. A Master Plan is generally a 20-year plan. However, in rapidly developing counties like Macomb County, plans are often updated more frequently in order to consider changing conditions within the community and its relationship, economically, socially and environmentally, within the larger regional setting.

It is essential that the Master Planning process be conducted within a public forum, opportunities must be provided for public participation and input if it is to be truly representative of the community as a whole and become a successful document. The support of the community can also facilitate implementation. An approach that has been used successfully when planning for the future of a community involves preceding the planning process with an exercise designed to develop "a vision of the future" for the Township.



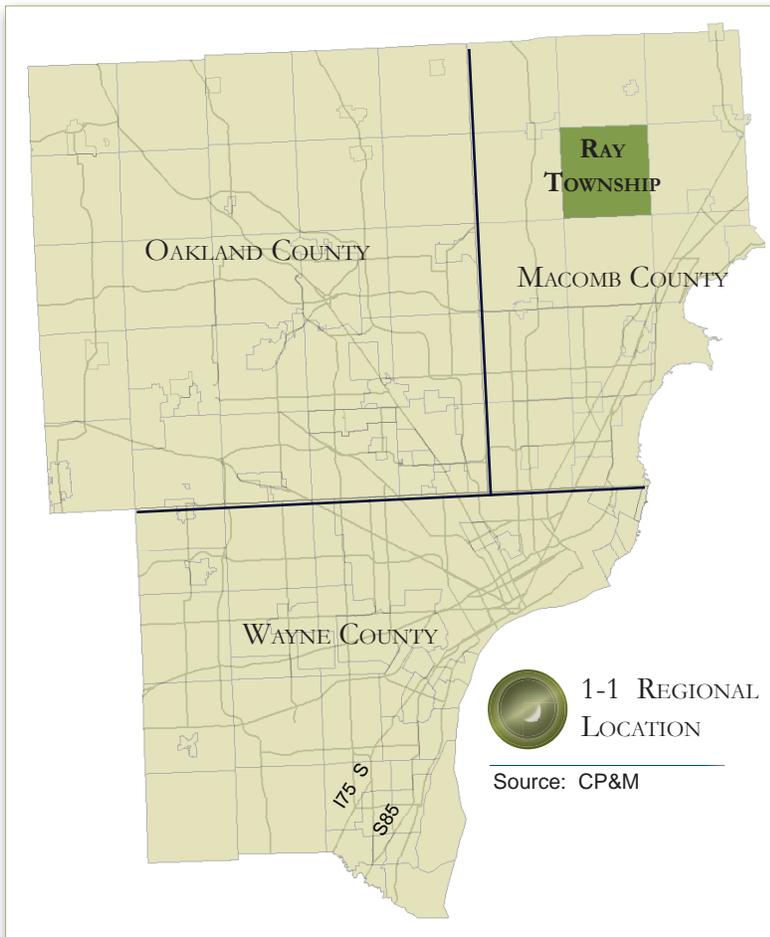
P.A. 33 of 2008:

The State of Michigan has passed enabling legislation which gives local municipalities, through the designated planning commissions, the authority and responsibility to create a long-range plan for development. This ensures that incremental improvements are in line with the long-range vision for the community.

REGIONAL LOCATION

Ray Township sits towards the top of Macomb County, within the northern tier of Townships. The Township is comprised to approximately thirty six (36) square miles and shares a boundary with Macomb Township to the south, Washington Township to the west, Armada Township to the north and Lenox Township to the east. The southern portion of the Township is bounded by 26 Mile Road while the northern boundary is defined by 32 Mile Road, the western boundary is defined by the Hayes Road alignment, while the east is defined by Omo Road.

In terms of access, Ray Township does not have direct access to any of the major expressways or highways within the County of Region. The Township has direct access to 26 Mile Road which in turn provides access to M-53, approximately three (3) miles to the west and I-94, approximately four (4) miles to the east. Romeo Plank and North Avenue provide the largest north/south connection for the Township and as these roads are expanded, access to Ray Township will be greatly increased.



Ray Township Historical Facts:

Ray Township was established in 1827. At that time, the boundaries included what is now Armada Township. In 1832 the boundaries were enlarged to include Lenox, Macomb and Richmond Townships. But later Ray Township was reduced to its present size of 36 square miles with boundaries.

The current Township Hall is housed in what was originally the Ray "Union Church" built in 1869. In the 40's attendance lagged at the church and the trustees decided to abandon the church and to turn the property over to the township to be used by its residents. On June 6, 1950 a formal agreement was signed between the church trustees and the trustees of the Township. The Township Board began holding meetings at the hall in 1968 and in 1973 opened a small office in the back room. In 1996 the Ray Township Senior Center addition was built on the back of the hall.

The Township Library is located in a former one-room schoolhouse that was built in 1863. The "Mill School" served the community to educate the children of Ray Township for ninety-one years. The ownership of the school and property was transferred to Ray Township in 1953. The building was reconditioned in 1983 and opened as the Ray Township Library.

*For more information visit the following:
www.raytownship.org*

GROWTH CORRIDORS

The southern portion of Ray Township lies along the 26 Mile Road Corridor. This corridor has a number of fast growing communities including those immediately adjacent to Ray Township. These include Macomb Township (growth rate of 48.8 percent), Washington Township (growth rate of 31.6 percent) as well as Lenox Township to the east (growth rate of 12.3 percent).

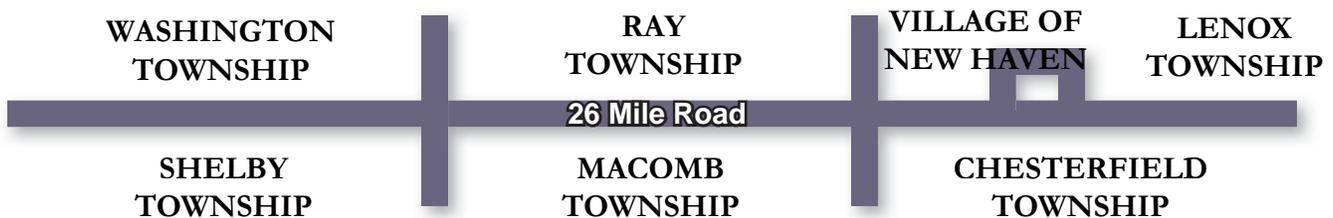
Ray Township however, has a very small growth rate between 2000 and 2008 at 4.1 percent. This is far below any of the other 26 Mile Road corridor communities.

Of the ten (10) fastest growing communities in the County, five (5) of them are adjacent to or proximate to Ray Township. These communities include Macomb Township, Washington Township, Chesterfield Township, Lenox Township and Shelby Township. Both Chesterfield and Shelby Townships don't share a mutual boundary with Ray but are kitty corner to the Township.

The fact that it is directly abutted by three (3) of the fastest growing communities in the County will place pressure on Ray Township to grow at a similar rate. While growth rates may increase for the Township, that growth will need to follow the goals and policies of the Township.

26 MILE ROAD GROWTH CORRIDOR				
Community	Population		Change	
	2000	2008	Number	%
Chesterfield Twp.	37,405	45,153	7,748	20.7
Lenox Twp.	5,362	6,020	658	12.3
Macomb Twp.	50,478	75,093	24,615	48.8
New Haven	3,071	5,424	2,353	76.6
Ray Twp.	3,740	3,894	154	4.1
Shelby Twp	65,159	72,467	7,308	11.2
Washington Twp.	17,122	22,537	5,415	31.6
TOTALS	182,337	230,588	48,251	26.5

FASTEST GROWING COMMUNITIES (PERCENTAGE)	
New Haven	79.8
Macomb Township	52.3
New Baltimore	46.9
Washington Township	38.8
Chesterfield Township	27.0
Lenox Township	21.8
Richmond City	21.0
Richmond Township	18.7
Shelby Township	16.6
Bruce Township	15.9



SURROUNDING COMMUNITY MASTER PLANS

Washington Township

PLANNED USES

Multiple Family (3.5 to 8 units) The multiple family designation extends from 26 Mile Road, northward to the utility lines, essentially one half mile north of 26 Mile Road. As noted, the expected density will be approximately 4.0 to 6.0 units per acre. Typical developments of row houses and attached condominiums are anticipated.

Moderate Density (1.4 to 2.2 units) Found generally south of 27 Mile Road, this designation anticipates a more suburban type development with the noted densities of 1.4 to 2.2 units per acre. It is anticipated that these areas will be fully serviced with sewer and water infrastructure.

Low Density (1.0 to 1.4 units) This designation extends from 27 Mile Road to 30 Mile Road within the eastern portion of the Township. The development within this land use category should attempt to maintain the Township's rural character. This area will ultimately have sewer and water infrastructure, therefore densities closer to the 1.4 unit per acre are more likely. Until such time, lot sizes should remain approximately three (3) acres in size to accommodate septic systems and wells.

Large Lot (0.5 to 1.0 units) The Large Lot designation extends primarily from 30 Mile Road to the planned industrial designation along 32 Mile Road. The large lot residential planning area suggests lot sizes of approximately three (3) acres until such time that sanitary sewer becomes available for the area. This designation within the eastern portion of the Township is also the planning designation for Section 1 of the Township which is planned for Planned Unit Development (PUD) purposes.

PLANNED USE IMPACTS

The presence of Washington Township's existing and planned sanitary sewer area along the Hayes Road corridor will place pressure on Ray Township in terms of matching densities. High densities to the south as well as the potential for a large planned unit development in the north will generate large volumes of traffic which may spill into Ray Township.

Armada Township

PLANNED USES

Single Family Residential (1 Unit per Acre without Sewer - 3-4 Units per Acre with Sewer) The single family residential designation extends from Powell Road to North Avenue and essentially from 32 Mile Road to 33 Mile Road along the Township's southern boundary. The Township has also planned both sides of North Avenue for single family residential purposes from 32 Mile Road to the Village of Armada.

Commercial The Commercial designation is planned at each intersection along 32 Mile Road including Romeo Plank, Wolcott, Hicks and North Avenue. Typical commercial uses are anticipated for these areas including general retail, convenience stores, gasoline service stations and the like.

Industrial The Industrial designation is planned primarily in the southwest corner of the Township where the Township's existing industrial park is located. This extends from Powell Road to essentially one half mile west of Romeo Plank. One additional small planned industrial area is planned near the intersection of 32 Mile Road and Hicks Road. Warehousing, storage, machining and testing are anticipated uses within the planned industrial designation.

Utility The existing gas storage fields located to the east of North Avenue have been recognized on the Township Master Plan. This area does not plan any additional land use other than operation and maintenance of the gas fields.

PLANNED USE IMPACTS

The largest impact on Ray Township from the Armada Township Master Plan is the planned sanitary sewer district which will extend from Powell Road at the west to North Avenue in the east. This is essentially the entire mutual boundary between Ray and Armada Townships. The densities of 3-4 units per acre anticipated in this area may place pressure on Ray Township to plan for similar densities.

Lenox Township

PLANNED USES

Rural Preservation - This category is intended to accommodate primarily agricultural land uses, farm dwellings, and non-farm dwellings that are in keeping with the rural and agricultural character. Residential development at densities of no more than 0.2-0.5 units per acre is anticipated in areas planned for this designation.

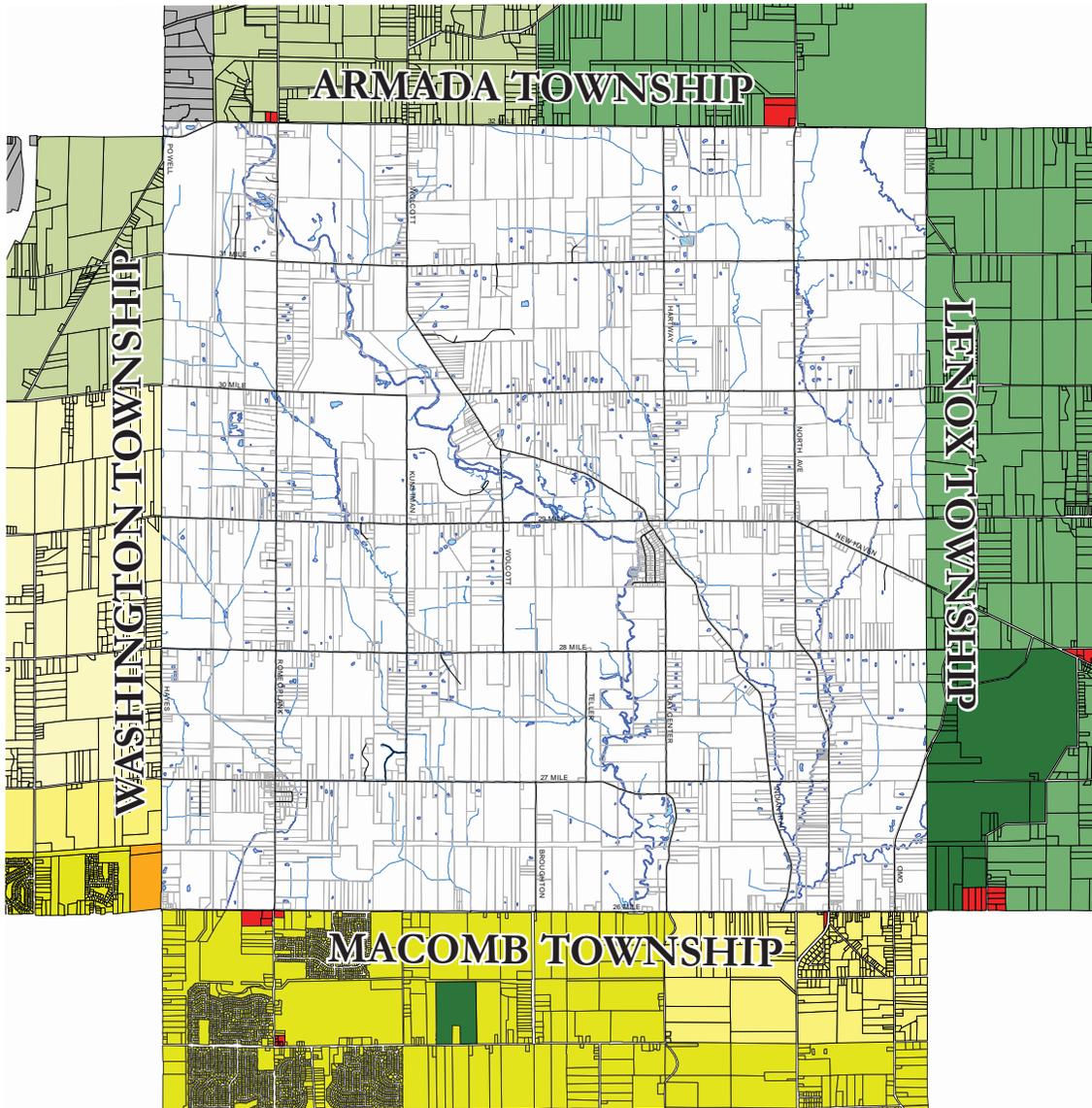
Recreation - This designation includes Wetzel State Park along with the Oakridge Golf Course. The Plan recognizes the presence of the Park. No alternative land uses for these existing uses is noted.

Local Business - The intended uses within this designation are drug stores, florists, beauty salons, and modest sized grocery stores. Areas are planned to provide nodes of development at key intersections and discourage strip commercial along the Township's roadways.

Open Space - The Open Space category establishes an appropriate buffer between adjoining, incompatible uses along the Township's streams and floodplain areas. As an incentive for preserving these areas, the Township suggests developing these areas as part of the transfer of development rights system, where density would be transferred away from these areas to other more appropriate areas of the Township.

Illustration # 1-1 ADJACENT COMMUNITY MASTER PLANS

Prepared By: Ray Township Planning Commission
Source: CP&M



- | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|
|  LARGE LOT RESIDENTIAL APPROX. 2 ACRES |  MULTIPLE FAMILY |
|  LOW DENSITY RESIDENTIAL - 1 UNIT / ACRE |  MANUFACTURED HOUSING COMMUNITY |
|  SINGLE FAMILY RESIDENTIAL - 1.5 UNIT / ACRE |  COMMERCIAL |
|  MODERATE DENSITY SINGLE FAMILY RESIDENTIAL - 2 UNITS/ACRE |  INDUSTRIAL |
|  HIGH DENSITY SINGLE FAMILY RESIDENTIAL - 2-3 UNITS / ACRE |  PUBLIC / RECREATION |

PLANNED USE IMPACTS

The vast majority of the common boundary between Ray and Lenox Township is planned for Rural Preservation which anticipates farmland preservation and very low residential densities similar to that of Ray Township's traditional planning policies. The southwest corner of the Township is planned for recreation purposes, recognizing the presence of Wetzel State Park. In terms of residential density, this designation has minimal impact on Ray Township's planning efforts. Lenox Township, within its Master Plan, does not envision the extension of sewer and water infrastructure to the western portion of the Township. Therefore, based on current planning efforts, Ray Township should not experience growth pressures typically seen from a sewerred area, from the east, within Lenox Township.

Macomb Township

PLANNED USES

Residential Overall - The plan:

- Provides for residential development that will give a diversity of living styles as well as a population that can be supported by Township services.
- Encourages the preservation of the natural features of open space through the State of Michigan initiated cluster provisions in the undeveloped portions of the Township that will compliment the environment and vice versa. (add cluster provisions in all residential zones, with densities of those zones)
- Protects residential areas from incompatible land uses.
- Provides for lot or parcel sizes that will compliment the planned house size.

Residential (Two Units Per Acre) - There are areas of the Township that have not developed rapidly and have been held back because of the lack of facilities including water and sewer lines. These areas may develop, but could do so only with the construction of individual wells and septic fields. Because of the need for larger parcels to adequately provide for wells and septic systems this method of development creates as much less dense ratio and offers housing diversification. This plan proposes to continue low density and to create an area for large lots (two units or less per acre) in the northeast sections of Macomb Township, specifically sections 2, 3, 10, and 11.

Residential (Three Units Per Acre) - Those areas of the Township that have already been developed as well as those where sewer and water infrastructure is readily available to accommodate development have been planned for single family residential land use at a density of three (3) units per acre. This includes those areas along 26 Mile Road in sections 1, 4, 5, and 6.

Commercial - Planned shopping centers provide the unified commercial buildings, controlled access and internal circulation, ample parking and because of the consolidation of uses and structures, an ease of transition between the commercial uses and adjacent residential areas. The commercial facilities planned to serve the north and east sections of the Township will have as their guide the development of the Township Center and the lower residential densities planned for this area.

PLANNED USE IMPACTS

The planned sanitary sewer service areas as well as the planned densities along the southern boundary of 26 Mile Road suggest that higher densities should be provided along the northern boundary of 26 Mile Road in Ray Township. The planned densities along the 26 Mile Road boundary are higher in the west in sections 4, 5, and 6 and are lower in section 2 and 3, further away from the Hayes Road interceptor. In addition, the higher densities of 2-3 units per acre will increase traffic along 26 Mile Road and potentially increase the need for additional commercial land use.



SECTION 2.0

DEMOGRAPHICS

INTRODUCTION

The characteristics of a community's population are among the key ingredients that require consideration in the long-range planning process. Historical and current population trends have several useful applications. They are especially relevant in identifying the need for various types of community facilities. Future land use and public utility demands are also related to demographic trends and characteristics.

The following review considers several items, each of which are important to more fully understand the characteristics of Ray Township's total population. These individual topics include the following:

- Population change over time.
- Age characteristics.
- Household characteristics.
- Population projections.

The most current data for Ray Township is from the 2000 U.S. Census. Wherever possible, comparable data for Macomb County is also included. Information for this wider geographic area is provided for the purpose of understanding the relationship of the Township to the larger related geographical areas that it occupies in southeast Michigan. Conclusions and the potential planning policy implications of this data are also noted.

POPULATION CHANGE

At the national level, the U.S. population exceeded the two hundred million mark for the first time in 1970. An increase to 226 million was recorded in 1980. National population data for 1990 indicated just under 250 million persons. Totals for the year 2000 saw the national population exceed 280 million at 281,421,906. Michigan's share of the national population has remained a relatively stable 4% since 1930. However, the year 2000 indicates a recent decline to 3.5%.

During the 50-year period between 1930 and 1980, Michigan's population nearly doubled from 4.8 million to 9.2 million. The State's greatest periods of population growth over these five decades occurred between 1940 and 1970. During this thirty-year period, Michigan gained more than one million people for each ten-year census interval. From 1970 to 1990, however, population growth slowed considerably. Michigan grew by only 380,252 persons during the 1970's. Final 1990 U.S. Census data for Michigan gave the State a population of 9,295,297, or 33,219 persons, over 1980 levels. This was an increase of less than 1%. The year 2000 data indicated a State population of 9,938,444 persons. This is an increase of 643,147, or nearly 7%.

TYPICAL RAY RESIDENT:

- Median age is 38.9
- Married (73%)
- White (98.7%)
- Lives in a household of 2.84 persons

POPULATION GROWTH TRENDS

Ray Township's population grew during each ten-year recording period between 1940 and 2000. In 1940, the Township reported a population of 1,439 persons. By the year 2000, the Township's population stood at a level of 3,740 persons for a 60-year increase of 2,301 persons or nearly 160%. Stated differently, the Township has experienced a population gain of approximately 383 persons per decade or approximately 38 people per year.

TABLE 1
COMPARATIVE POPULATION
GROWTH TRENDS

COMMUNITY	1940	1950	1960	1970	1980	1990	2000	2008 PROJECTIONS
Ray Twp.	1,439	1,671	2,086	2,683	3,121	3,230	3,740	3,894
Armada Twp.	1,064	951	1,336	1,601	2,495	2,943	3,673	3,821
Macomb Twp.	1,935	2,715	4,807	6,140	14,230	22,714	50,478	75,093
Lenox Twp.	1,710	1,993	2,356	2,788	3,028	3,069	5,362	6,020
Washington Twp.	1,607	2,087	3,124	5,651	8,637	11,386	19,080	22,587
Macomb County	107,638	184,961	405,804	625,309	694,600	717,400	788,149	836,435

Source: U.S. Census (1940-2000)

As noted above, the Township averaged a population increase of 358 persons over each ten-year period for the last six decades. The largest single gain occurred between 1960 and 1970, when the Township's population increased by 597 persons. The population gain between the years 1990 and 2000 was 510 persons. The Township's share of Macomb County's total population has remained at a consistent level of approximately 0.4 to 0.5 percent since 1960. The percentage total for 2000 was 0.47 percent.

AGE CHARACTERISTICS

An important demographic factor influencing planning is the age composition of a community and the extent to which this composition has changed over time. They are useful indicators of anticipated demands for various types of municipal services and programs, including parks, employment needs, job training, day-care, schools, and various services for the elderly. These needs, in turn, influence a community's land use requirements.

Median Age

The steady aging of the Nation's population was among the more important trends dimensioned by the 1980 census. After reaching a high of 30.2 years in 1950, the median age for the Nation declined the following two decades to 29.5 years in 1960, and 28.3 years in 1970. These declines were largely a response to the high birth rates that occurred during the baby boom years following World War II. The aging of the baby boom children, during the 1960's and 1970's, partially explains the rise in median age revealed in the 1980 U.S. Census. Lower fertility rates and increasingly longer life spans have also contributed to the increase.

The aging trend is clearly reflected in the median age figures noted in Table 7. Each of the different geographic areas included below experienced an increase in median age levels between 1970 and 1980. The Nation's population reached a median level of 30.0 years in 1980, according to the U.S. Census Bureau. Both Michigan and Macomb County reported median age levels approaching the National level in 1980. Ray Township also experienced an increase in median age levels between 1970 and 1980 from 26.5 years to 29.0 years. The Township's median age rose six years to a level of 35.1 years of age by 1990. This more than doubled the increase of the previous decade. The Township's 1990 median age was slightly higher than the total for the County as a whole. The Township's median age rose significantly again by the year 2000 to 38.9 years of age. Again, the Township's median age is substantially higher than that of the County, the State or the Nation.

TABLE 2-2
MEDIAN AGE

GEOGRAPHIC AREA	1950	1960	1970	1980	1990	2000
Ray Twp.	-	-	26.5	29	35.1	38.9
Macomb County	-	24.8	24.6	29.1	33.9	36.9
Michigan	31.5	28.3	26.3	28.8	32.6	35.5
United States	30.2	29.5	28.3	30	32.9	35.3

Source: U.S. Census (1950-2000)

Population by Age

By reviewing the various age categories that make up the Township's population, it is possible to determine how various segments of the population have changed over time and which groups made the largest contributions to Ray Township's population increases over the past two decades. The distribution of the Township's population into designated age categories for 1970, 1980, 1990, and 2000 is shown in Table 15.

Between 1970 and 1980, all but two of the individual age groups experienced a population increase. Only those two categories located at opposite ends of the age distribution lost population. The number of residents under the age of five declined by 22 persons, while persons over the age of 75 declined by 38 persons. The single largest population gain occurred in the 25 to 44 age group, which experienced an increase of 289 persons.

Since 1980, however, a more variable pattern of population change among these different age groups is evident. For example, the number of children under the age of five remained the same in both 1980 and 1990 but increased for 2000. School-aged children declined by 265 persons in 1990 but rebounded in the year 2000 with an increase of 125 - the single largest age group increase for the decade. Young adults, those between the ages of 18 and 20, declined by 20 persons in 1990 and 19 persons in 2000. Within the 25-44 age group, it is important to note that this group encompasses a large range of ages. According to the 2000 census, persons ages 25-34 numbered 404 and 35-44 numbered 729. This once again demonstrates the growth of the older spectrum of the population in the Township. The most significant increase for 2000 can be found for persons between the ages of 25 and 59 which increased by 319. The three age groups that make up this range accounted for over 62% of the total population increase in Ray Township between 1990 and 2000.

TABLE 2-3
POPULATION BY AGE

AGE	1970		1980		CHANGE		1990		CHANGE		2000		CHANGE	
	NUMBER	%	NUMBER	%	1970-1980	NUMBER	%	1980-1990	NUMBER	%	1990-2000	NUMBER	%	1990-2000
Under 5	226	8.4	204	6.5	-22	204	6.3	-	228	6.1	24			
5-17	840	31.2	858	27.5	18	593	18.4	-265	735	19.7	142			
18-20	121	4.5	164	5.3	43	144	4.5	-20	125	3.3	-19			
21-24	101	3.8	151	4.8	50	158	4.9	7	115	3.1	-43			
25-44	641	23.9	930	29.8	289	1,035	32	105	1133	30.3	98			
45-54	297	11.1	300	9.6	3	481	14.9	181	589	15.7	108			
55-59	115	4.3	156	5	41	148	4.6	-8	261	7	113			
60-64	94	3.5	133	4.3	39	139	4.3	6	203	5.4	64			
65-74	133	5	148	4.7	15	208	6.4	60	201	5.4	-7			
75+	115	4.3	77	2.5	-38	120	3.7	43	150	4	30			
Totals	2,683	100	3,121	100	438	3,230	100	109	3,740	100	510			

Source: U.S. Census (1970-2000)

Age by Life Cycle Category

A more meaningful picture of the Township's population age distribution is possible when the individual age categories shown on the previous table are combined into a smaller number of groups, which more closely resemble identifiable stages of a normal human life cycle. Selected categories and the age intervals that they represent include: pre-school (0-4), school (5-17), family formation (18-44), middle-age (45-64), and seniors (65+). The percent of the Township's population that falls into each of these categories is shown in the following table. Similar data for Macomb County is also provided for comparison purposes. Each of the life cycle stages reflected in Table 16 has important meaning for planning purposes.

The pre-school category is a good short-range indicator of future school enrollment trends and the impact that these trends may have on the use of existing or planned school facilities. Between 1970 and 1980, the percent of the Township's population under the age of five declined from 8.4% in 1970, to 6.5% in 1980. This proportion has experienced a slight decline over the past twenty years, falling to 6.3% in 1990, and 6.1% in 2000.

The school-age category also provides some evidence of the demand for school and recreation facilities. This category's share of the Township's total population is declining. In 1970, for example, slightly less than one-third (1/3) of all Township residents were between the ages of 5 and 17. By 1980, this group declined to 27.5% and again to 18.4% in 1990. The 2000 Census indicates that this number is once again on the rise, up 1.3% from 1990 data, at 19.7%.

The family formation and middle-age categories comprise almost one-third (1/3) of the Township's total population and are increasing their share of the Township's overall population. Collectively, these two categories represent the foundation of the community. These categories represent the community's largest share of property owners and taxpayers. They are also consumers of goods and services, thereby serving as a catalyst for economic growth. Between 1980 and 1990, the percentage of the Township's population in these two groups increased from 51.2% to 58.8%. Another increase to 64.8 percent occurred in 2000.

Nationwide, senior citizens are becoming a more important segment of the overall population base. As the number of seniors continues to grow, greater demands will be generated for passive recreation opportunities, convenient transportation, as well as specialized housing and health care services.

It is noteworthy that National trends showing an increased senior citizen population *do not* reflect trends in Ray Township. In 1970, residents over the age of 65 comprised 9.2 percent of the Township's population. By 1980, this dropped to 7.2, reflecting a decline of 38 persons over the age of 65. A slight increase to 10.1 occurred in 1990. This however, has been offset by a decline in the year 2000, falling to 9.4%.

TABLE 2-4
AGE BY LIFE CYCLE CATEGORY

CATEGORY	1970		1980		1990		2000	
	RAY TWP.	MACOMB COUNTY						
Pre-School (0-4)	8.4	10.3	6.5	6.7	6.3	6.8	6.1	6.5
School Age (5-17)	31.2	30.5	27.5	23.2	18.4	17.1	19.7	17.6
Family Formation (18-44)	32	36.9	39.9	41.6	41.4	43.2	36.7	39.5
Middle Age (45-64)	18.8	17.5	18.9	20.8	23.8	20.6	28.1	22.8
Seniors (65+)	9.2	4.8	7.2	7.7	10.1	12.3	9.4	13.6

Source: U.S. Census (1970-2000)

HOUSEHOLD AND HOUSING GROWTH TRENDS

Household characteristics, in general, and the rate of new household formations, in particular, have become increasingly important as indicators of demographic change and economic growth. The growth of new households, in fact, may be a better determinant of economic growth within a community than absolute increases in the population itself.

Household growth trends represent another important trend revealed by the 1980 Census. Michigan offers a good example of this trend. In spite of a low population growth rate of 4.3 percent between 1970 and 1980, Michigan experienced the formation of 500,000 new households during this period, for an increase of 20 percent. The difference in household formation and population growth trends is more reflective of current population growth trends. The State's population increased by 643,000 people between 1980 and 1990. Based on the average Michigan household size of 2.56, one would expect approximately 251,000 new households. The actual number of new households formed between 1990 and 2000 totaled 251,327. This is nearly identical to what one would expect with the population growth that the State has experienced.

Accompanying this change in household formations was an equally noticeable decline in the size of the average household. At the national level, household size declined to a record low of 2.56 in 2000. This is down from the 1990 number of 2.63 persons per household. Three factors are largely held responsible for these trends:

1. Increased numbers of people living alone either before marriage or after divorce.
2. Smaller families with women having fewer children.
3. More elderly women outliving their husbands.

The aging of the "baby boom" generation has also had an impact on the rate of new household formations. Many members of the baby boom generation reached the age when they began forming their own households during the 1970's, contributing significantly to the number of new households.

Both Ray Township and Macomb County shared in the rapid rate of household formation that characterized the ten-year period between 1970 and 1980. During this period, approximately 212 new households were formed in the Township, for an increase of 30.0 percent. This is nearly identical to the rate of household formation of 30.3 percent which occurred on a County-wide basis. Approximately 0.4 percent of all new households formed in the County between 1970 and 1980 were established in Ray Township.

TABLE 2-5
HOUSEHOLD GROWTH TRENDS

	CHANGE				CHANGE			CHANGE			CHANGE		% CHANGE
	1970	1980	1970-1980	% Change	1990	1980-1990	% Change	2000	1990-2000	% Change	2008	2000-2008	
Ray Twp.	707	929	222	31.4	1052	123	13.2	1305	253	24	1,443	138	10.6
Macomb County	171,578	229,805	58,227	22.9	264,991	35,186	15.3	309,203	22,212	16.7	344,764	35,561	11.5

Source: U.S. Census (1970-2000)

The rate of new household formation slowed between 1980 and 1990 with an increase of only 13.2%. Household growth has once again risen to rates last seen over twenty years ago, as has been indicated by the 24.0% increase in new households formed in Ray Township during the past decade. This far outpaces the average household growth in Macomb County during the 1990s, which was 16.7%.

Consistent with National and State trends, the size of the average household in Ray Township declined over the 20-year period between 1980 and 2000. For example, in 1980, the Township reported an average household size of 3.36 persons. By 1990, this figure had declined to 3.03. The year 2000 Census data shows that household size has declined to a level of 2.84. In spite of these declines, the average household size for Ray Township remains slightly higher than similar figures for either the County or the State.

TABLE 2-6
HOUSEHOLD SIZE (PERSONS PER HOUSEHOLD)

COMMUNITY	1960	1970	1980	1990	2000
Ray Twp.	-	3.71	3.36	3.03	2.84
Macomb County	3.79	3.63	3	2.68	2.52
Michigan	3.49	3.27	2.84	2.63	2.56

Source: U.S. Census (1960-2000)

POPULATION PROJECTIONS

Projections of future population growth provide the bridge between the present and the future in the comprehensive planning process. These projections help determine future land use requirements, as well as the demand for various municipal services.

Projections of future population growth need to consider the growth of the larger geographic region within which the community is located. For the Township, this involves considering future population growth within the community as it relates to growth for Macomb County and Southeast Michigan as a whole.

Several techniques are traditionally used to project future population growth. These alternative approaches to population forecasting, and the results that they yield, are summarized in the following discussion. Also included as part of this analysis are population projections that have been prepared by the Southeast Michigan Council of Governments.

Constant Proportion Method

The constant proportion method of projecting population assumes that Ray Township will maintain the same share of Macomb County's population in 2010 and 2020 as it did in 2000. Applying this projection method yields the following projected population levels: 2010 - 3,943 and 2020 - 4,163.

Growth Rate Method

The growth method is an alternative projection technique that assumes that the Township's growth rate between 2000 and 2010 will be similar to that which occurred between 1990 and 2000. This method further assumes that the Township's 2000 to 2020 growth rate will be identical to the rate that occurred between 1980 and 2000. Based on these assumptions, the anticipated number of persons for the year 2010 is 4,330, and 4,482 for the year 2020.

Arithmetic Method

The arithmetic method is similar to the growth rate method in that the population projections are based on the growth that occurred in the preceding decades. This method, however, uses actual numbers rather than percentages. This method projects future population levels of 4,250 and 4,359 for the years 2010 and 2020, respectively.

Southeast Michigan Council of Governments

Population projections to the year 2030 were developed by the Southeast Michigan Council of Governments (SEMCOG) as part of their updated Small Area Forecast process for 2001. SEMCOG's projections anticipate a year 2010 population of 4,364 and 5,497 by the year 2020.

Projection Summary

The anticipated population levels for the Township, using each of the different projection techniques, are summarized as follows:

TABLE 2-7
POPULATION PROJECTION
SUMMARY

COMMUNITY	2005	2010	2015	2020	2025	2030	2035	CHANGE	% CHANGE
								2005-2035	2005-2035
Ray Twp.	3,871	4,104	4,555	4,749	5,386	5,777	6,101	2,230	57.60%
Macomb County	829,765	854,626	867,339	877,357	890,013	906,895	925,958	95,958	11.60%

Source: SEMCOG

CONCLUSION

As shown, SEMCOG predicts that the population of Ray Township will increase 57.60% by 2035. This is far above the overall projected population increase for the county.

These projections anticipate steady modest growth for Ray Township through the first three (3) decades of the current century, amounting to an overall increase of 2,230 persons. The projections do not contemplate Ray Township's full participation in the growth that has occurred in those portions of Macomb County located to the east, west or south. The Township's lack of utilities or well-defined transportation corridor serve as constraints to the more accelerated population and household growth that has occurred elsewhere in the County. If the Township does in fact improve its utilities and/or transportation, this may incite growth beyond what SEMCOG's projections suggest.



SECTION 3.0

ENVIRONMENTAL

INTRODUCTION

Physical features exert important influences in shaping the development and character of a specific area. They are nature's contribution to the Township's environment. Collectively, these features can determine the overall physical character of the community.

When integrated thoughtfully into development proposals, physical features serve to enhance the character and appearance of the constructed environment. Conversely, ignoring physical features, or misusing them, can have significant, long-term negative consequences. Some well-defined physical features serve as a barrier to development and may be difficult to overcome, except at considerable expense. It is usually better to design with nature than to attempt to substantially change an area's physical environment.

Due to the nature of the existing development pattern in the Township, it is important to ensure that the remaining available natural features are preserved and protected to the greatest extent possible. This section provides a detailed analysis of these features and offers solutions to assist in their long-term protection/preservation. The five (5) areas covered are as follows:

- Soils
- Michigan Natural Features Inventory
- Wetlands
- Gas Fields
- Hydrography
- Woodlands
- Watersheds



OVERALL

To ensure the preservation of the Township's environmental assets, which have been identified within the Master Plan, the Township's existing open space character, and to ensure that the Township's existing natural system linkages will be preserved, all developments should adhere to the Township's overall guiding principle of open space preservation.

The Township encourages the development of an overall inclusive community which provides housing to all types of residents and encourages those housing opportunities to be developed in such a manner that walking and alternative transportation can be encouraged.

The Township encourages concurrency in planning for the land use development and the extension of necessary infrastructure in an effort to maximize the efficiency and cost reduction of such systems.

To ensure that planning efforts are not conducted within a vacuum and that impacts from surrounding communities or the County are taken into account, however, ensuring that planning decisions and policies still are reflective of Ray Township.

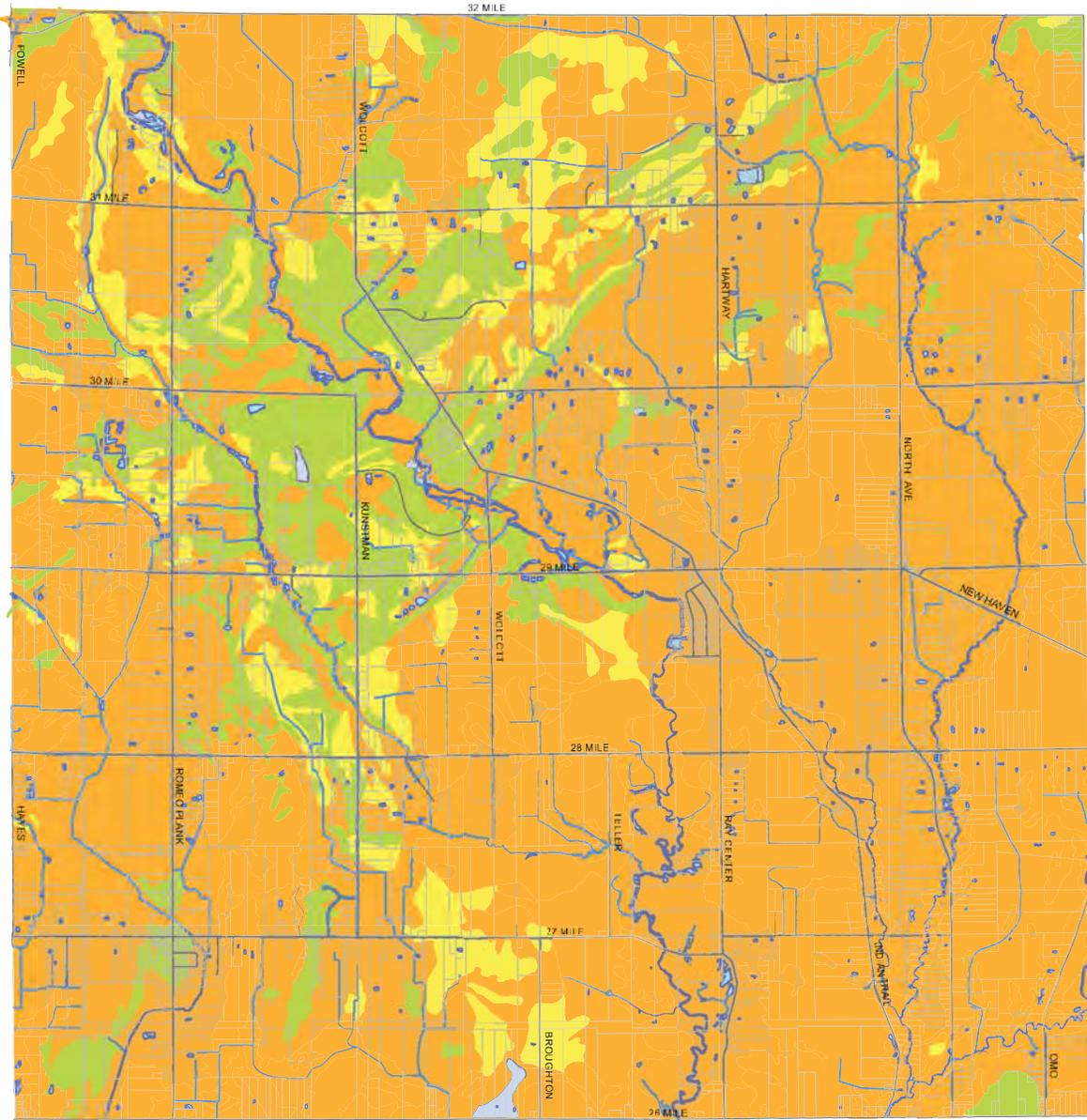
SOILS

Soils play a major role in the long-term development of a community. With Ray Township still in its development phase, the soil patterns have a direct impact on the type and location of development, as well as an impact on watershed issues. Soil types can be a significant help in addressing construction issues relating to infrastructure and the siting of buildings, and in addressing drainage problems in specific areas. A generalized soils map is provided on the following page. Some of the beneficial uses of knowing the general soil characteristics in an area are identified below:

- *Siting Houses and Commercial Buildings* - Locate soils with the fewest limitations for construction;
- *Streets, Driveways and Sidewalks* - Identify soils that have a high water table or high clay content, which can cause cracking;
- *Underground Utility Lines* - Identify soils that have properties that can cause breakage or corrosion of lines buried within them;
- *Control of Runoff and Soil Erosion* - Construction work compacts the soils and increases the amount of paved surfaces, thus increasing runoff;
- *Planting of Gardens and Landscaping* - Knowledge of the soils allows a homeowner/business owner to select plantings that have the best chance of survival;
- *Providing Suitable Recreation* - Identifying soils for the location of trails, play areas and picnic areas requires a review of the drainage characteristics of the soil, the slope, the soil texture, the flood hazard and the stoniness.

Illustration #3-1 RESIDENTIAL SUITABILITY

Prepared By: Ray Township Planning Commission
Source: CP&M

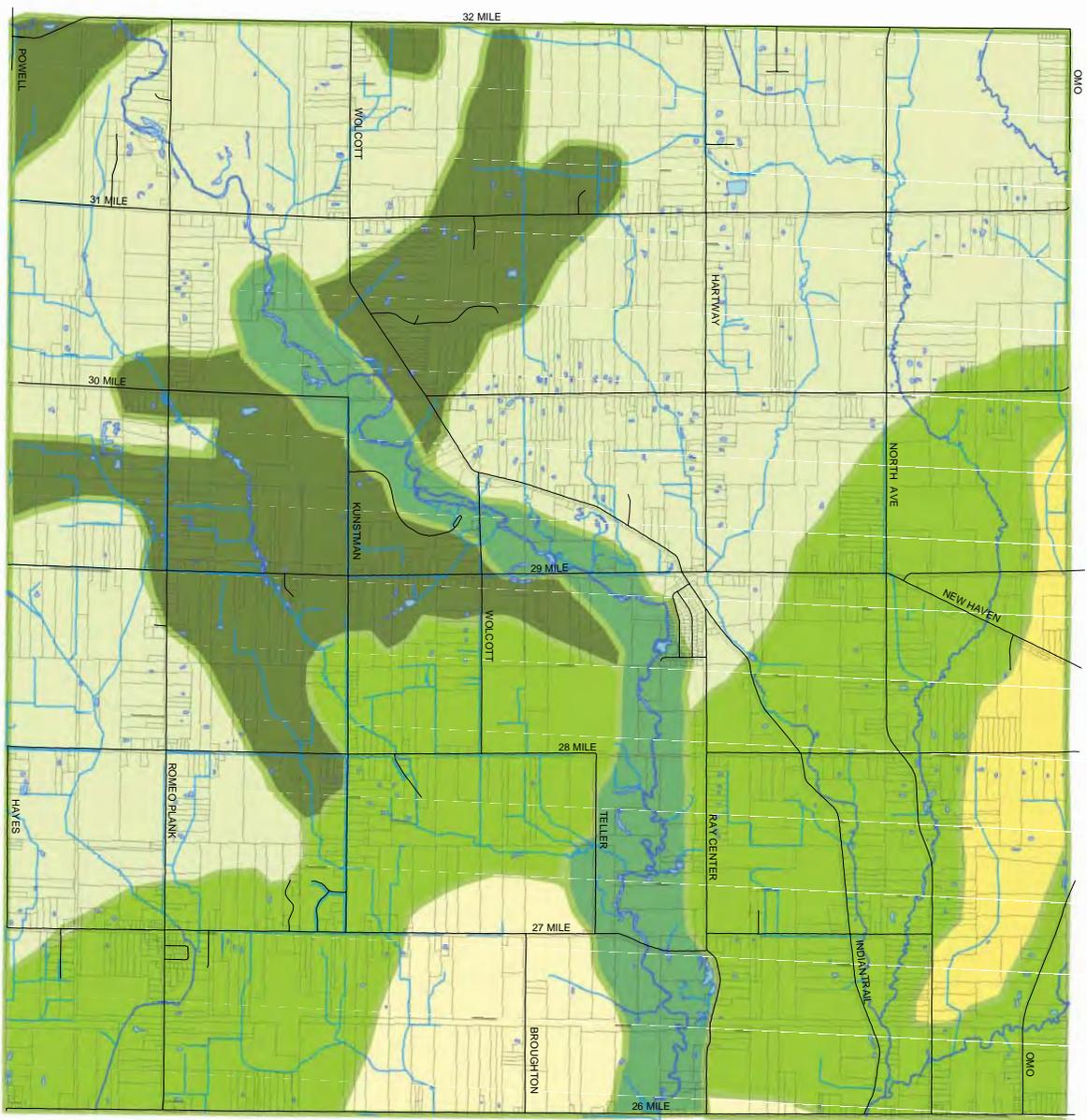


LEGEND

- Severe
- Slight
- Mod

Illustration #3-2 SOIL ASSOCIATION

Prepared By: Ray Township Planning Commission
Source: CP&M

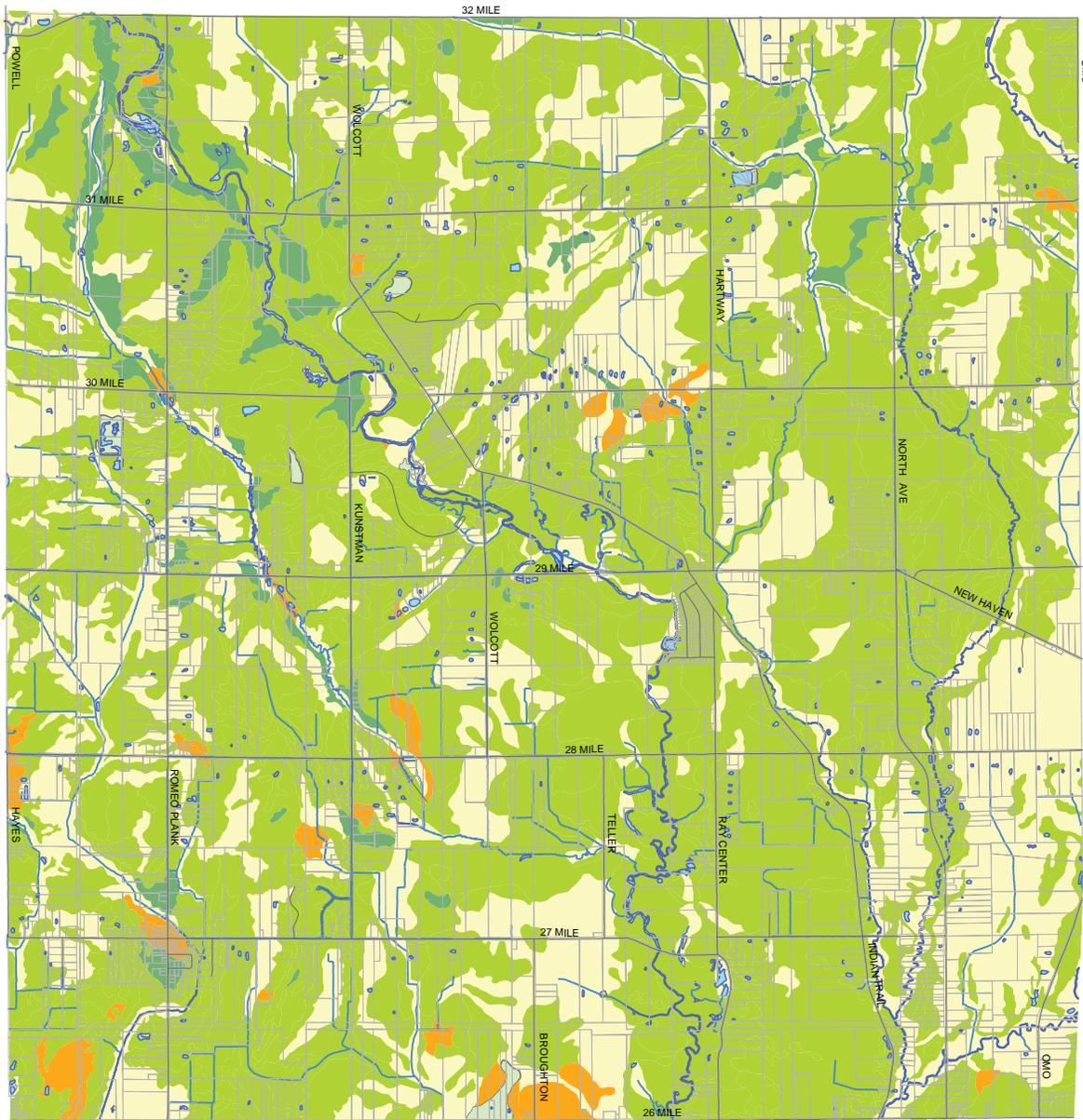


LEGEND

- | | |
|--------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|
|  Conover-Parkhill-Locke |  Lenawee-Corunna-Lamson |
|  Hoytville-Sims-Nappanee-Blount |  Oakville-Boyer-Spinks |
|  Toledo-Paulding |  Cohoctah-Ceresco-Shoals-Sloan |

Illustration #3-3 AGRICULTURAL SUITABILITY MAP

Prepared By: Ray Township Planning Commission
Source: CP&M



LEGEND

- Not Suited
- Poorly Suited
- Suited
- Well Suited

MICHIGAN NATURAL FEATURES INVENTORY

Potential Conservation Areas are defined as places on the landscape dominated by native vegetation that have various levels of potential for harboring high quality natural areas and unique natural features. In addition, these areas may provide critical ecological services such as maintaining water quality and quantity, soil development and stabilization, pollination of cropland, wildlife travel corridors, stopover sites for migratory birds, sources of genetic diversity, and floodwater retention. Because of the importance of these areas, Macomb County mapped each location and rated the quality of each site. The delineation of sites was done through aerial photo interpretation, with emphasis placed on 1) intactness, 2) wetlands and wetland complexes, 3) riparian corridors, and 4) forested tracts.

All identified sites, regardless of their ranking, have significance to their local setting. This is especially true in areas that have experienced a high degree of development and landscape fragmentation. However, field inventories should be conducted on identified potential conservation areas, particularly Priority 1 sites. This fieldwork would provide much needed additional site-specific data that should be considered when developing in and around such areas.

Michigan Natural Features Inventory in Ray Township

Ray Township contains a number of identified natural features as shown. Several of these identified features are categorized as being of the top priority for preservation. These include areas in Sections 1, 18, 28, 29, 32, and 33. In addition, a number of priority two (2) features were also identified. They are found throughout the Township. Again, much like all natural features, it is the intent of the Master Plan to preserve as many of these features as possible, not only for environmental benefits but also for maintaining rural character.



Macomb County Potential Conservation Areas Report

The map displayed on the following page utilizes a scoring system to rank the quality of natural resources in Macomb County. The scoring system developed for the study utilized the following criteria:

- Total Size of Parcel
- Size of Core Area
- Presence of Stream Corridor
- Landscape Connectivity (percentage and proximity)
- Restorability of Surrounding Lands
- Vegetation Quality (percentage and area)
- Parcel Fragmentation
- Number of Element Occurrences

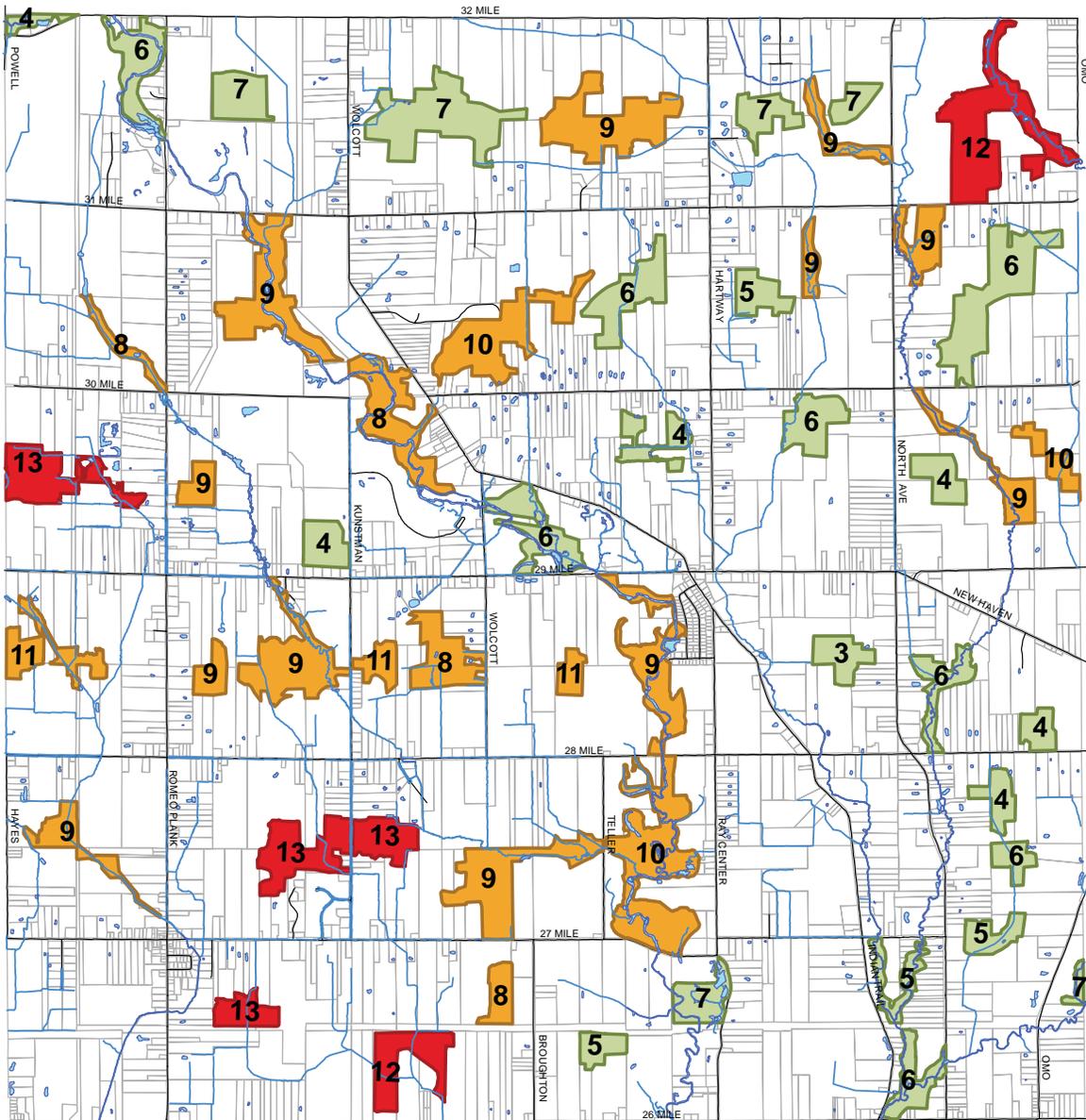
For a more detailed description of the scoring system, refer to the overall report, "Macomb County Potential Conservation/Natural Areas Report."



Identified Natural Feature in Section 9 of Ray Township

Illustration #3-4 MICHIGAN NATURAL FEATURES INVENTORY

Prepared By: Ray Township Planning Commission
Source: MCP&ED



LEGEND

- Priority Three Scores Ranging From 3 - 7
- Priority Two Scores Ranging From 8 - 11
- Priority One Scores Ranging From 12 - 24

WETLANDS

- Protect downstream water supplies by providing clean ground water as a result of the nutrient retention and sediment removal. Wetland vegetation traps these sediments and pollutants, thereby preventing them from being deposited in surface water bodies.
- Function as effective natural storage basins for floodwater. Wetlands may be considered large sponges that absorb large quantities of seasonal precipitation, gradually releasing it when the receiving channels are able to accept it.
- Protect the shoreline from erosion caused by wind and wave action and effectively serving as environmental shock absorbers.
- Provide a habitat for many types of plants and animals that thrive in the type of physical environment created by wetlands. These plants and animals provide an economic and recreational benefit as a result of hunting, fishing and other leisure activities.

Wetlands In Ray Township

Within Ray Township, most of the remaining areas identified as potential wetlands are located along existing water courses, either drains, creeks or rivers. These wetlands while not great in number or size, are still significant as these wetland areas provide potential flood relief areas as the waters of the Township increase during heavy storm events, the wetlands along these watercourse will absorb much of the flood waters, thereby reducing the potential for damage during flood events. Therefore, it is paramount to preserve these remaining wetland areas, not only for this reason but for those noted above as well.

Potential Wetland Area in Section 6 of Ray Township along the North Branch of the Clinton River.



Types of Wetlands

EMERGENT - include bogs, meadows, marshes, fens, and potholes. An important marsh type is the 'Great Lakes Marsh' that is hydrologically connected to the Great Lakes and rivals rainforests in terms of biological productivity.

SHRUB-SCRUB - Shrub swamps, are similar to forested swamps, except that shrubby vegetation predominates.

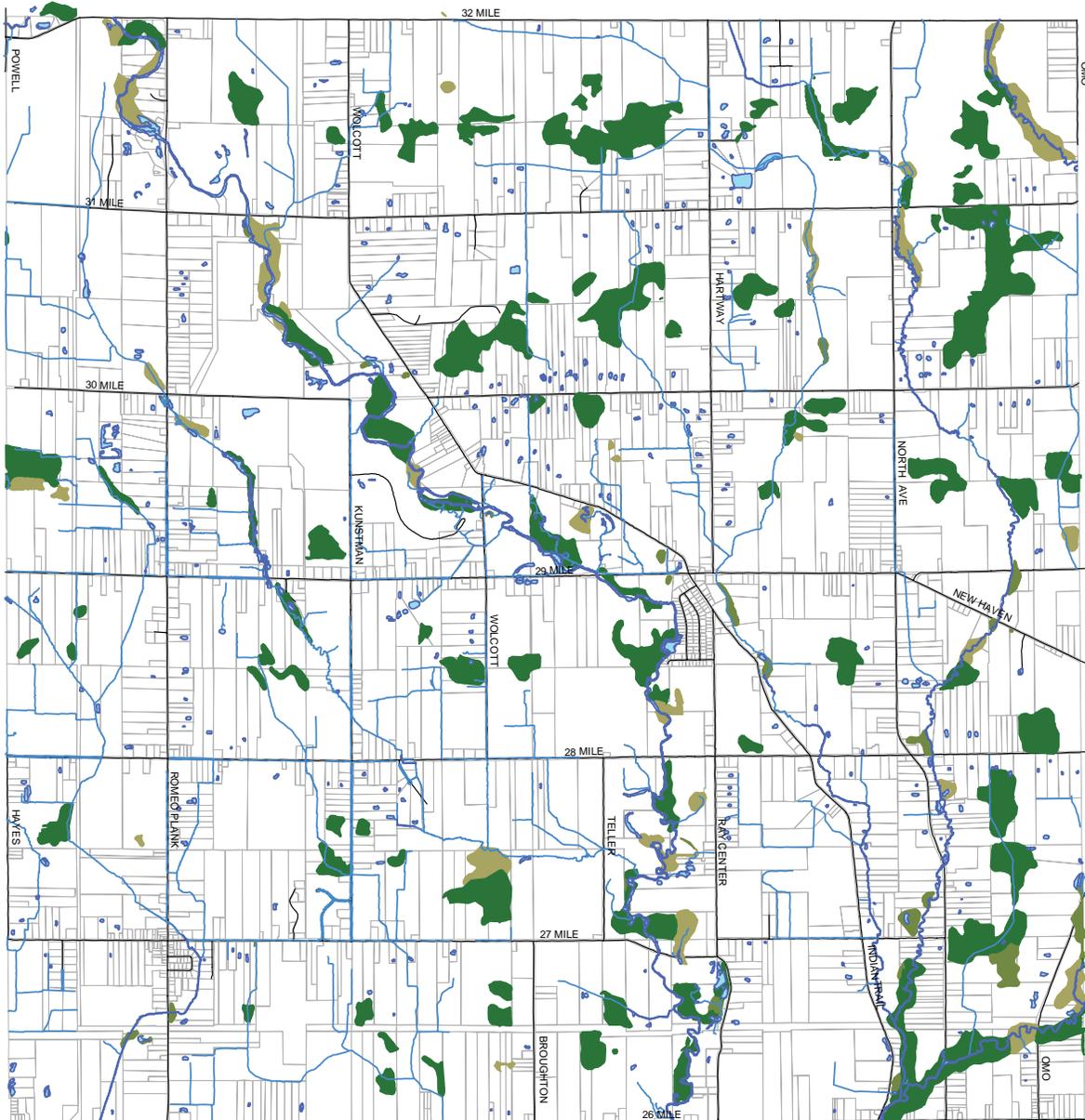
FORESTED - Forested swamps occur where trees grow in moist soils. They are often inundated with floodwater from near by rivers and streams.

OPEN WATER - Deeper, perennial pools within wetlands and shallow portions of lakes and rivers. The warmth of the water supports numerous aquatic organisms. Typically home to submerged plants (plants that grow underwater) which provide unique habitat resources such as substrates for macroinvertebrates, cover and forage for waterfowl, and spawning and nursing for fish.



Illustration #3-5 POTENTIAL WETLANDS MAP

Prepared By: Ray Township Planning Commission
Source: MCP&ED



LEGEND

 Potential Wetland - unclassified	 Forested
 Scrub-Shrub	 Open Water/Unknown Bottom
 Emergent	

Macomb County Note: The information provided in this map is intended to indicate where wetlands are most probable and does not guarantee that an actual wetland exists. Delineation of wetlands should only be validated by an in-field survey by a competent professional.

GAS FIELDS

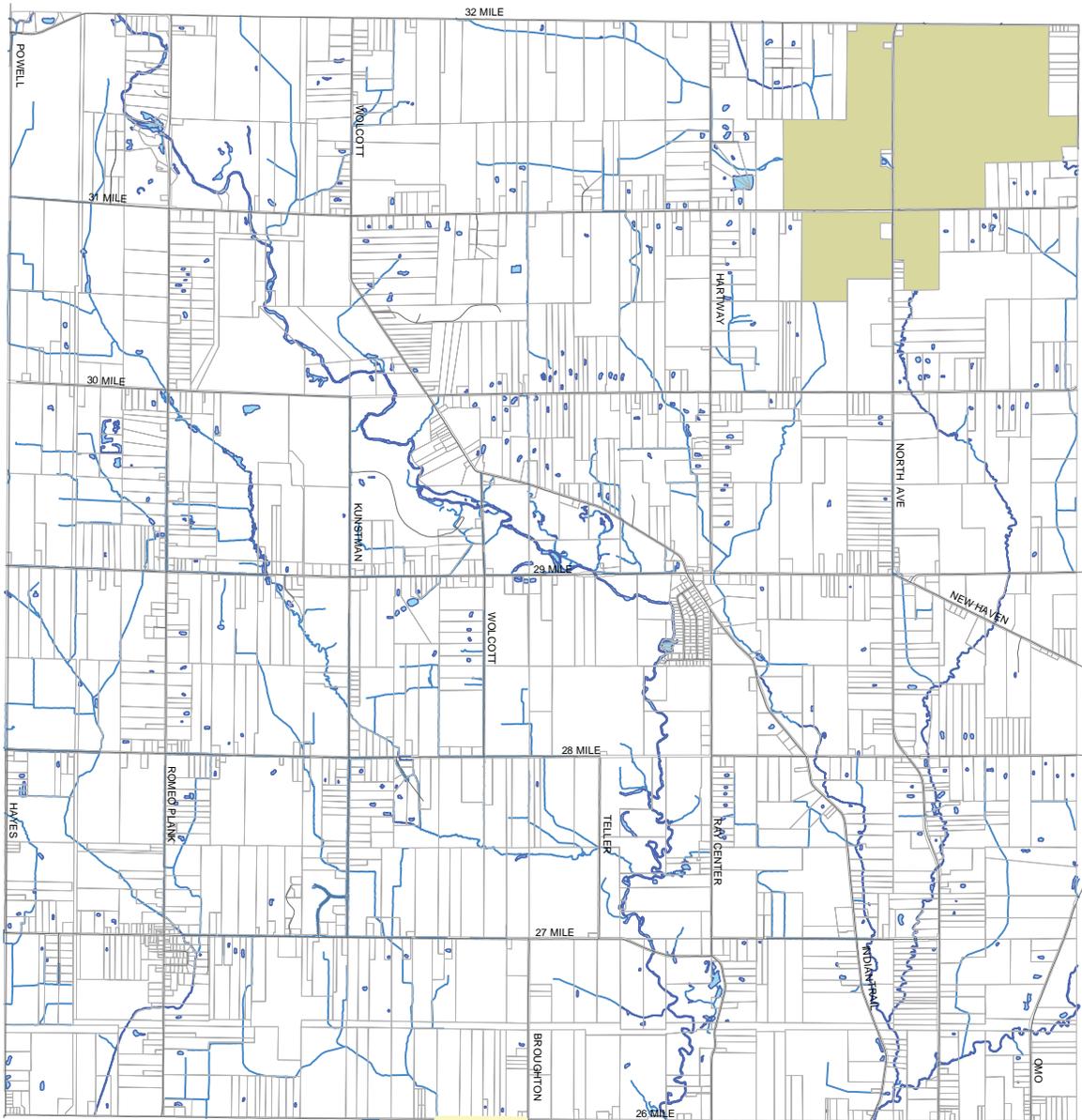
The northeast portion of the Township has nearly two square miles that are underground gas storage fields. The natural gas is stored in porous rock formations, a thousand feet underground. Natural gas is shipped to these storage areas, stored under pressure, and used during peak periods. The majority of the lands which are owned by Consumers Power Company are leased to farmers for agricultural production. This two-mile storage reserve is expanded into the adjacent Townships of Armada, Richmond and Lenox. This resource, together with the fact that the soils are good for farming, assure that this area could remain a major agricultural area for many decades.



Gas Fields Located in Northeast Ray Township and Southwest Armada Township

Illustration #3-6 GAS FIELDS

Prepared By: Ray Township Planning Commission
Source: CP&M



LEGEND

 GAS STORAGE FIELDS

FLOODPLAINS

The FEMA definition for flooding is “a general and temporary condition of partial or complete inundation of normally dry land areas from the overflow of inland or tidal waters or the rapid accumulation of runoff of surface waters from any source.” The definition of floodplain references the definition of flooding.

The FEMA definition of floodplain is “Flood plain or flood-prone area means any land area susceptible to being inundated by water from any source (see definition of “flooding”).”

The floodplain area is an important natural resource for several reasons. Not only is it necessary for the prevention of flood damage to development within the Township, but it also serves as an important wildlife habitat, with its unique types of vegetation providing food and cover to many types of animals. In addition, floodplain areas provide a valuable scenic resource and can be utilized for a wide range of recreational activities.

It should be noted though, that while floodplains do provide a necessary natural service, they also place limitations on development by restricting the type and amount of building which can occur within defined floodplain areas.

Floodplains In Ray Township

The largest area of floodplain is along the North Branch in the southern section of the Township. Most of this area is contained within the HCMA properties which make up Wolcott Mill Metropark. The land area near 26 Mile Road, east of Indian Trail also contains a large defined area. The other areas of the Township have only minor impacts caused by the presence of defined floodplains which follow the other major watercourses and drainageways within the Township.



Floodplain Benefits

Water Resources

- Natural Flood and Erosion Control
- Preserves Water Quality
- Provides Groundwater Recharge

Societal Resources

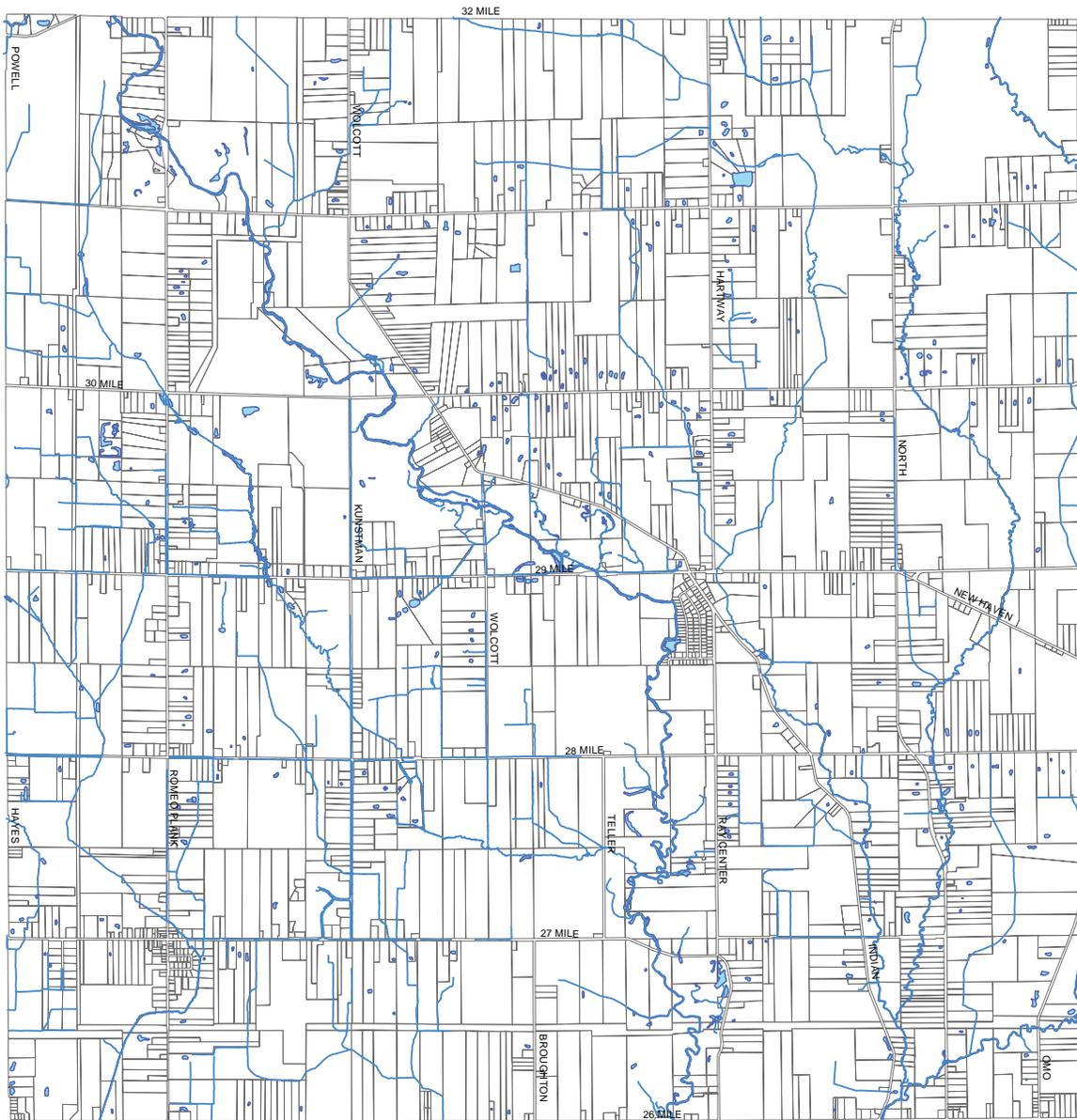
- Provides Recreational Opportunities
- Scientific and Outdoor Education

Biologic Resources

- Biological Productivity
- Fish and Wildlife Habitat

Illustration #3-7 HYDROGRAPHY MAP

Prepared By: Ray Township Planning Commission
Source: CP&M



LEGEND

-  WATER BODIES
-  WATERWAYS

WOODLANDS

In an environment such as Ray Township, the importance of woodlands, and trees in general, should not be underestimated. Woodlands serve many useful environmental purposes that should be recognized for planning. These include the following:

- Slope stabilization and erosion control
- Conserving water quality
- Maintaining a micro-climate
- Filtering pollution from the atmosphere
- Decreasing noise
- Providing a habitat for wildlife

Finally, woodlands also typically provide an economic benefit as well. Most residential areas which contain wooded lots are have access to a woodland area have a higher value than those which do not.

Woodlands in Ray Township

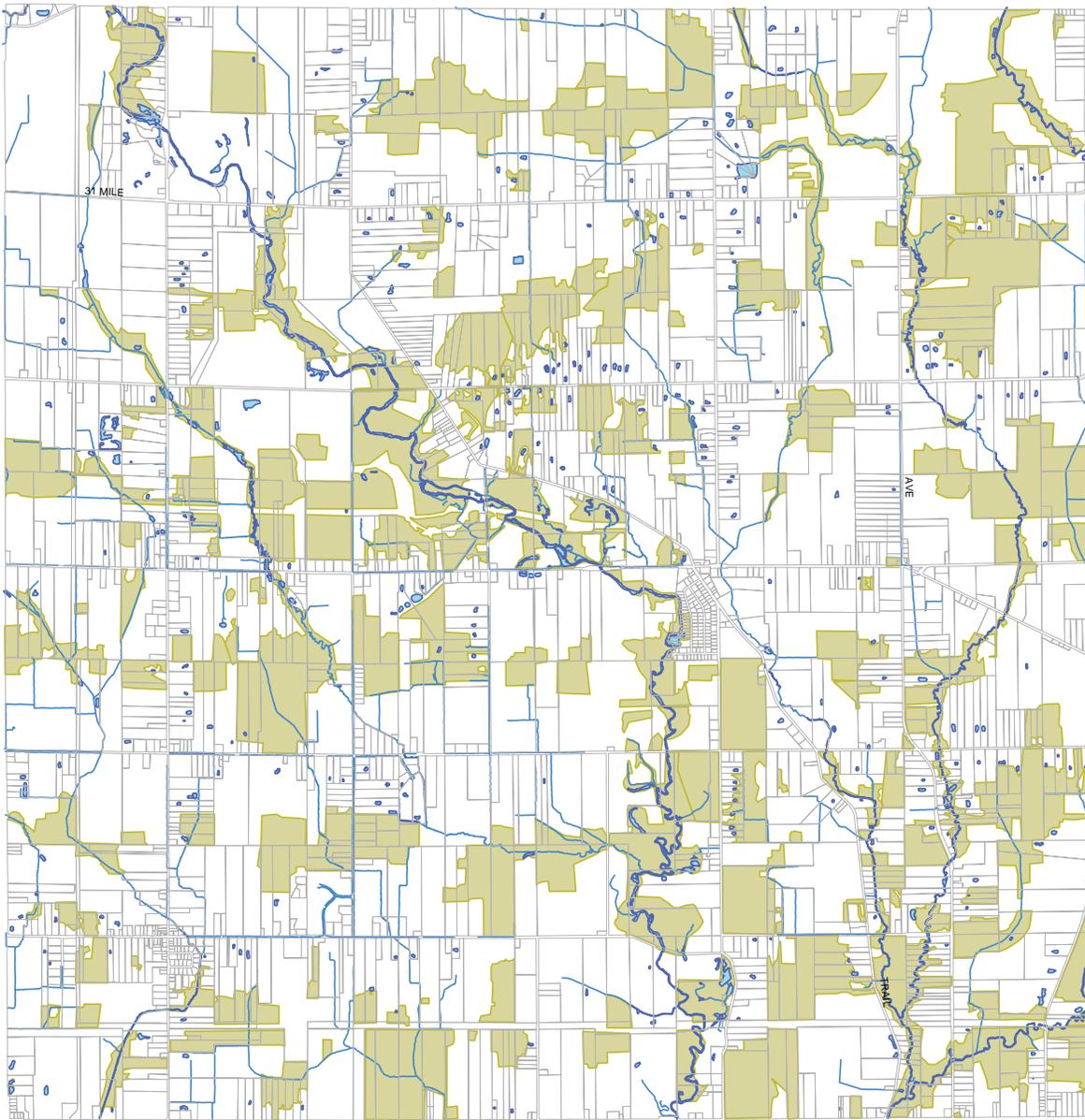
Significant woodland areas in Ray Township are identified on the following page. Most of these areas are on internal acreage away from the roadways throughout the Township and are typically very dense. Areas which may also be considered potential wetlands are the most prominent remaining woodland areas in the Township. The potential that these woodland areas are also wetland areas makes their preservation all the more important. This can also be seen on the Natural Features Inventory mapping also provided in this section. Finally, many of the woodlands also are aligned with the watercourses running throughout the Township, providing bank stabilization. The preservation of these trees will help maintain overall water quality.



Existing Woodland Along the North Branch of Clinton River

Illustration #3-8 WOODLANDS MAP

Prepared By: Ray Township Planning Commission
Source: CP&M



LEGEND

 WOODLANDS

WATERSHEDS

Communities across the nation are finding that their water resources are degrading in response to growth and development. Activity within a watershed will likely impact the quality of that watershed. For instance, if a new shopping center is built, rain water which was once absorbed into that vacant property will now runoff into the nearest drain, collecting dirt, oils and other chemicals and carrying them into that drain and eventually into the rivers and lakes of the State.

Watershed management is one way to ensure that the water resources of an area are protected. As defined, a watershed is an area of land that catches rain or snow, eventually draining into a body of water (such as a marsh, stream, river, lake or groundwater).

There are several reasons to protect local watersheds, including economic benefits, recreation, flood prevention, scenery and the overall quality of life. Some of the primary benefits that can be realized from watershed protection are:

- The restoration and enhancement of recreational areas/uses;
- The protection of aquatic life, wildlife and habitat, including native landscapes and vegetation;
- The protection of public health through improved water quality; and
- The reduction of impacts from peak water flows due to proper flood management.

Watersheds in Ray Township

Ray Township lies solely within the Clinton River Watershed. The Clinton River watershed is made up of several sub-watersheds based on information available from the States data files. There are a total of four (4) of these subwatersheds within Ray Township. These include the Middle Branch of the Clinton River, the North Branch of the Clinton River, the Tupper Brook, and finally the Coon Creek. The two (2) main watersheds within the Township are the North Branch and Coon Creek subwatersheds.

As a part of the overall planning process, the Township will need to consider watershed impacts from both a rural planning aspect for those areas outside of the planned sanitary sewer district and for urban or suburban impacts for those areas within the planned sanitary district.



<http://www.crwc.org/>

The Clinton River Watershed Council (CRWC) is a non-profit organization dedicated to protecting, enhancing and celebrating the Clinton River, its watershed and Lake St. Clair.

Illustration #3-9 WATERSHED MAP

Prepared By: Ray Township Planning Commission
Source: CP&M

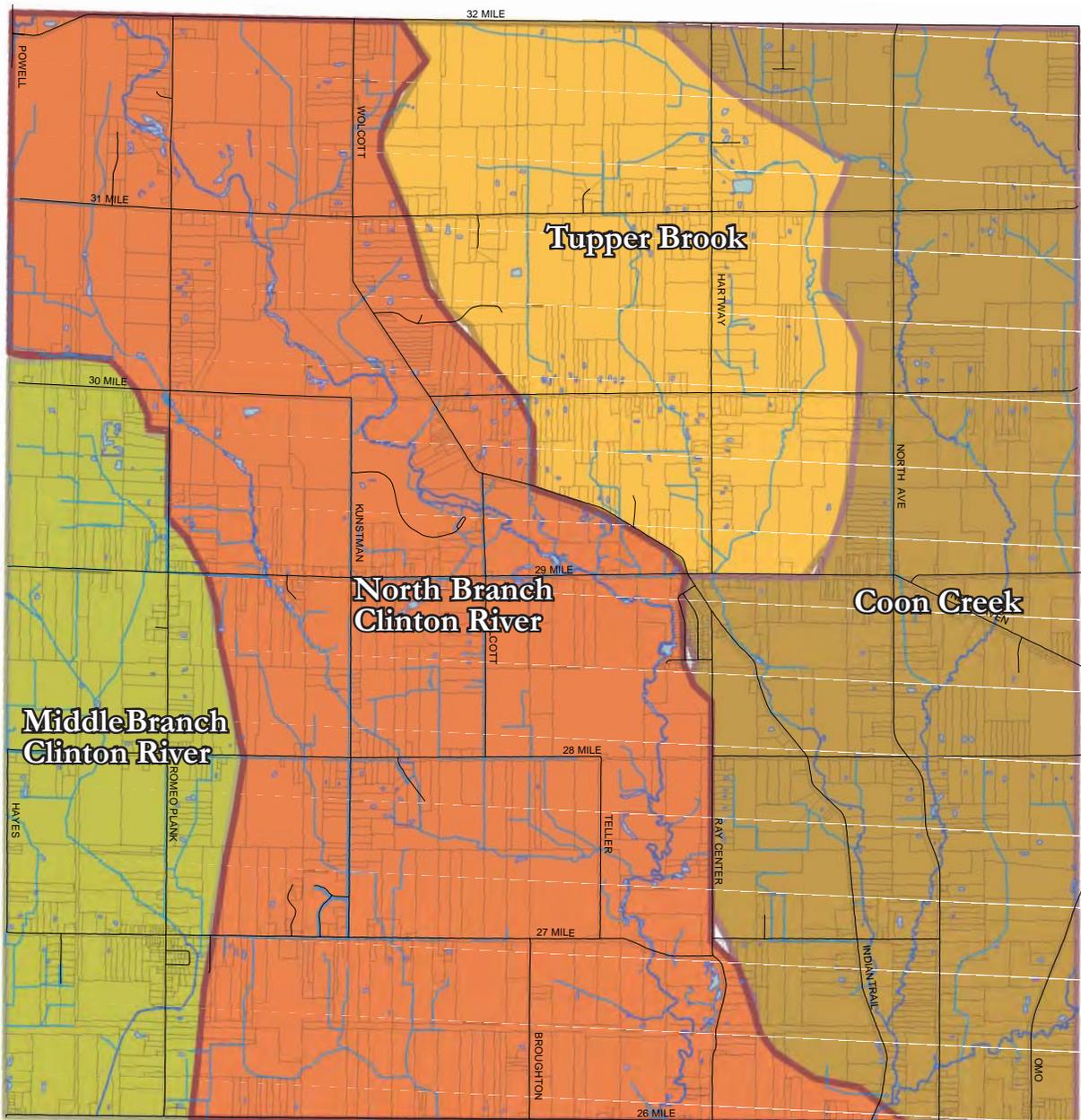
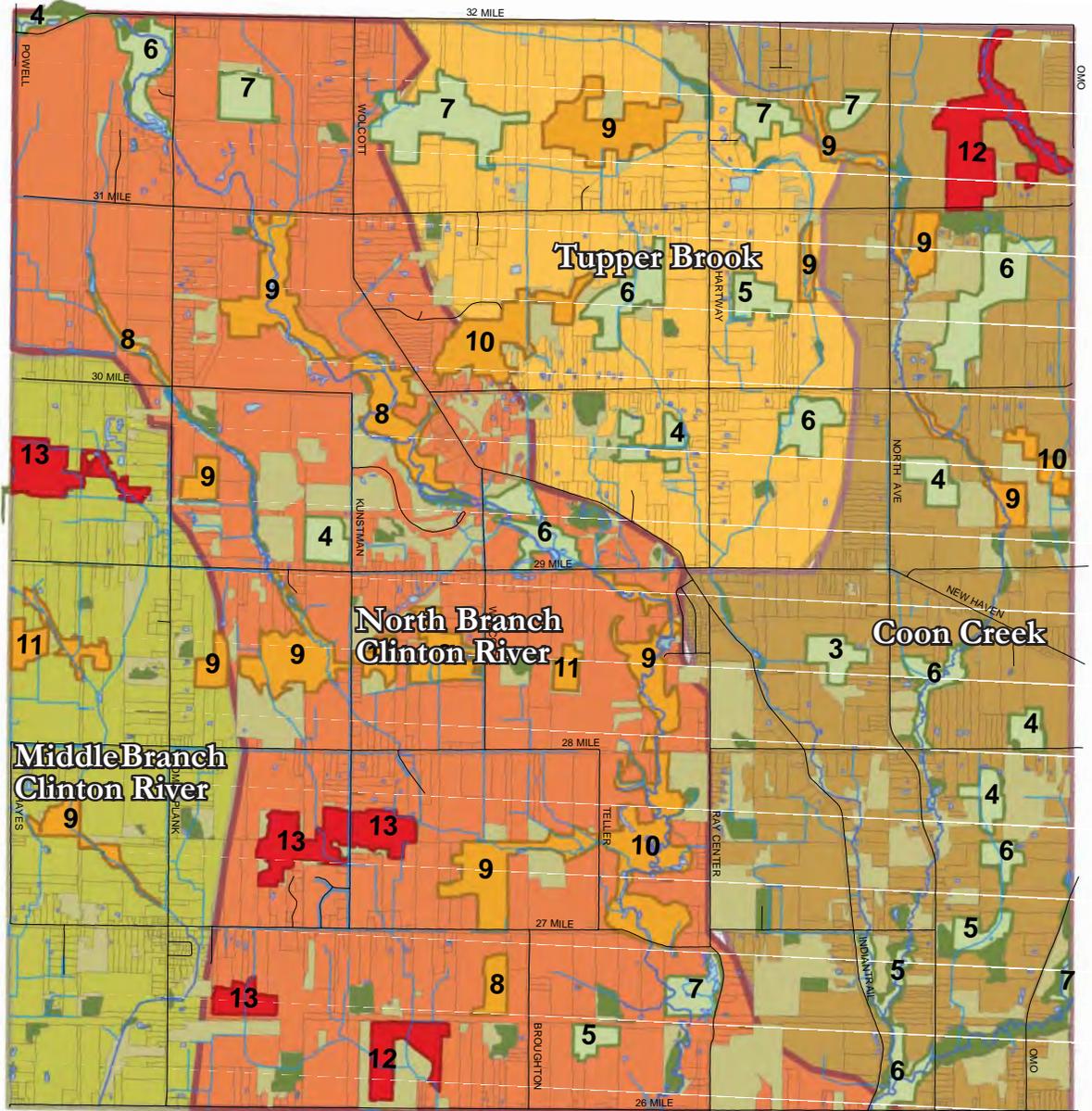


Illustration #3-10 OVERALL GREENWAYS MAP

Prepared By: Ray Township Planning Commission
Source: CP&M



LEGEND

- Priority Three Scores Ranging From 3 - 7
- Priority Two Scores Ranging From 8 - 11
- Priority One Scores Ranging From 12 - 24



SECTION 4.0

EXISTING LAND USE

INTRODUCTION

The character of our physical environment is influenced by many factors. Chief among these is the use of land, the distribution of uses within a community, and the relationship of these uses to one another. These factors strongly influence the overall character and image of the community. They also influence quality of life and our relative degree of satisfaction with our surroundings.

Land use characteristics and other relevant physical features are among the most important aspects of the land use planning process. These features establish the observable physical setting upon which the future of the community will be based. They also influence the development potential of the community.

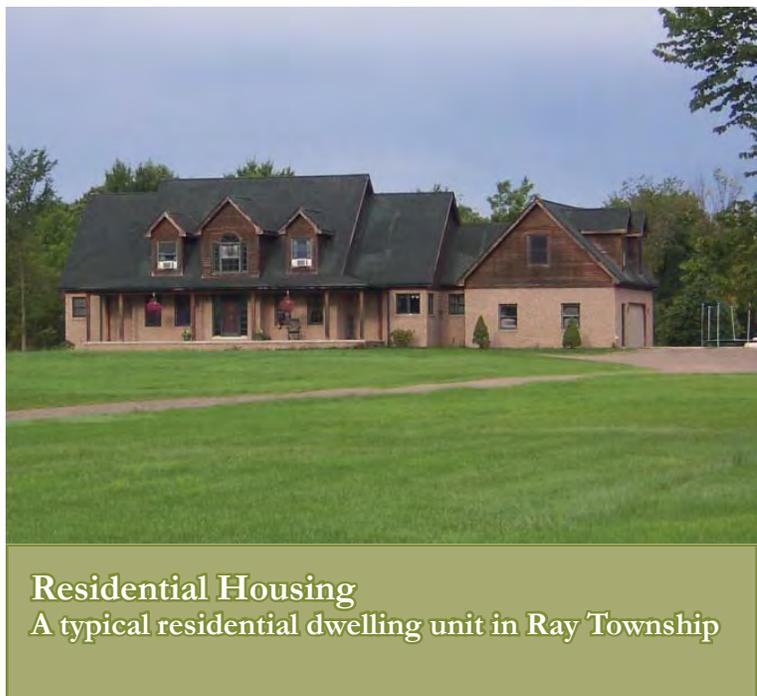
The chief feature of this chapter is an examination of the Township's land use characteristics on a classification basis. Each of the Township's individual land use categories are discussed, including the amount of the land devoted to each category and the distribution of the uses throughout the community. Current information will also be compared to previous land use surveys to illustrate trends.

METHODOLOGY

Ray Township's boundaries are a product of the Northwest Ordinance of 1787, establishing a uniform system of land divisions into a grid pattern. This system was devised to assist the eventual settlement of the vacant interior portion of the United States. Townships created as a result of this process were subdivided into 36 one-mile square divisions that are known as sections. Consistent with this process, Ray Township has an area of 23,322 acres, or 36 square miles.

The Township's boundaries are formed by 32 Mile Road on the north, 26 Mile Road on the south, Hayes Road extended on the west, and Omo Road extended on the east. Approximately 25.1 percent of the Township's total area or some 5,730 acres are developed.

Existing land use data for Ray Township was gathered during a field survey of the community conducted in the year 2002, as well as the County's most recent aerial photography. Land use features were recorded on a parcel-by-parcel basis on an updated Township base map. Information from both sources was subsequently transferred to a base map according to the individual categories shown in the following tables. Each category was measured to determine the amount of land area occupied by each individual land use class. The results of these tabulations are shown on and described in the following pages.



Residential Housing
A typical residential dwelling unit in Ray Township



Agricultural
Farm structure located in Ray Township



Single Family Housing
Typical single family residential dwelling

Agricultural/Vacant Land

Approximately 8,042 acres of land, or 35.3 percent of the Township's total land area is either vacant or in agricultural use. While vacant, undeveloped land is distributed throughout the community, the greatest quantity of undeveloped land is located in the eastern half of the Township and north of 29 Mile Road.

Residential

Residential home sites occupy the largest share of the Township's developed land. Approximately 4,982 acres of land are designated for home sites. This represents approximately 22 percent of the Township's total land area. Home sites are found along the frontages of the major road system in large lot configurations as required by Township Ordinance.

Frontage residential development is evident along most of the section line roads. In several instances, this development is concentrated together so as to occupy the road frontage for a solid one-half mile segment of the road. One consequence of this particular form of development is the isolation of interior acreage which may limit the future use of this adjoining property.

Residential on Large Acreage

Due to the fact that so many of the existing residences within the Township occupy extremely large lots, a separate designation was created for these types of homes. An additional 5,034 acres of the Township fall under this designation. These parcels, with their substantial size, could be further split or subdivided in the future.

Multiple-Family Residential

Keeping in character with the rural environment of the Township, less than one acre of multiple-family residential development exists within the Township. This can be found in the Davis area along Romeo Plank south of 27 Mile Road.

Commercial/Office

A limited amount of commercial and office development was identified in Ray Township. Only 25 acres of land are occupied for this purpose. The Township has several existing nodes of commercial activity. These areas include the Davis area, 29 Mile Road and Indian Trail, as well as 29 and North Avenue. There are also several other small commercial properties scattered across the Township. The majority of these commercial uses provide convenience opportunities.

Industrial

The Township's industrial base is primarily concentrated near the Romeo State Airport. Within the last several years, the Township has approved a small industrial subdivision on the north side of 31 Mile Road to the east of the Airport. To the north of the industrial subdivision is another industrial user which fronts on 32 Mile Road. The remainder of the industrial uses are scattered throughout the Township mostly along North Avenue.

Airport

The Airport designation identifies two existing public airports within the Township. The Romeo State Airport is located in the northwest corner of the Township along 32 Mile Road. The expansion of this airport has been planned and is being implemented in phases. The Ray Community Airport encompasses 91 acres of land and is located on Indian Trail north of 27 Mile Road. Two other non-public airports are also located within the Township.

Public

The most identifiable public use is the Wolcott Mill Metro Park. The Huron-Clinton Metropolitan Authority currently owns over 2,661 acres within the Township.

Township

Township owned property includes the Township Hall site on Wolcott, north of 29 Mile Road. This site includes a park and the Township Library and totals approximately 17.5 acres. The Township also owns the transfer site north of 29 Mile Road.

School

The only school within the Township is the E.F. Seifert Elementary which is located on 26 Mile Road east of North Avenue and is now operated as the middle school for New Haven Area Schools. The New Haven School District is currently constructing a new Middle School, along 26 Mile Road, west of Indian Trail.



Commercial / Office
Commercial business located near
North Avenue / 29 Mile Road



Airport
View of Ray Community Airport
from Indian Trail



Semi Public
Entrance signage into Pine Valley Golf Course

Semi-Public

Semi-public uses in the Township include uses such as cemeteries and churches. Pine Valley Golf Course is located on the north side of 31 Mile Road at Romeo Plank and the B&BS Gun Club is located north of 31 Mile Road west of Hartway Road. Timberwood Golf Course is located east of North Ave., south of 31 Mile Road. The Township also has a number of churches located along Romeo Plank and North Avenue.

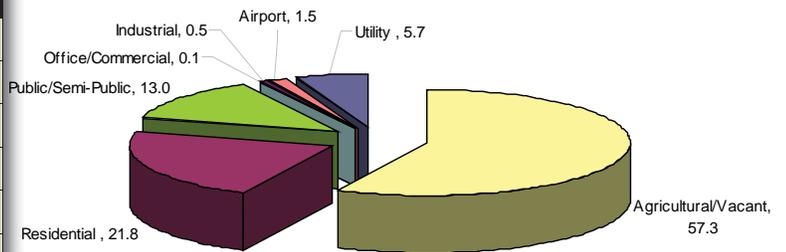
Utilities

Several major public utility transmission corridors run through Ray Township. In addition, Consumers Energy owns nearly two (2) square miles of property in the northeast corner of the Township.

MAJOR LAND USE RANKING

The following tables and the accompanying figures illustrate the Township's land use characteristics on a more generalized basis. The first table, offers a summary of Ray's land use features by major categories. The subsequent table describes developed land by major category.

CATEGORY	ACRES	PERCENT
Agricultural/Vacant	13,076	57.3
Residential	4,983	21.8
Public/Semi-Public	2,973	13.0
Office/Commercial	25	0.1
Industrial	110	0.5
Airport	345	1.5
Utility	1,296	5.7
Total	22,808	100.0



CATEGORY	ACRES	PERCENT
Residential	4,983	59.1
Public/Semi-Public	2,973	35.2
Airport	345	4.1
Commercial/Office	25	0.3
Industrial	110	1.3
Total	8,436	100.0

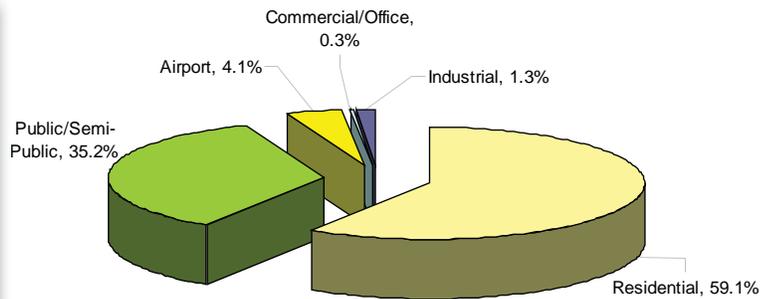
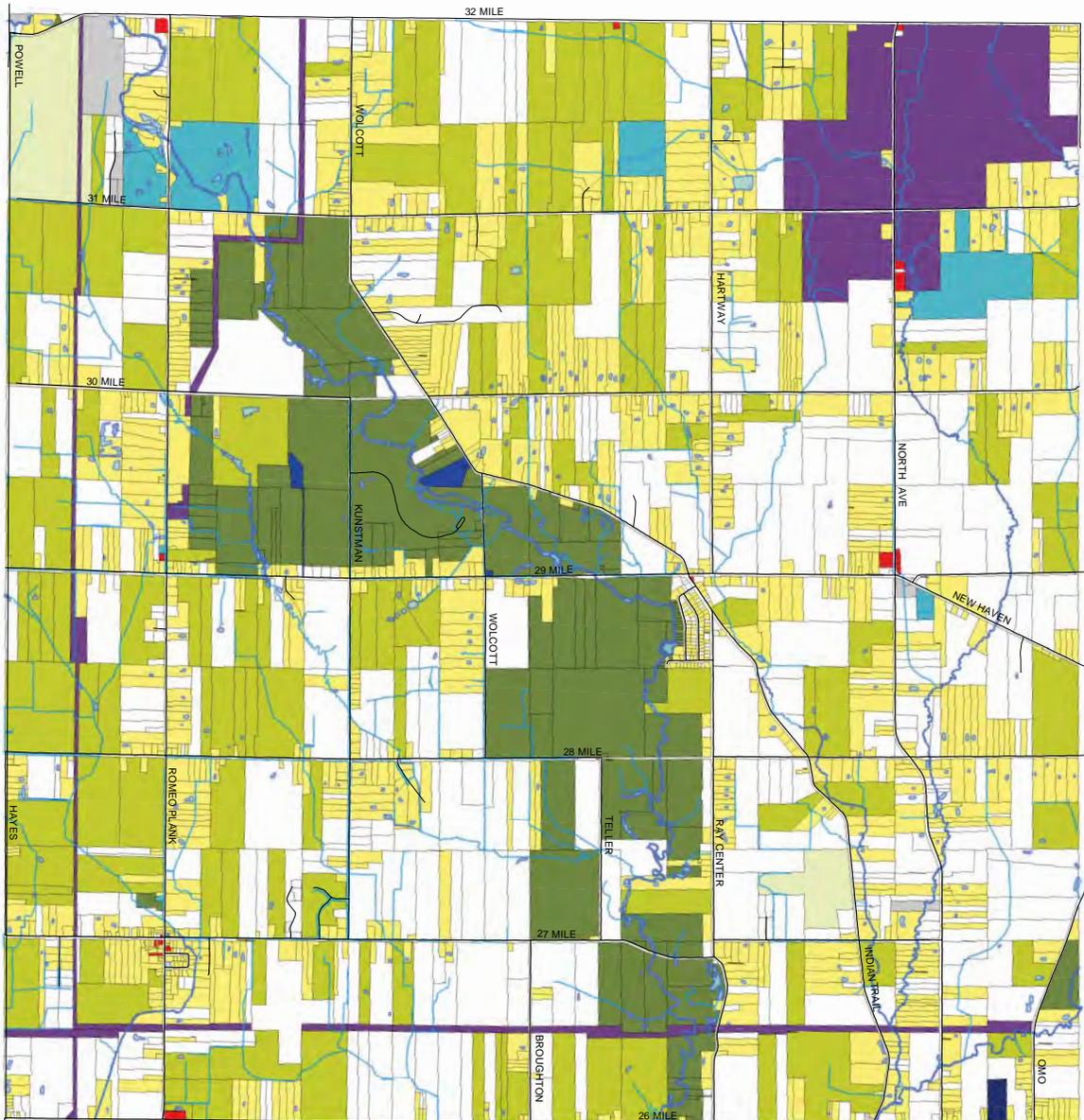


Illustration #4-1 EXISTING LAND USE MAP

Prepared By: Ray Township Planning Commission
Source: CP&M



LEGEND

	VACANT		COMMERCIAL		SCHOOL
	RESIDENTIAL		INDUSTRIAL		SEMI-PUBLIC
	RESIDENTIAL ACREAGE		UTILITY		TOWNSHIP
	AIRPORT		PARK		

Nearly sixty (60) percent of the Township's total area is undeveloped. The Agricultural/Vacant category also includes existing residential dwellings which occupy acreage and could be available for future development. Residential development and public/semi-public uses account for most of the Township's developed land. These two categories occupy 94.3 percent of Ray Township's developed acreage. The location of Wolcott Mill Metro Park in the community explains the significant amount of land devoted to this land use category.

ZONING

Zoning is a form of policy adopted by a municipality that often establishes the existing land use pattern. All of the various zoning districts and regulations should add up to a statement of policy regarding how land is to be used. Sometimes, this does not happen. Land use policy may become the result of the sum of many individual decisions, each arrived separately over time. Elections have the effect of changing the persons who establish policy and such changes may make the charting of a consistent direction quite difficult, unless a Master Plan is followed.

ZONING DISTRICT	ACRES	PERCENTAGE
A-1 Agricultural Residential	21,815	95.6
RM Residential Moderate Density	130	0.6
RC Recreational	318	1.4
B-1 Local Business	1	0.1
B-2 General Business	34	0.1
M-1 Industrial	510	2.2
Total	22,808	100

The quantity of land within each of Ray Township's six (6) zoning designations are shown in the adjacent table. More than 96 percent of the Township's land area (minus right-of-way acreage), or some 21,945 acres, are zoned for residential purposes. The M-1 Industrial district occupies 510 acres of land, giving it the second largest amount of zoned acreage in the Township. The Township's zoning map also includes two commercial districts totaling 35 acres.

The Township's land use policy, as articulated by its zoning distribution, can be viewed in terms of proportions in the adjacent pie chart.

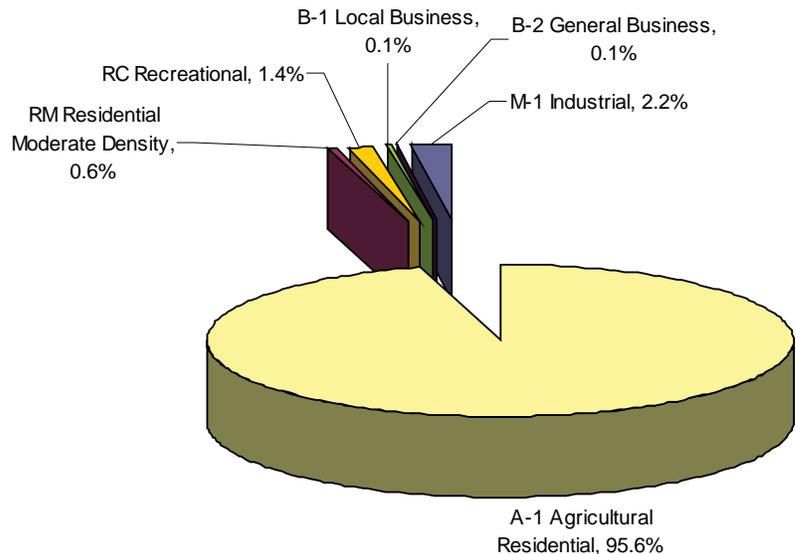
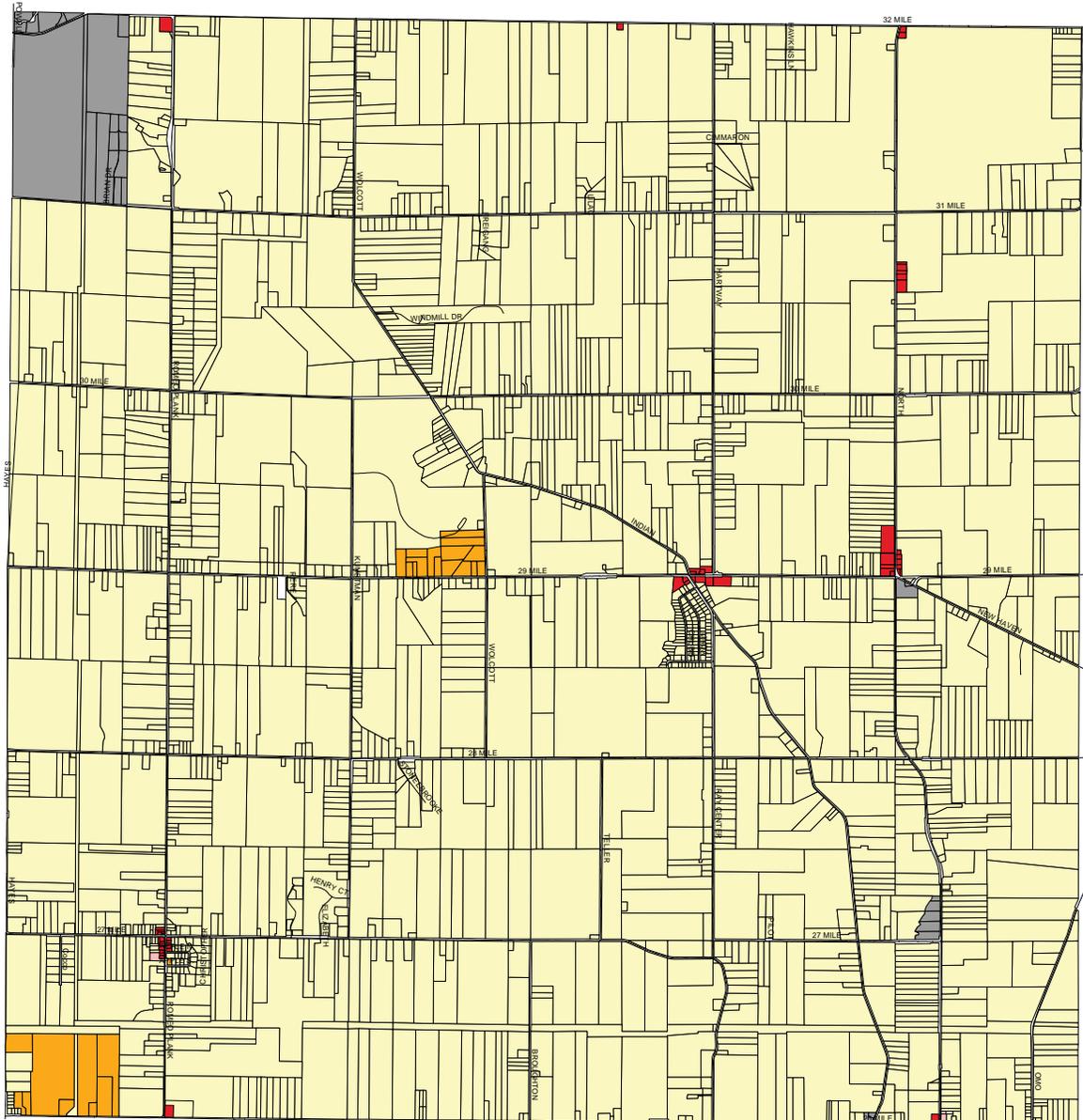


Illustration #4-2 GENERALIZED ZONING MAP

Prepared By: Ray Township Planning Commission
Source: CP&M



LEGEND

- | | |
|-----------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|
|  RESIDENTIAL AGRICULTURAL DISTRICT |  LOCAL BUSINESS DISTRICT |
|  RESIDENTIAL MODERATE DISTRICT |  GENERAL BUSINESS DISTRICT |
|  RECREATIONAL DISTRICT |  INDUSTRIAL DISTRICT |



SECTION 5.0

PLANNING POLICIES

PLANNING POLICIES

To guide the Master Plan the Township Planning Commission has provided the following policies; these include general policies as well as those specific to land use types.

Overall

To ensure the preservation of the Township's environmental assets identified within the Master Plan, the Township's existing open space character, and to ensure that the Township's existing natural system linkages will be preserved, all developments should adhere to the Township's overall guiding principal of open space preservation.

The Township encourages the development of an overall inclusive community which provides housing to all types of residents. The Master Plan encourages housing opportunities to be developed in such a manner that walking and alternative transportation can be encouraged.

The land use policies contained within this document, as well as those of the future, are based on sound planning principals and standards which support such policies.

The Township encourages concurrency in planning for the land use development and the extension of necessary infrastructure in an effort to maximize the efficiency and cost reduction of such systems.

To ensure that planning efforts are not conducted within a vacuum, Plans from surrounding communities and the County should be considered, ensuring that planning decisions and policies still are reflective of the needs of Ray Township.

Entry Level Housing Policies

Should be

- Located in close proximity to existing schools
- Located in close proximity to commercial shopping areas
- Adjacent to similar higher density / intensity uses
- Located with access to major roadways such as 26 Mile Road
- Developed with access to public sewer and water infrastructure
- Developed in close proximity to the Township's growth core near Davis, 26 Mile Road and Romeo Plank
- Developed in a single family manner
- Developed at a density not greater than three (3) units per acre
- Transition from higher density near growth core to the larger lot, rural preservation area
- Designed in a manner which utilizes best management practices to reduce or eliminate storm water runoff

High Density Single Family Housing

Should be:

- Adjacent to similar higher density / intensity uses
- Located with access to major roadways
- Developed with access to public sewer and water infrastructure
- Used as a transition between multiple family/older adult housing and lower density single family residential areas
- Developed in a single family manner
- Developed at a density of no more than three (3) dwelling units per acre
- Designed in a manner which utilizes best management practices to reduce or eliminate storm water runoff
- Designed with common open spaces that provide environmental protection or usable park areas

Moderate Density Single Family Housing

Should be:

- Adjacent to similar higher density / intensity uses
- Located with access to major roadways
- Developed with access to public sewer and water infrastructure
- Used typically as a transition between high density residential and lower density single family residential areas
- Developed in a single family manner
- Developed at a density of no more than two (2) dwelling units per acre
- Designed in a manner which utilizes best management practices to reduce or eliminate storm water runoff
- Designed with common open spaces that provide environmental protection or usable park areas

Residential Transitional Housing

Should be:

- Developed in a single family manner
- Developed with public water access
- Developed between the Township's growth core and the HCMA Park
- Developed at a density no greater than 0.8 dwelling units per acre
- Designed in a manner which utilizes best management practices to reduce or eliminate storm water runoff
- Designed with common open spaces that provide environmental protection or usable park space

Rural Preservation Housing

Should be:

- Located to the north and east of the HCMA Park as well as along the western edge of the Park
- Located in those areas where farmland preservation remains feasible
- Developed in a single family manner
- Developed with lot sizes which allow sufficient space to accommodate septic systems as approved by the Macomb County Health Department
- Developed at a density no greater than 0.5 dwelling units per acre
- Designed in an open space fashion to allow for integration with natural features and existing farmland areas.
- Designed in a manner which utilizes best management practices to reduce or eliminate storm water runoff

Older Adult Housing

Should be:

- Developed with access to public sewer and water infrastructure
- Located in close proximity to uses with similar densities within the Township and adjacent Townships to the south and west
- Located in close proximity to shopping and job opportunities
- Possibly integrated into mixed use developments
- Designed in a manner which utilizes best management practices to reduce or eliminate storm water runoff
- Designed with common open spaces that provide environmental protection or usable park space

Multiple Family Housing

Should be:

- Located nearest the source of sewer infrastructure within the Township
- Developed with access to public sewer and water infrastructure
- Developed at a density of no more than six (6) dwelling units per acre (gross).
- Located along the Township's main transportation routes, 26 Mile Road, and potentially along the southern portions of Romeo Plank and North Avenue.
- Located in close proximity to like uses or similar densities within the Township and adjacent Townships to the south and west
- Located in close proximity to shopping and job opportunities
- Designed with common open spaces that provide environmental protection or usable park space
- Can be developed as a part of mixed use buildings within designated areas
- Designed in a manner which utilizes best management practices to reduce or eliminate storm water runoff

Manufactured Housing

Should be:

- Located nearest the point source of sewer infrastructure within the Township where densities are expected to be the highest
- Developed with access to public sewer and water infrastructure
- Located along the Township's main transportation route, 26 Mile Road
- Located in close proximity to like uses or similar densities within the Township and adjacent Townships to the south and west
- Located in close proximity to shopping and job opportunities
- Designed in a manner which utilizes best management practices to reduce or eliminate storm water runoff

Mixed Use

Should be:

- Located with access to major roadways
- Located in proximity to the Village of Davis
- May be developed as single family or multiple family/townhouse, office, commercial, or entertainment
- Encourage the development of second and third floor residences over first floor retail and office space
- Encourage shared parking areas
- Designed in a manner which utilizes best management practices to reduce or eliminate storm water runoff

Commercial

Should be:

- Located at major intersections within the Township
- Located with access to major roadways
- Developed in proximity to high intensity use areas within the Township
- Provide appropriate buffering between commercial use and adjacent residential use/designation
- Designed in a manner which utilizes best management practices to reduce or eliminate storm water runoff

Industrial

Should be:

- Located in proximity to the Romeo State Airport
- Used as a buffer between airport runways and adjacent residential uses
- Provide appropriate buffering between industrial use and adjacent residential use/designation
- Manage the outdoor storage of goods and materials to limit visual and other impacts to adjacent residential and public areas
- Designed in a manner which utilizes best management practices to reduce or eliminate storm water runoff

Industrial / Residential

Should be:

- Located with access to major roadways within the Township
- Located on class A roadways
- Located within Sections 35 and 36 of the Township
- Allow for owners of industrial business to maintain residence on the property
- No additional residential should be permitted within the designation
- Designed in a manner which utilizes best management practices to reduce or eliminate storm water runoff

CONCLUSION

The Planning Commission, in the formulation of the Master Plan, recognizes that:

- The planning process is a continuous one which requires a close and continuous working relationship between the Ray Township Board, Ray Township Planning Commission, and most importantly, the citizens of Ray Township;
- The formulation of amendments to the zoning ordinance text or map and related ordinances and plans will be based upon the Master Plan;
- Future decision making concerned with proposed developments in the Township will be based on the Master Plan; and
- Any decisions which do not adhere to the Master Plan shall be backed by supporting data, information, opinions, policies which substantiate such deviation. Such deviation shall be included in an amendment to the Master Plan during the next required review period.



SECTION 6.0

L.A.N.D. ANALYSIS

INTRODUCTION

When reviewing a Land Use Plan, a community must first assess itself based on its existing conditions. Then once that assessment has been made, it can determine what its future may hold based on those existing conditions as well as the visions of its residents and leaders. Several simple questions help in starting this assessment. These questions are:

Who or What are we?

Where do we want to go?

How do we get there?

In answering these questions, responses can be categorized into several specific categories. Planning Commission input was a primary consideration in the development of the following "L.A.N.D" analysis. In this section, the Commission's input as well as an analysis of demographics and physical characteristics have been combined to identify the fundamental Liabilities, Assets, Needs, and Desires of the Township. It is important to note that responses in this section may include land use issues, policies, administration, trends, etc.

The "L" and "A" of the L.A.N.D. analysis provide answers to the questions "Who or What are we?" This is critical in establishing what aspects of the Township can be built upon to help further develop the character of the community. The limits or liabilities aspect of the analysis provides a good indication of those areas which need work or attention to help improve the community.

The "N" and the "D" of the analysis provide answers to the question of "Where do we want to go?" These statements can be rather simple and short term or can be more far reaching and long term. In either case, these statements provide the basis for the policies and recommendations of the Land Use Plan itself.

Finally, the key to planning is finding the links between the liabilities / assets and the needs / desires of a community. This is essentially the third question which needs to be answered, "How do we get there?" The answers to this question will be in the form of recommendations, policies, and the Plan's implementation matrix.

The Planning Commission last reviewed the Township's Master Plan in 2004. Major changes in sewer and water availability, market conditions, and growth pressures since that time have driven the need to reassess the Township's policies regarding growth, especially sewer and water infrastructure.

The L.A.N.D. Analysis allows for the Commission to refocus on the building blocks of the community as well as determine where Ray Township must go in the future and the new economy.

	LIMITS OR LIABILITIES
	What are the factors (infrastructure, market conditions, environmental constraints, location, etc.) that negatively impact development of the Community or provide challenges to growth and either need to be changed or addressed?
	ASSETS
	What are the elements of the community that provide character, a sense of community pride, identity, positive response, etc. which should be celebrated or integrated into the physical planning and administrative policies of the Township?
	NEEDS
	What are the identified elements (infrastructure, land use policy changes, public improvements, education, etc.) which are necessary to achieve the Plan's goals. These items are the "must have" items?
	DESIRES
	What are the identified elements that may be longer term changes, such as planning philosophy, significant changes in land use policy, market changes, etc. These items are the long term visions for what the Township is working towards?

LIMITS OR LIABILITIES

The growth pressure facing the community in terms of overall growth as well as the type of growth.

Loss of green space and farmland within the Township.

The limited diversity of housing types within the Township.

The limited tax base within the Township due to large numbers of public/semi public uses and the limited amount of commercial and industrial land use.

Lack of shopping within the Township.

Lack of job opportunities within the Township.

The limited roadway capacity within the Township based on overall roadway size and surface.

The overall lack of connectivity of roadways within the Township caused by physical barriers.

The limited number of north / south roads within the Township providing access routes to jobs, shopping, etc. in the southern communities.

The lack of public transportation within the Township providing access to jobs, shopping, etc.

Lack of groundwater within the certain areas of the community.

The extensive storm drainage and flooding issues within certain areas of the Township.

The soil types not being conducive to septic systems in much of the Township.

The insufficient capacity of the electrical grid within the community to service additional housing and business.

Wolcott Mill Metropark which provides a physical barrier between the southwest and northeast sections of the Township.

The land use impacts caused by the presence of the airports within the Township.

ASSETS

The overall charm, atmosphere and small town character of the Township.

Lack of commercial development and the associated impacts.

The presence of the Wolcott Mill Metropark and associated horse trails.

The presence of the golf courses within the Township.

The ability to create a "sanctuary" on your property, including ponds, fishing, keeping of animals, open space, etc.

The variety of school districts within the Township.

The large extent of greenways and environmental assets within the Township.

The presence of the North Branch of the Clinton River through the entire community.

The close proximity to shopping and jobs to the south.

The substantial amount of remaining farmland and open space in the Township.

Gravel roads and the overall maintenance of roads within the Township.

Close proximity to major north / south transportation routes (I-94 in Chesterfield Township and M-53 in Shelby Township).

Historical landmarks including farm houses, Township Hall, Library, Wolcott Mill Farm, cemeteries, etc.

The Township Park

NEEDS

Increasing the tax base while maintaining a balanced mixture of residential / nonresidential growth.

Develop plans for the establishment of a public water district to address:

- Existing well water issues

- Proposed uses / directing growth within the Township

Protection of the Existing Township Character

- Historical aspect

- Environmental assets

- Open space

- Rural roadways

Encourage new development to maintain the character of the Township.

Encourage agricultural uses to stay and promote a new agricultural economy through value added agricultural practices

Promote the "Gentlemen Farmer."

Allow for the development of diverse residential housing ranging from starter housing to senior / assisted living facilities.

Increase the enforcement of existing codes.

Develop an overall drainage plan for the Township.

DESIRES

Create a community that encourages the expansion of the Davis Node to provide shopping, eating and entertainment.

Create a community that provides well defined growth management areas while preserving outlying rural areas in an effort to provide services more efficiently.

Create a community with farm friendly developments which either integrate or respect existing and future farming operations.

Create a living environment that encourages living for all age groups and age needs, including starter homes, family housing, and senior housing.

Create a community that links its housing, shopping, working, and recreation areas via multifunctional pathways.

Create a community that is linked with cutting edge multimedia technology via WIFI, wireless, broadband, phone, DSL, cable, etc.

Create a community which recognizes a changing job marketplace and encourages telecommuting and home offices while the Township's residential character is maintained.

Create a community which preserves and promotes its environmental assets such as the Clinton River and extensive wetlands systems.



SECTION 7.0

AGRICULTURAL AREAS PLAN

INTRODUCTION

As we move into the 21st century, the issue of farmland and open space preservation has moved to the forefront of rural township planning. Ray Township, being located within one of southeast Michigan's fastest growing corridors, is no exception. Ray Township is one of the last truly rural townships within the County and is on the northward edge of the growth corridor.

MICHIGAN DEPARTMENT OF AGRICULTURE Agricultural Preservation Fund Board

Minimum Purchase of Development Rights Program Requirements

- Farmland that has a productive capacity suited for the production of feed, food and fiber.
- Farmland that would complement and is part of a documented, long-range effort or plan for land preservation by the local unit of government in which the farmland is located.
- Farmland that is located within an area that complements other land protection efforts, creating a block of farmland that is subject to an agricultural conservation easement under this part or part 361, or a development rights agreement under part 361, or in which development rights have been acquired under part 361.
- Farmland in which a greater portion of matching funds or a larger percentage of the agricultural conservation easement value is provided by a local unit of government or sources other than the fund.
- Farmland that will help to enhance other local open space initiatives in the community such as connecting an open space or wildlife habitat corridor, or in preserving unique habitats/natural features that benefit local conservation efforts.

Local Master Plan Requirements

- The comprehensive land use plan has been adopted within the last 10 years and reviewed and/or updated within the last 5 years.
- The comprehensive land use plan of the applying entity contains an agricultural preservation component, consisting of:
 - A future land use map indicating the areas intended for agricultural preservation,
 - Text describing the strategies intended to be used in order to preserve agricultural land, including, but not limited to a Purchase of Development Rights (PDR) program.
 - Language indicating why farmland should be preserved in the community (cost of services studies, economic benefit to the community, etc.)
 - A description of how and why the preservation area was selected.

CURRENT FARMLAND TRENDS

Northern Macomb County, which includes Ray, Armada, Richmond, Lenox, and Washington Townships, has an approved Purchase of Development Rights Program

Macomb County has a total of 512 Farms, totaling 67,969 acres, with a typical farm size of 133 acres (2002 Census)

Of the total 67,969 acres, 58,519 acres are dedicated to cropland.

Macomb County generates \$43,792,000 in agricultural sales (2002)



ISSUES WITH FARMLAND PRESERVATION

Economic Issues

Ray Township, being a traditional rural township, has very few land uses outside of agriculture and residential. This includes a very limited amount of commercial and industrial land use. This limited amount of commercial and industrial land use provides the Township with a limited tax base. The lack of tax base is furthered by the presence of Wolcott Mill which is tax exempt. As such, the Township is not readily available to provide an abundant amount of urban/suburban services to its residents. Further, the Township's main industrial area is the Romeo State Airport which provides no tax base to the Township. However, the Township has approved a small industrial road adjacent to the Airport which should provide additional tax base.

Past studies, including those from the American Farmland Trust, have shown that agricultural uses require far less services in terms of dollars of service per dollar of tax collected than typical residential development requires. Studies from the American Farmland Trust indicate that for each dollar in taxes collected from a farm, the farm only requires \$0.34 to \$0.75 in services from the Township. In contrast, residential developments require on average \$1.04 to \$1.54 in services for each tax dollar collected. This difference was also noted in the Cost of Community Services Study (COCS) conducted in Calhoun County, Michigan. This Study specifically addressed costs in both Marshall and Newton Townships.

The planning impacts are two fold; first, the more farmland that Ray Township can preserve, thereby reducing dollars of services required, translates into a reduced need for further industrial and commercial properties. The limiting of commercial and industrial properties is consistent with the Township's goals and objectives for limiting nonresidential growth. Second, a number of economic benefits can be realized by preserving farmland. These include: provisions for a stable and predictable business environment, retention of local food supply, and promotion of economic diversity.

Environmental Issues

The Township, based on the State of Michigan Zoning Enabling Act as well as the Michigan Planning Enabling Act, has the right and responsibility to plan for its natural resources. One of the Township's main natural resources is its fertile soils and its ability to produce quality farm products. The protection of these soils is obviously paramount in the retention and promotion of farmland preservation and is reflected in the Township's goals.

The overlay mapping detailed in this section which includes soil conditions, soil suitability, prime farmland and other farmland attributes provides the basis for determining which soils and subsequently farming areas are critical to preserve. Further, another part of the natural resources include the natural views and vistas typically associated with farmland and a rural atmosphere. Planning for the long-term existence of farmland will provide for the existence of scenic views and vistas for future generations.

Taxation

Based on current Michigan Tax law, properties must be assessed for tax purposes at their highest and best use. As housing is constructed and assessed in farmland areas, farms that have substantial road frontages near urban locations are either assessed as residential, commercial, or industrial uses, or have their values increased by market values, thereby substantially increasing the taxes paid. The cost of these taxes are magnified by the typical large acreages associated with the farm and also by the significantly lower profit per acre return generated by a typical farm. This issue, while most obvious at the Township level, must be addressed at the State Legislative level.

Farming / Residential Conflict

One of the main factors in farmland loss is the introduction or continued development of residential housing in farmland areas. This factor played a large role in the development of the Right to Farm Act and more recently the State's Generally Accepted Agricultural Management Practices (GAAMPS) for farming practices. These two State enacted documents provide protection for farmers from nuisance claims of adjacent or nearby residents. New homeowners typically do not realize the equipment, schedules and associated practices with the farming industry. These unrealized issues have resulted in conflicts, complaints, vandalism, or even court action against the farmer. But under the Right to Farm Act and the GAAMP's, the farmer is afforded protection.

In an effort to eliminate or reduce the number of conflicts between residents and farmers, the simple solution is to isolate both entities, much like today's accepted practice of isolating residential homes from typical industrial uses. This furthers the idea that agriculture is an industry not merely a land use. Likewise, residents should be afforded protection from farm uses just as they are protected from industrial uses and vice versa.

Minimize the Amount of Agricultural Land Converted for Residential Purposes

The Township recognizes that some agricultural land will likely be converted from agriculture to residential land use. However, the Township desires to limit the amount of farmland being converted. This will allow for the construction of a home, an accessory building and a pond while still providing ample area for septic and well as well as a reserve septic area.

Retain Current Rural Road Status in Areas Where Farming or Extremely Low Density Residential is Planned.

The Township realizes the direct relationship between land use capacity and roadway carrying capacity. Areas planned for low density residential or farmland will not necessitate future roadway creation, expansion or paving. These roadway improvements become extremely costly for the Township and the County. Further, it is the Township's policy that roadways must be shared by farming equipment and typical roadway traffic. As roadways expand and improve, conflict between the two different uses arises.

Promote Purchase of Development Rights and Enrollment in P.A. 116

The Township recognizes that Master Planning, the creation of zoning regulations and other farmland preservation tools are typically only temporary solutions. Therefore, the pursuit of permanent preservation through the purchase of development rights is necessary to maintain open farmland and open landscapes.



FARMS AND FARM ACREAGE

The Township's previous Master Plans referenced the continued movement of residential and nonresidential development northward through Macomb County and its effects on existing farmland. The rural character and open spaces that the northern communities of the County provide, attracts new residents who want to move away from the congestion and density of the more southern communities. This generates the need for new housing development in the rural areas of the central and northern portions of the County. This continuous influx of new residents create conflicts with existing farms, drives up land prices, increases traffic and promotes the conversion/ loss of farmland.

The influx of new residents generates a continuous, growing pressure on the farmer to change processes or develop other farming techniques to avoid conflicts with the new adjacent residents. As it becomes harder for the farmer to farm and land prices continue to rise from demand, selling the farm and moving further away from development becomes more likely. This cycle continues until the area becomes urbanized and the farmland is lost.

In 1992, Macomb County had a total of 70,306 acres of land being farmed. As of 1997, there was a total of 68,829 acres being farmed, as of the year 2002, there were a total of 512 farms, totalling 67,969 acres. This equals a decrease of 860 acres or 1.2 percent over the last five-year period. According to the 1997 Agricultural Census, a total of 273 full time farms were recognized in the County, this was down from 295 farms in 1992. The 2002 Census actually reported an increase to 285 farms being classified as full time. The market value of farm products sold accounted for a total of \$43,792,000. This was an decrease from the previous 1997 Census. Of this total value, 91 percent was a result of agricultural crop sales. Livestock accounted for the remaining eight percent.

In 2002, Ray Township had a total of 82 farms cataloged through the Agricultural Census. The acreages of these farms varied greatly, with the majority of farms being under 50 acres in size. The total number of farms from other northern Macomb and St. Clair County Communities is shown for comparison. If farming is to remain in Macomb County, Ray Township could provide a starting point for preservation which could then be carried into the other three more northern communities.

ZIP CODE	COMMUNITY	TOTAL NUMBER OF FARMS	1 TO 49 ACRES	50 TO 999 ACRES	1,000 ACRES OF MORE
48005	Armada	76	28	47	0
48050	New Haven	45	31	11	0
48048	New Haven	29	20	9	0
48062	Richmond	71	23	43	5
48065	Romeo	61	36	24	0
48094	Washington	19	9	10	0
48095	Washington	15	8	7	0
48096	Ray	82	56	26	0
	Total	398	211	177	5

DESIGNATED AGRICULTURAL PRESERVATION AREAS – Surrounding Areas

As a part of farmland preservation efforts, the connectivity or massing of farmland has to be reviewed not only at a Township level but also on a more regional level. Review of the each of Ray Township's neighboring communities reveals that within this area of the County, connectivity of farmland preservation can be achieved with Lenox to the east and Richmond Township to the northeast. Again the concept being that farming operations; operate best adjacent to other farms, where housing is minimal.

Washington Township

The majority of the land area north of 27 Mile Road, south of 31 Mile Road, between M-53 and the Township's eastern boundary has been designated as land best suited to participate in the PDR program. This area totals approximately 4,000 acres. The Township has designated other area further west for agricultural preservation as well. This includes approximately 1,300 acres in the far northwest portion of the Township.

Armada Township

Armada Township designates nearly the entire northern two-thirds of the Township as its primary agricultural preservation area. This area is designated as the Township's Rural Residential land use area. This area contains approximately 15,600 acres. The southern one third of the Township has been designated as a secondary agricultural preservation area. This area is planned for single family residential purposes, however, the Township does recognize that a number of farms remain in this area which could be preserved. This southern section totals approximately 3,000 acres.

Macomb Township

The current Macomb Township Master Plan does not have a designated agricultural preservation area.

Lenox Township

Within their current Master Plan, Lenox Township has designated the general area west of the railroad to the Township's western boundary for potential PDR sites. This area is the planned non-sewered area of the Township. Based on the mapping provided it appears that most of the larger acreage pieces that still maintain active farming on them are to the western and northern ends of the Township. The Township has generally designated approximately 16,000 acres for Agricultural Preservation.



Illustration #7-1
COMPOSITE AGRICULTURAL PRESERVATION AREA MAP

PRIME AGRICULTURAL LAND

One of Ray Township's most significant land use characteristics is the abundant quantity of existing farmland. Evidence of the suitability of land within the Township to support agriculture is verified by several sources. First is the fact that more than 13,000 acres of land in the Township are not developed or have a single family home on large acreage. A substantial quantity of this land is being used for agricultural production.

Soil data is the principal source of information used by the U.S. Department of agriculture Soil Conservation Service (SCS) to determine those areas of the County that have the greatest potential for long-term agricultural production.

- Soils capable of providing yields of crops common to the area that are equal to or greater than yields from well managed, deep, well drained sandy loams.
- Soils quality, length of growing season, and moisture conditions necessary to provide a high yield of crops if managed in accordance with modern farming methods.
- Slopes of less than six percent.
- Active rooting depth of at least 20 inches.
- Soils that are not waterlogged. Waterlogged soils are those that have standing water as much as six inches deep several times during the growing season.
- Soils that do not flood more than once every two years.
- Soils that present no particular difficulty in cultivating with large equipment (less than 10 percent is covered with course rock fragments.)
- Soils with the potential of being made private agriculture through economically justifiable investments and practices, including drainage, clearing, irrigation, etc.

The U.S. Soil and Conservation Service (SCS) mapped the locations of important farmlands in Macomb County in 1979. As a direct consequence of the County's rapid urbanization in the second half of this century, significant amounts of the noted important agricultural land have been converted to other uses. Construction activity since this map was prepared has further reduced the amount of land available for agricultural purposes. In general, land identified by SCS as being well suited for farming is located throughout most of the Township. Areas, which are not designated as prime farmland, can be found along the Northern Branch of the Clinton River, the Camp Brook Drain, and Section 9 of the Township.

LAND THAT PRODUCES 100 BUSHELS OF CORN/ACRE

A second means of determining agriculturally valuable land is to assess how much land within the Township contains soils which typically produce at least 100 bushels of corn per acre per year. Within the entire County, there are only six soil classifications that produce at least 100 bushels of corn per acre. This is one indicator of how valuable the land within the Township is in terms of the agriculturally economy of the County. These soils are almost exclusively limited to the northern section of the County as can be seen on the soils maps. It should be noted though that some small pockets of each soil classification do exist throughout areas of the County. The large number of farms that are still active in Richmond, Armada, Lenox, Ray and Bruce Townships are an example of the large abundance of rich farming soil in northern Macomb County. Within Ray Township, these types of soils are found along the western and northern edges of the Township.

SOIL CLASSIFICATION II

The Soil Conservation Service also provides soil classifications as to the productivity of each soil type. These classifications rate each soil as to their productivity for agricultural purposes. Based on the Soil Conservation Service, Class II soils are the most productive soils for agricultural purposes in Ray Township. The soil composition of Ray Township is nearly fifty percent Class II soils. Only the general areas along the North Branch of the Clinton River and the Camp Brock Drain are not Class II soils.

PUBLIC ACT 116

To help preserve farmland, the State of Michigan enacted P.A. 116 which grants tax benefits for farmers which enroll their properties in the program. In return for the tax benefit, farmers sign agreements that do not permit the farmers to develop their property for urban development. If the farm is sold or the P.A. 116 agreement is voided, the farmer or purchaser of the property pays back the State the difference or taxes saved over the last seven years. This Public Act is one method of reducing the impacts of urban taxes on farming. Within Ray Township, six (6) farms are enrolled in this program.

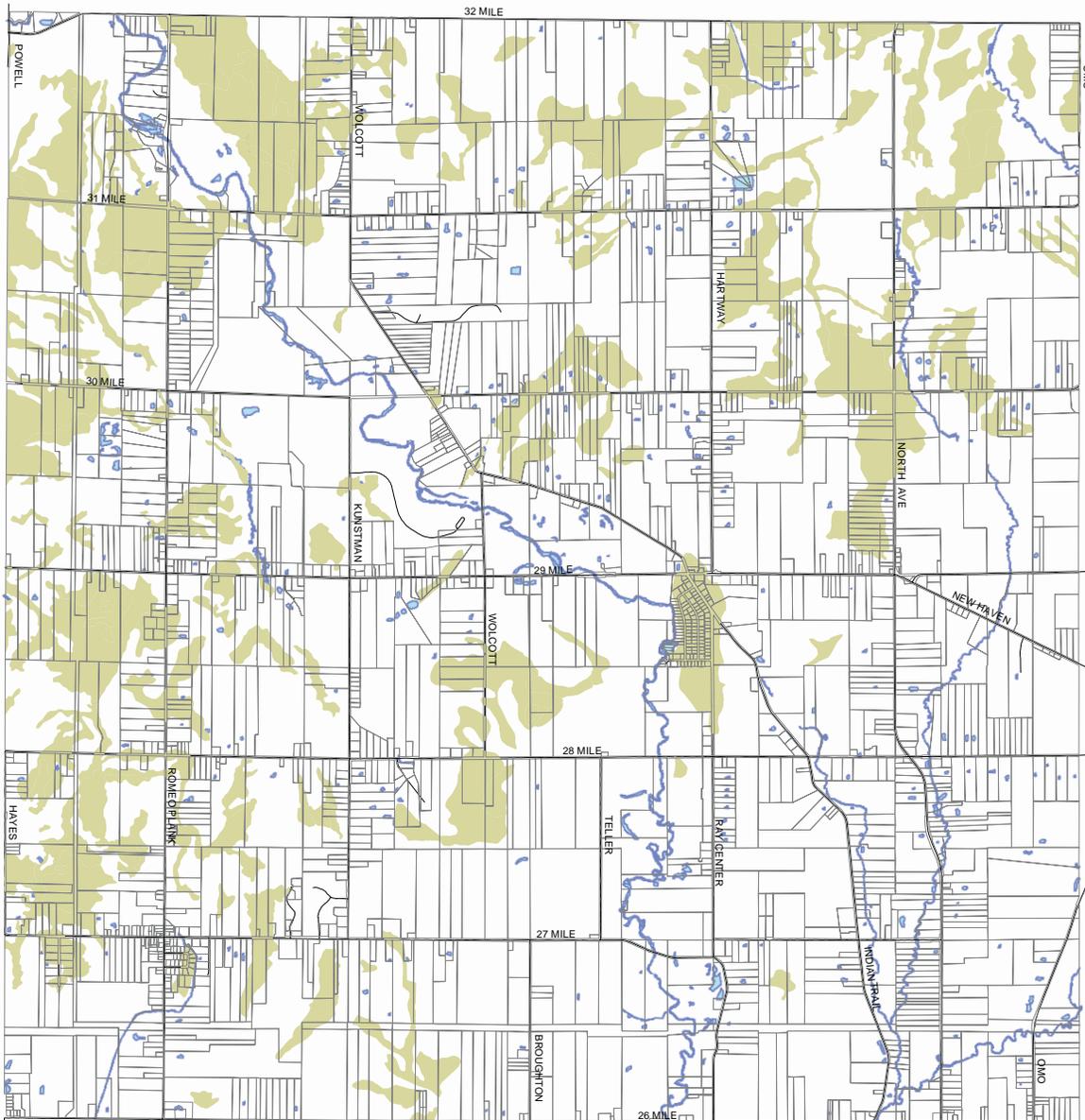
AGRICULTURAL PRESERVATION AREAS (APA's)

In an effort to establish those areas or blocks of farmland which are best suited for continued agricultural purposes, the above information was overlaid to create "Agricultural Preservation Areas." These areas are the combination of areas that are made up of lands that are currently farmed, Class II soils, soils that are conducive to producing over 100 bushels of corn per acre per year, farmland that is enrolled in P.A. 116, and prime agricultural lands. These areas are then compared to the remainder of the Township's land use plan. These combined elements provide a basis for those areas in which agricultural preservation should and is most likely to occur.

These blocks are developed in conjunction with P.A. 262 of 2000 which allows Townships to designate areas which they believe are the most suitable areas for long term farmland operation. These blocks are areas where the Township can work with farmers and the State Department of Agriculture in applying for Purchase of Development Rights (PDR) applications.

Illustration #7-2 LAND THAT PRODUCES 100 BUSHELS OF CORN/ACRE

Prepared By: Ray Township Planning Commission
Source: Soil Survey - Macomb County, Soil Conservation Service

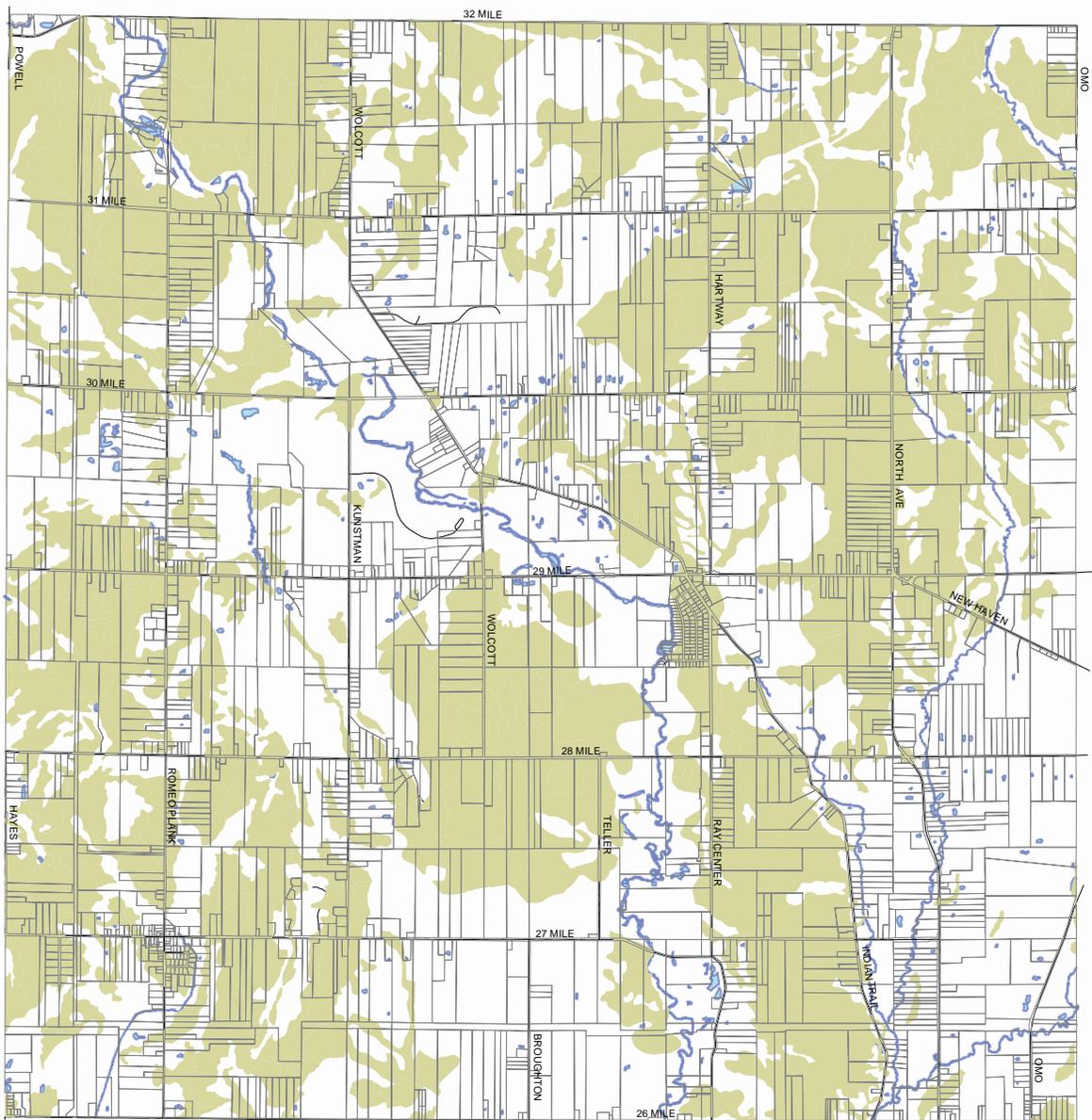


LEGEND

 LAND THAT PRODUCES 100 BUSHELS OF CORN/ACRE

Illustration #7-3 CLASS II SOILS

Prepared By: Ray Township Planning Commission
Source: Soil Survey - Macomb County, Soil Conservation Service

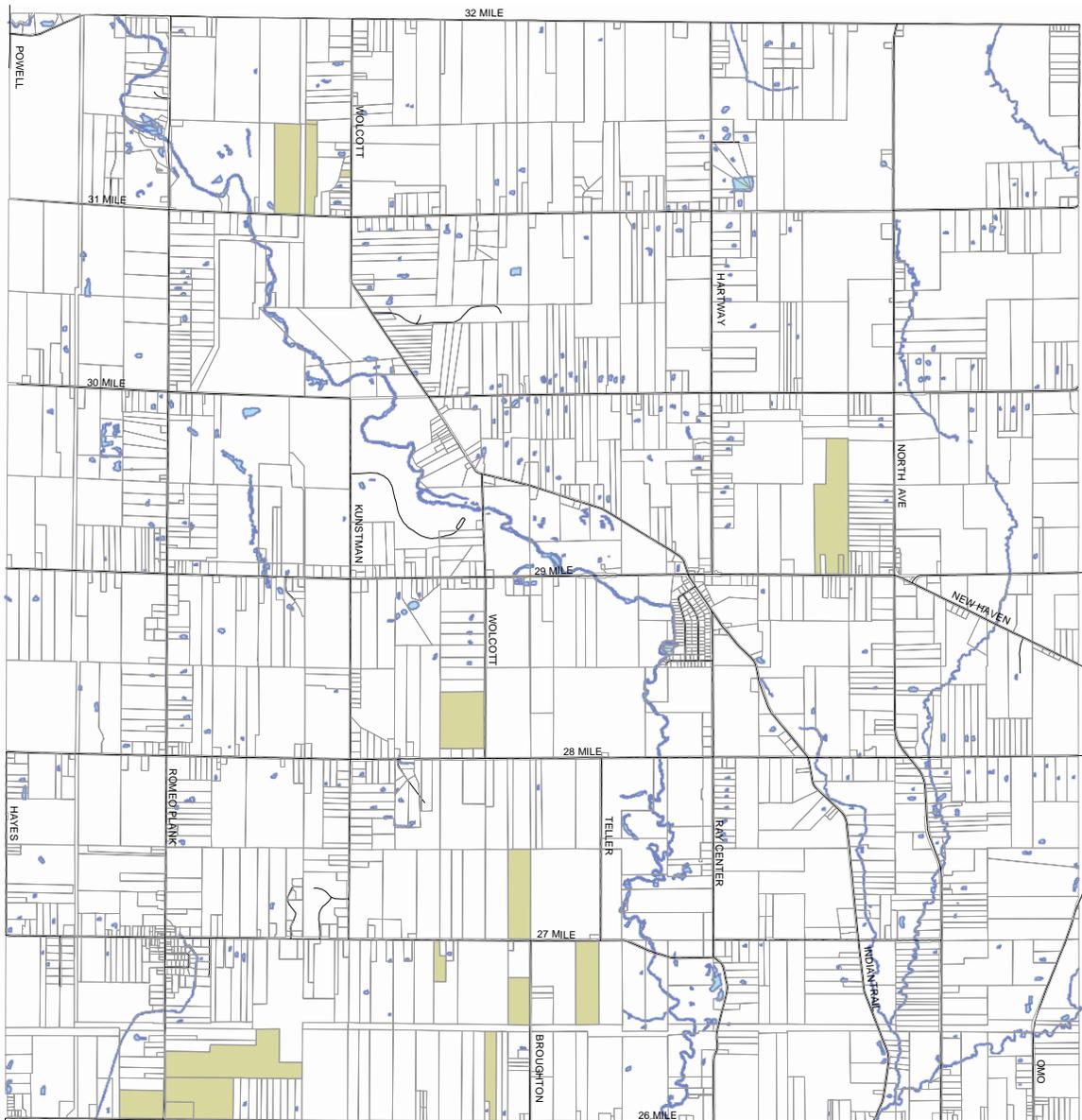


LEGEND

 CLASS II SOILS

Illustration #7-4 PA 116 PROPERTIES

Prepared By: Ray Township Planning Commission
Source: Community Planning & Management

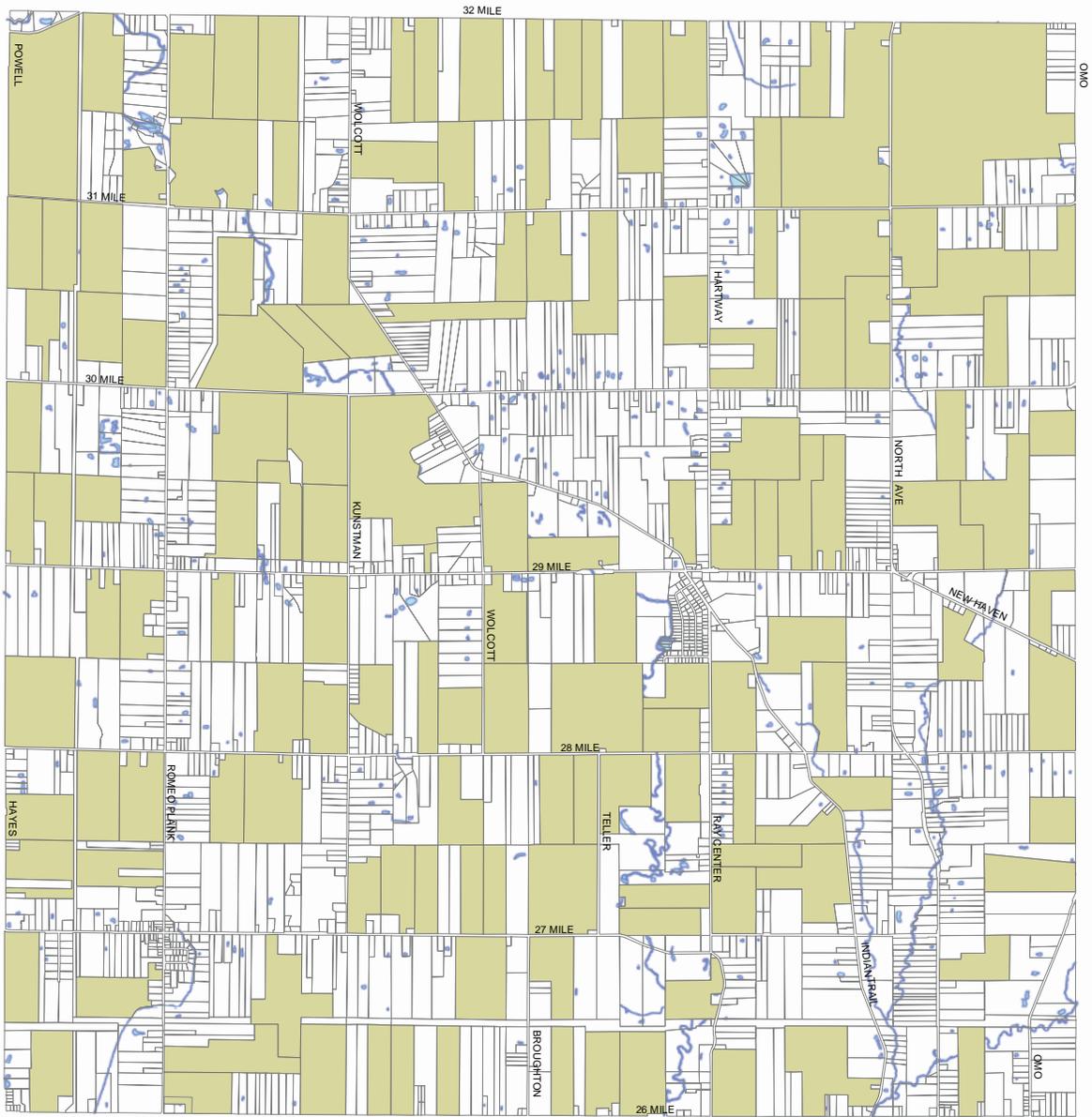


LEGEND

 PA 116 PROPERTIES

Illustration #7-5 PROPERTIES OVER 40 ACRES

Prepared By: Ray Township Planning Commission
Source: Community Planning & Management

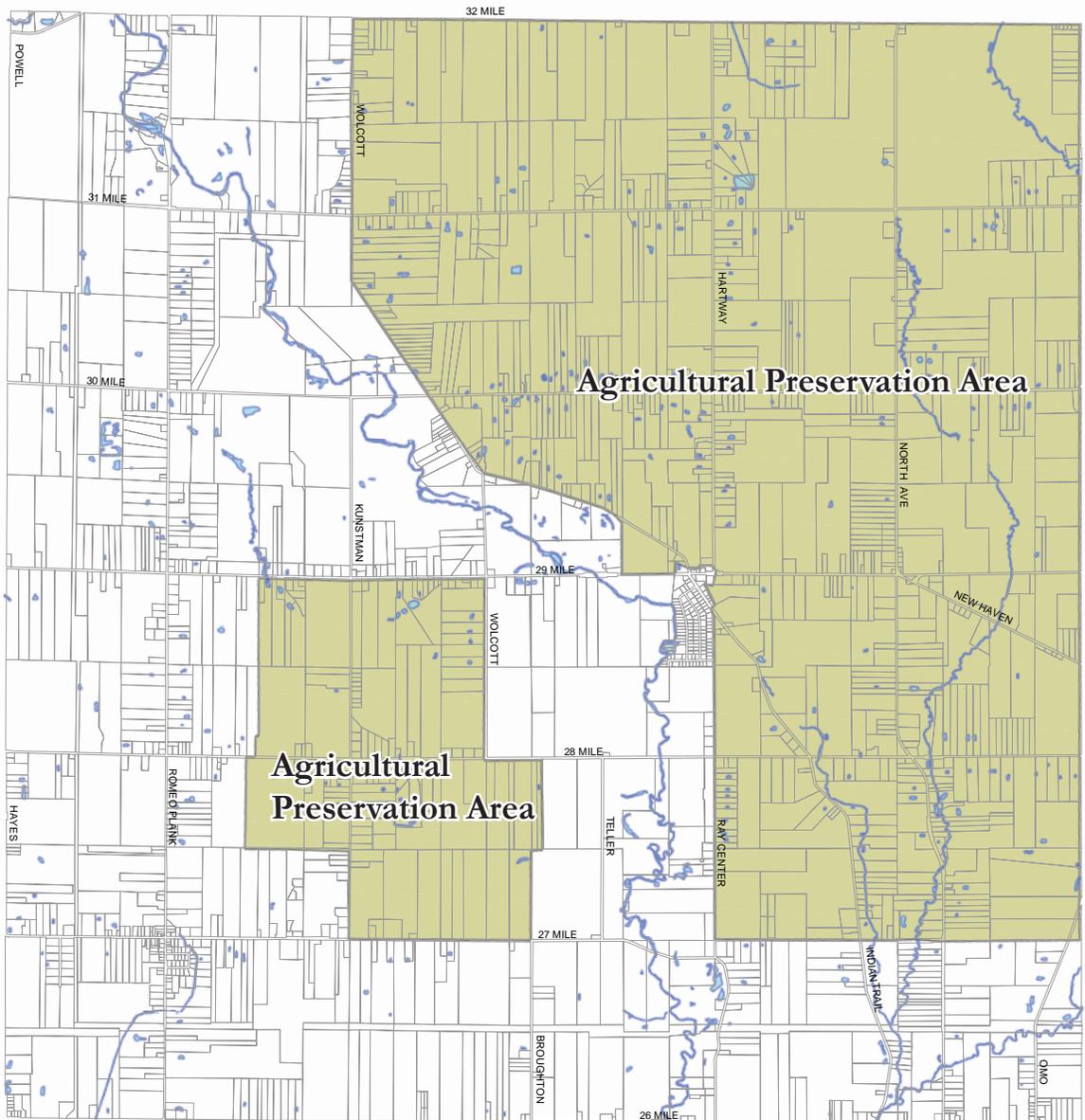


LEGEND

 PROPERTIES OVER 40 ACRES

Illustration #7-6 AGRICULTURAL PRESERVATION AREAS

Prepared By: Ray Township Planning Commission
Source: Community Planning & Management



LEGEND

 AGRICULTURAL PRESERVATION AREAS

The Township has two defined APAs. The main APA is the land area to the east of Wolcott Mill. This land area encompasses a total of approximately 9,950 acres, while the secondary APA, which lies immediately to the west of Park totals approximately 1,800 acres.

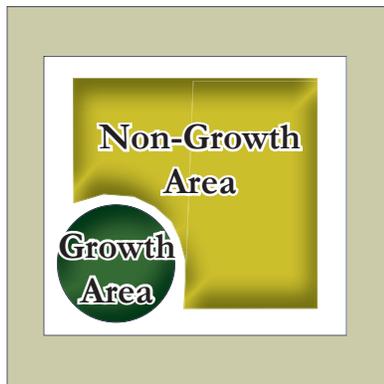
FARMLAND PRESERVATION TECHNIQUES

The majority of the Township's future land use map is designated for farmland and rural lot preservation. Farmland preservation will allow the Township to realize the following benefits:

- Minimizes need for municipal or private water and sewer supplies in areas where such are not practical.
- Allows adequate areas for groundwater recharge and purification.
- Preserves the natural aesthetics and character of the community through the preservation of existing views, serenity and overall rural nature.
- Provides alternative economic and job opportunities such as farming and tourism.
- Provides preservation of agricultural lands as a resource for the production of food for persons today and in the future.
- Preserves existing wildlife habitat.

The following tools and techniques provide the ability to help achieve a viable long-term agricultural preservation area. These tools must be used in combination to create a mechanism that is fair for the individual landowners within the designated agricultural preservation area but is strict enough to allow the long-term existence of farming within Ray Township.

Urban Growth Areas



A method of achieving farmland preservation is to establish an urban growth area which may allow for the extension of water and sewer infrastructure to those areas of the Township which are best suited for higher intensity and higher impact developments that come with public sewer and water. These areas provide better transportation access, closer proximity to shopping and retail opportunities, closer proximity to jobs, and transportation routes to access jobs, etc.

If such extension of public sewer and water are not feasible in the locations provided for in the plan, private, on site systems may be an acceptable alternative. However, any such system should be carefully reviewed to ensure that the construction of such system is in the community's best interest and that all concerns regarding the environment, well and wellhead protection, and stream preservation have been addressed satisfactorily.

The utilization of these areas for urban development meeting the growth needs of the Township, will help maintain the remainder of the Township as agricultural and large lot residential and will not require the costly extension of public services and infrastructure or the extension and improvement of roadways into the predominate rural areas of the community.

Purchase of Development Rights

The State of Michigan passed P.A. 262, which provides for the purchase of development rights through the local unit of government in conjunction with the State Agricultural Department. This farmland preservation option allows the municipality to purchase the density rights of the property, while leaving all other rights associated with the property with the landowner. This preservation option leaves farms as farmland or open space (should the farm be retired) in perpetuity. Public Act 262, provides matching State funding for Townships or other municipalities to purchase farmland development rights.

The Township will have their Purchase of Development Rights Ordinance to use in conjunction with this document and the agricultural preservation areas defined within the Township as the monies become available to fund the Purchase of Development Rights program through the Michigan Department of Agriculture, grants and other sources. This PDR Program is being implemented through the coordination of the northern communities of Macomb County, unlike other programs which are either local (single community) or at the County level.

PDR Committee - In 1997 an initiative was begun by a group of interested citizens concerned with the loss of farmland and open space in Macomb County. This group helped to spearhead an effort wherein local units of government in Macomb County would request the establishment of a County "Farmland and Open Space Preservation" task force to discuss and review the loss of farmland and open space in the County. As a result of their effort, the Macomb County Board of Commissioners voted to create the Macomb County "Farmland and Open Space Preservation Ad Hoc Committee. The purpose of this committee was to examine agriculture and open space in Macomb County and to make recommendations regarding strategies for preservation.

In the year 2000, a parallel group was established by five (5) of the townships located in the northern portion of the County. The five (5) townships participating on the committee, which was originally named the "Northern 5 Committee," included Armada, Bruce, Lenox, Ray and Richmond Townships. Subsequently, the name was changed to the Macomb Agricultural Purchase of Development Rights Committee. The purpose of the Committee was to begin the process of establishing a local Purchase of Development Rights (PDR) program in the County. Twenty individuals participated on the Committee, with monthly meetings being held through most of 2003.

The Committee recommended the following:

1. A draft PDR Ordinance be presented to the Township Board of each of the respective Townships for consideration and possible adoption *This has been done and adopted.*
2. That the northern townships be asked to update their master plans (if necessary) and to include a farmland preservation component within that plan, including designation of areas of farmland to be preserved on the master plan map and an explanation in the text of the manner in which the farmland preservation is to be accomplished. *This has been done.*
3. That the northern townships be encouraged to take appropriate action within existing zoning regulations to allow for agricultural operations that add value to the agricultural commodity being produced. *This has been done and adopted in a number of communities.*
4. That the northern townships be encouraged to consider land planning and zoning techniques that help to preserve farmland. *This has been done.*

To date, these original recommendations have been largely accomplished. The Committee's work has now lead to the purchase and conservation of portions of two (2) farms in the northern portion of the County. One purchase in Richmond Township and one in Bruce Township. The Committee's efforts are ongoing, attempting to secure additional grant and local monies for further development rights purchases and preservation opportunities.

Potential Funding Sources — As the Township has begun to realize, Purchase of Development Rights programs that are put into effect for an entire Township can become very costly. However, funding for these programs can come from a number of different funding sources. These sources include: private donations and contributions from either the farmer involved or other concerned citizens, local general tax revenues (general fund) or even voter approved millages or bonds for the purchase of development rights, County allocations, grant funding from the State in terms of matching grant monies (P.A. 262), etc.

Transfer of Development Rights

One of the best techniques for farmland preservation within a municipality that is facing urban growth pressures is a transfer of development rights. The transfer of development rights allows growth to be accommodated in a managed fashion in more urban areas of the Township, while still protecting vital outlying farmland areas. The Agricultural Preservation Area (APA) provides the framework for one half of a transfer of development rights mechanism. The APA provides the sending area, or the area from where development rights are transferred.

The other side of the transfer, the area where development rights are transferred to is designated as the receiving zone. At this time, the Township does not have an area which could accommodate additional densities without the development of additional sewer and water infrastructure. The Master Plan including the planned sewer and water areas, as they are developed could be utilized as a receiving zone. Amendments to the Plan and Zoning policies of the Township would need to be undertaken to ensure a successful program. Either way, both the identified farmland areas and the designated growth area must work in unison to create a viable farmland preservation tool.

Finally, it is important that the size and potential overall development density of the urban growth area be carefully considered in relation to the sending zone when developing a transfer of development rights mechanism. For the mechanism to be completely successful, the total development density of the receiving area must be able to accommodate the units being sent from the farmland area. Development density ratios that reduce the total number of development rights being transferred may be utilized, but careful consideration must be given so the ratio is not set so high that the option becomes unattractive to developers.

CONCLUSIONS

Ray Township historically has been a farm community and still maintains many attributes of such a community. However, the Township does sit in a unique area of Macomb County as well as the region in terms of growth. The Township now and in the future will likely continue to face growth pressures. Therefore if the Township wishes to maintain the rural, farmland character of its past, the Township will need to take steps to implement the Master Plan, especially in terms of farmland preservation.



SECTION 8.0 RESIDENTIAL PLAN

INTRODUCTION

The Master Plan envisions a total of nine (9) different residential planning designations. This is made possible with the introduction of public sanitary sewer within a large portion of the south and western portions of the Township.

The intent of creating such a large array of residential planning designations and housing types is to allow for a variety of housing opportunities for residents within the Township. One of the main goals is to allow residents to live their entire life within the Township which would include buying a starter home, moving up in house size during the family formation years, as well as providing housing opportunities for older persons which may desire either a lower maintenance housing option or even a multiple family townhouse or senior housing setting.

The Master Plan designations range from the Township's traditional low density settings of lot size equivalents to 90,000 square feet and larger to 15,000 square foot single family lots. In addition the Township has also created a multiple family designation, a senior housing designation as well as several mixed use designation which would allow for mixture of residential and nonresidential land uses such as office, commercial and even some minor industrial land uses.

The Master Plan being a long term document and vision for the Township will take time to implement and all nine of the residential planning designations may not be initially available. Again many of these designations require public sanitary sewer to accomplish the densities envisioned. Therefore, the plan implementation will be market driven as well as fiscally driven ensuring that sewer extensions are economically feasible.

RESIDENTIAL DESIGNATION	DENSITY	ACREAGE
Agricultural Residential	90,000 Sq. Ft. Lots	11,675 Acres
Single Family Residential Transitional	60,000 Sq. Ft. Lots	1,615 Acres
Single Family Residential Low	30,000 Sq. Ft. Lots	1,170 Acres
Single Family Residential Med	20,000 Sq. Ft. Lots	1,710 Acres
Single Family Residential High	15,000 Sq. Ft. Lots	825 Acres
Mixed Use Residential	3.0 D/U's Acre	680 Acres
Multiple Family	5.0 D/U's Acre	125 Acres
Multiple Family Senior Housing	5.0 D/U's Acre	40 Acres
Manufactured Housing Community	5-6.0 D/U's Acre	100 Acres

OVERALL

To ensure the preservation of the Township's environmental assets, which have been identified within the Master Plan, the Township's existing open space character, and to ensure that the Township's existing natural system linkages will be preserved, all developments should adhere to the Township's overall guiding principal of open space preservation.

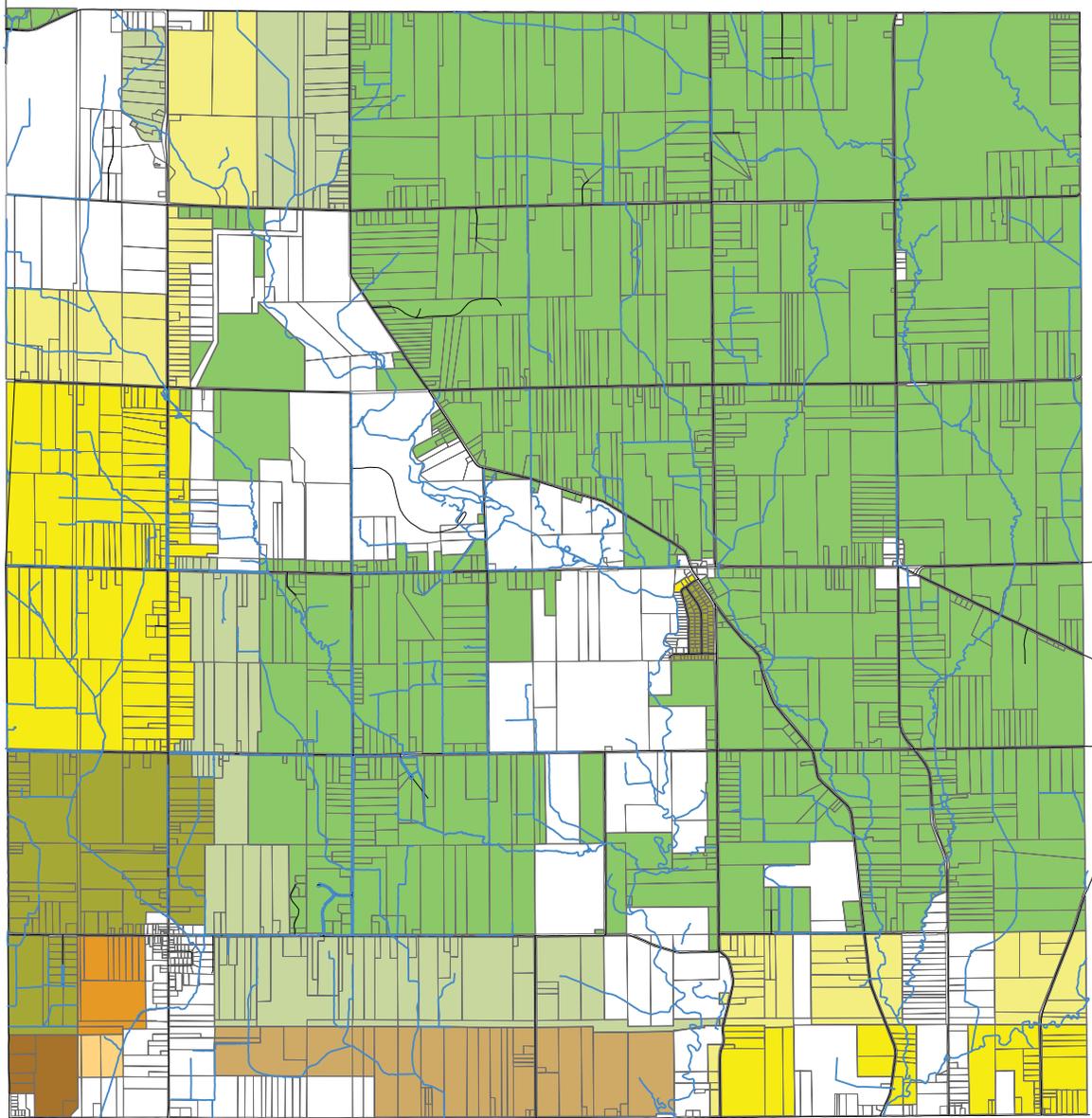
The Township encourages the development of an overall inclusive community which provides housing to all types of residents and encouraging those housing opportunities to be developed in such a manner that walking and alternative transportation can be encouraged.

The Township encourages concurrency in planning for the land use development and the extension of necessary infrastructure in an effort to maximize the efficiency and cost reduction of such systems.

To ensure that planning efforts are not conducted within a vacuum, plans from surrounding communities and the County will be taken into account, while still ensuring that final planning decisions and policies still are reflective of Ray Township.

Illustration #8-1 RESIDENTIAL AREAS PLAN

Prepared By: Ray Township Planning Commission
Source: CP&M

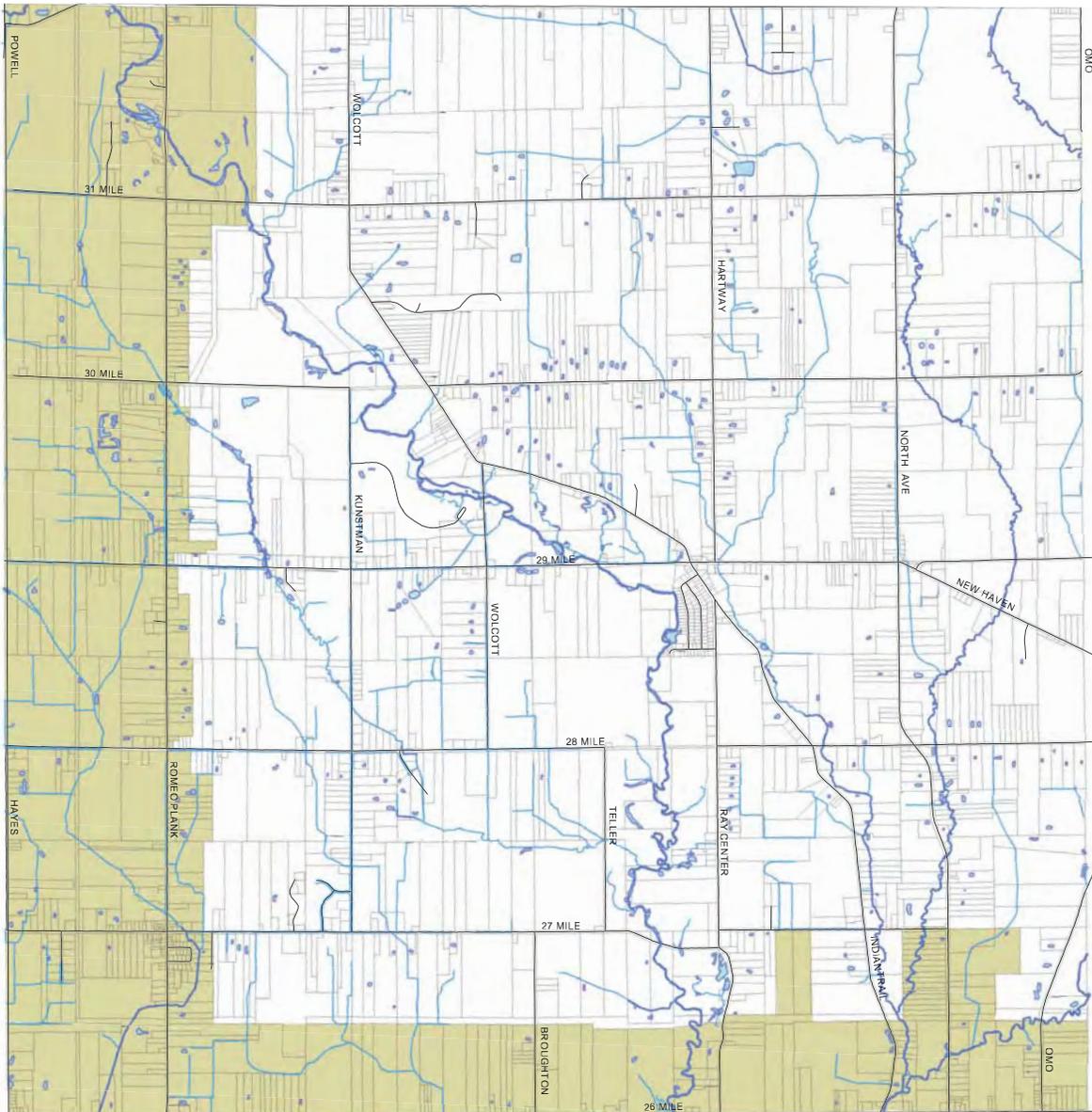


LEGEND

- | | |
|---------------------------------------------|----------------------------------|
| Agricultural Residential 90,000 | Mixed Use Residential |
| Single Family Residential Transition 60,000 | Multiple Family |
| Single Family Residential Low 30,000 | Multiple Family - Senior Housing |
| Single Family Residential Medium 20,000 | Manufactured Housing Community |
| Single Family Residential High 15,000 | |

Illustration #8-2 PROPOSED SANITARY SEWER DISTRICT

Prepared By: Ray Township Board of Trustees & Planning Commission
Source: Anderson, Eckstein & Westrick and CP&M



LEGEND

 Sewer District

AGRICULTURAL RESIDENTIAL

Planned Density

The planned density for the Agricultural Residential designation is approximately 0.5 single family dwelling units per acre. Areas planned for Agricultural Residential are planned as the least dense areas of the Township. This equates into the Township's current R-1 Residential Zoning District.

Planned Location

Sections 20, 21, 28, and 29

Planned Acreage

Approximately 1,925 Acres

Planning Transition

The areas immediately to the west and south are planned for 60,000 square foot lots. These areas provide the transition from the Township's planned sanitary sewer district to the Agricultural Residential area. The area to the north and east is HCMA parkland and will not be developed for single family residential purposes and will remain largely open land.

Sanitary Sewer

This planning area is located outside of the Township's planned sanitary sewer area. Therefore, the properties located here will need to be serviced by individual wells and septic. As with most areas of the Township, septic limitations are largely severe for this area.

Environment

These four (4) sections do have several extensive wetland areas identified on the County's potential wetland mapping. However, most of these areas are on interior acreage which should provide housing to be constructed along the road frontage much like that found through out the Township.

A total of six (6) natural feature sites were identified in these four (4) sections totalling over 430 acres. Again, most of these were in the interior acreage of the sections. The large lot sizes are intended to help limit the impact on these areas by allowing ample room for housing construction, along with accessory structures, septic areas, etc. while allowing the natural feature area to remain untouched.

RURAL PRESERVATION HOUSING POLICIES

Should be:

- Located to the north and east of the HCMA Park as well as along the western edge of the Park
- Located in those areas where farmland preservation remains feasible
- Developed in a single family manner
- Developed with lot sizes which allow sufficient space to accommodate septic systems as approved by the Macomb County Health Department
- Developed at a density no greater than 0.5 dwelling units per acre
- Designed in an open space fashion to allow for integration with natural features and existing farmland areas.
- Designed in a manner which utilizes best management practices to reduce or eliminate storm water runoff

Transportation Systems

The north end of the this planning area is serviced by 29 Mile Road while the southern end borders 27 Mile Road, both of which are paved and as a result have increased carrying capacities.

With a limited amount of density planned within the Agricultural Residential area, few transportation improvements will be needed in this area of the Township. The planned improvements to Romeo Plank (widen to five lanes) identified in the County's long term plan should provide ample access to the area.

Agriculture

These four sections contain a number of larger properties that also contain soils that are conducive to long term farming. This is the main reason that this area has been designated as one of the Township's Agricultural Preservation Areas. The limiting of housing in this area to large lot residential will help to not only maintain the rural atmosphere but also limit the impact to farming operations, and vice versa.

Planned Location

Sections 1,2,3,4,9,12,13,15,23,24,25,26

Planned Acreage

Approximately 9,750 Acres

Planning Transition

This planning area is the Township's main agricultural preservation area as well as that area which best maintains the Township's existing rural character. Areas to the west of this designation are largely the Township's Single Family Residential Transitional Designation as well as the HCMA Metropark. To the south is the far eastern boundary of the Township's planned sanitary sewer district. This planning area abuts the Township's planned Residential Low designation along the 27 Mile Road Corridor.

Throughout these twelve (12) sections of the Township, small areas of either higher density or nonresidential land use is planned.

Sanitary Sewer

This planning area is located outside of the Township's planned sanitary sewer area. Therefore, the properties located here will need to be serviced by individual wells and septic. As with most areas of the Township, septic limitations are largely severe for this area.

Transportation System

This designation area is serviced by several major roadways within the Township which include 29 Mile Road, 32 Mile Road and North Ave. These roads are paved, two lane roads which carry the majority of the traffic in and out of the Township. The remainder of the roadways; 31 Mile Road, 30 Mile Road, 28 Mile Road, Indian Trail, Ray Center, Wolcott and Hartway are gravel two lanes roads able to accommodate far less traffic than those three (3) previously mentioned. No planned improvements are scheduled for these roads with the exception of North Avenue.

Agriculture

These multiple sections of the Township contain the largest number of large, contiguous properties that also contain soils that are conducive to long term farming. This is the main reason that this area has been designated as the main Township Agricultural Preservation Area. The limiting of housing in this area to large lot residential will help to not only maintain the rural atmosphere but also limit the impact to farming operations, and vice versa.

SINGLE FAMILY RESIDENTIAL TRANSITIONAL

Planned Density

The planned density for the Single Family Residential Transitional (SFRT) designation is approximately 0.8 single family dwelling units per acre. Areas planned for Single Family Residential Transitional are planned as the second least dense areas of the Township. This designation would require the creation of a new zoning district.

Planned Location

Sections 5, 20, 29, 32, 33, and 34

Planning Acreage

Approximately 1,615 Acres

Planning Transition

The SFRT designation is designed to be the transition area between the Township's planned sanitary sewer district along Romeo Plank and along 26 Mile Road.

Sanitary Sewer

The SFRT planning area is located outside of the Township's planned sanitary sewer area. Therefore, the properties located here will need to be serviced by individual wells and septic. As with most areas of the Township, septic limitations are largely severe for this area.

Environment

The planned SFRT area within section 5 has few mapped environmental restrictions. However, this should be verified on a case by case basis.

The planned SFRT area within Sections 20, 29, 32, 33, and 34 are impacted by five (5) identified Michigan Natural Feature sites. These identified areas are within the interior acreage of the planned areas.

Transportation Systems

The SFRT designated areas are serviced primarily by the Township's mile roads, including 27, 28, 29, 30 and 31 Mile Roads. Both 27 and 29 Mile Roads are paved two lane roads while 28, 30 and 31 Mile Roads are gravel two lane roads. The SFRT is in close proximity to Romeo Plank (approximately 1/4 to 1/2 Mile to the east.) The planned improvements to Romeo Plank should help carry the planned traffic from these areas.

SINGLE FAMILY RESIDENTIAL TRANSITIONAL

Should be:

- Developed in a single family manner
- Developed with public water access
- Developed between the Township's growth core and the HCMA Park
- Developed at a density no greater than 0.8 dwelling units per acre
- Designed in a manner which utilizes best management practices to reduce or eliminate storm water runoff
- Designed with common open spaces that provide environmental protection or usable park area

SINGLE FAMILY RESIDENTIAL LOW

Planned Density

The planned density for the Single Family Residential Low (SFRL) designation is approximately 1.0 single family dwelling unit per acre. Areas planned for Single Family Residential Low are planned at the furthest extent of the planned sanitary sewer areas. This designation would require the creation of a new zoning district.

Planned Locations

Sections 5, 7, 8, 35, 36

Planned Acreage

Approximately 720 Acres (Sections 5, 7, 8)
Approximately 450 Acres (Sections 35, 36)

Planning Transition

The SFRL designation provides a transition from the Single Family Residential Medium designation on the south side of 30 Mile Road. In addition the Pine Valley Golf Course is also planned for the SFRL designation as a transition from the industrial areas to the west to the lower densities of the SFRT and Agricultural Residential designations to the east.

Sanitary Sewer

As noted above, this designation is planned for the furthest ends of the Township's planned sanitary sewer district (both the north and east ends).

Environment

Sections 5 and 7 contain large potential wetland areas which have also been identified on the County's Natural Features Inventory. In Section 5 the natural feature is located near the middle of the Section within the existing golf course. In Section 7, the natural feature follows the existing drainage way just to the west of Romeo Plank Road.

Transportation Systems

The majority of the SFRL planning designation is directly serviced by Romeo Plank. The southern end of the designated area has access to 30 Mile Road which is a gravel two lane roadway.

The SFRL planning designation in sections 35 and 36 have access to Omo Road, Indian Trail and Ray Center. The SFRL designation as well as the higher planned densities in this area may generate the need for the paving of roadways within these two sections.

LOW DENSITY SINGLE FAMILY HOUSING

Should be:

- Adjacent to similar higher density / intensity uses
- Located with access to major roadways
- Developed with access to public sewer and water infrastructure
- Used typically as a transition between moderate density residential and single family residential areas located outside of planned sanitary sewer districts
- Developed in a single family manner
- Developed at a density of no more than one (1) dwelling units per acre
- Designed in a manner which utilizes best management practices to reduce or eliminate storm water runoff
- Designed with common open spaces that provide environmental protection or usable park space

SINGLE FAMILY RESIDENTIAL MEDIUM

Planned Density

The planned density for the Single Family Residential Medium (SFRM) designation is approximately 2.0 single family dwelling unit per acre. This designation would require the creation of a new zoning district.

Planned Locations

Sections 17, 18, 19, 20, 35, 36

Planned Acreage

Approximately 1,320 Acres (Sections 17, 18, 19, 20)

Approximately 390 Acres (Sections 35, 36)

Planning Transition

The SFRM designation provides a transition from the Single Family Residential High designation to the south of 28 Mile Road to the Single Family Residential Low designation to the north of 30 Mile Road. In addition, on the east side of Romeo Plank, the properties fronting Romeo Plank are also included in the SFRM as a transition to the non-sewered areas of the Township.

Sanitary Sewer

The SFRM designation lies within the Township's planned sanitary sewer district.

Environment

The SFRM designation contains two (2) major identified natural features based on County mapping. These areas also correspond with mapped potential wetlands areas. As with a number of the other remaining natural features in the Township, these environmental features are located to the interior acreage of Sections 18 and 19. Several additional wetland areas also show up on the mapping. The presence of, size and extent of these wetlands will need to be field verified as development occurs.

Transportation System

The SFRM designation has access to 28, 29 and 30 Mile Roads. Of which only 29 Mile Road is paved at this time. All three roadways are two lane roads. The SFRM also has frontage along Romeo Plank. The planned improvements to Romeo Plank should help carry the planned traffic from these areas.

MODERATE DENSITY SINGLE FAMILY HOUSING

Should be:

- Adjacent to similar higher density / intensity uses
- Located with access to major roadways
- Developed with access to public sewer and water infrastructure
- Used typically as a transition between high density residential and lower density single family residential areas
- Developed in a single family manner
- Developed at a density of no more than two (2) dwelling units per acre
- Designed in a manner which utilizes best management practices to reduce or eliminate storm water runoff
- Designed with common open spaces that provide environmental protection or usable park areas

SINGLE FAMILY RESIDENTIAL HIGH

Planned Density

The planned density for the Single Family Residential High (SFRH) designation is approximately three (3) single family dwelling units per acre. This designation would require the creation of a new zoning district.

Planned Locations

Sections 30, 31

Planned Acreage

Approximately 825 acres

Planning Transition

The SFRH designation provides a transition between the Multiple Family, Manufactured Housing and Mixed Use Davis Designations to the south. These three designations are much higher density than the SFRH. To the north of 28 Mile Road is the Single Family Residential Medium designation. While to the east, outside of the planned sanitary sewer district is the Township's planned Single Family Residential Transitional designation.

Sanitary Sewer

The SFRH designation lies within the Township's planned sanitary sewer district.

Environment

The SFRH designation contains one identified natural feature as outlined in the Macomb County mapping. In addition, a total of four to five potential wetland areas have also been identified. The presence of, size and extent of these wetlands will need to be field verified as development occurs. The area is also traversed by the Healy Brook Drain.

Transportation System

The SFRH designation has access to 27 and 28 Mile Roads as well as Romeo Plank. Romeo Plank as well as 27 Mile Road are paved two lane roads while 28 Mile Road is gravel. The planned improvements to Romeo Plank should help carry the planned traffic from these areas.

HIGH DENSITY SINGLE FAMILY HOUSING

Should be:

- Adjacent to similar higher density / intensity uses
- Located with access to major roadways
- Developed with access to public sewer and water infrastructure
- Used as a transition between multiple family/older adult housing and lower density single family residential areas
- Developed in a single family manner
- Developed at a density of no more than three (3) dwelling units per acre
- Designed in a manner which utilizes best management practices to reduce or eliminate storm water runoff
- Designed with common open spaces that provide environmental protection or usable park areas

MIXED USE RESIDENTIAL

Planned Density

The planned residential density within the Mixed Use Residential (MUR) designation is approximately three (3) dwelling units or less per acre. This designation would require the creation of a new zoning district.

Planned Location

Sections 32, 33, 34

Planned Acreage

Approximately 680 acres

Planning Transition

The MUR designation provides the transition between the 26 Mile Road corridor and the Residential Transitional designation further to the north. This designation was created with an understanding that some commercial activity may be desirable along 26 Mile but not creating an entire commercial corridor. Therefore, it is envisioned that the majority of this designation will be residential with some small commercial nodes potentially at the entrances to the residential developments.

Sanitary Sewer

The MUR designation lies within the Township's planned sanitary sewer district.

Environment

The MUR designation contains two significantly sized identified natural features as well as several other potential wetland areas. As with most of the natural features in the Township, these features and wetlands are largely towards the middle acreage of the sections.

Transportation System

The area planned for MUR in sections 33 and 34 have direct access to 26 Mile Road which is a planned regional thoroughfare. Further, major expansions are planned for 26 Mile Road between M-53 and I-94 which includes the widening of the road.

MIXED USE RESIDENTIAL

Should be:

- Adjacent to similar higher density / intensity uses
- Located with access to major roadways
- Developed with access to public sewer and water infrastructure
- Used as a transition between multiple family/older adult housing and lower density single family residential areas
- Developed with minor commercial nodes to provide convenience shopping areas
- Developed at a density of three (3) dwelling units or less per acre
- Designed in a manner which utilizes best management practices to reduce or eliminate storm water runoff
- Designed with common open spaces that provide environmental protection or usable park areas

MULTIPLE FAMILY RESIDENTIAL

Planned Density

The planned density of the Multiple Family Residential designation is approximately six (6) dwelling units per acre or less.

Planned Location

Section 31

Planned Acreage

Approximately 125 acres

Planning Transition

The MFR designation provides a transition from the intense development along the 26 Mile Road corridor to the less intense developments to the north. In addition, the additional density provided by a multiple family development will also provide additional population base for the Davis Mixed Use District immediately to the east.

Sanitary Sewer

The MFR designation lies within the Township's planned sanitary sewer district.

Environment

Based on the available environmental mapping from the County, the site does not appear to have any environmental constraints such as wetlands or identified natural features. The site is traversed by the Healy Brook Drain.

Transportation System

The MFR has direct access to 27 Mile Road which is a paved two (2) lane roadway. In addition the planned area is only approximately one quarter mile west of Romeo Plank. Twenty seven Mile Road should be improved to the intersection of Romeo Plank to accommodate the additional traffic from the planned densities. In addition, a planned collector road should be developed to provide access to 26 Mile Road to help alleviate traffic onto 27 Mile Road and Romeo Plank.

MULTIPLE FAMILY HOUSING POLICIES

Should be:

- Located nearest the source of sewer infrastructure within the Township
- Developed with access to public sewer and water infrastructure
- Developed at a density of no more than six (6) dwelling units per acre (gross)
- Located along the Township's main transportation routes, 26 Mile Road, and potentially along the southern portions of Romeo Plank and North Avenue
- Located in close proximity to like uses or similar densities within the Township and adjacent Townships to the south and west.
- Located in close proximity to shopping and job opportunities
- Designed with common open spaces that provide environmental protection or usable park area
- Can be developed as a part of mixed use buildings within designated areas
- Designed in a manner which utilizes best management practices to reduce or eliminate storm water runoff

MULTIPLE FAMILY OLDER ADULT HOUSING

Planned Density

The planned density of the Multiple Family Older Adult Housing designation is approximately five (5) dwelling units per acre or less. This designation would require the creation of a new zoning district.

Planned Location

Section 31

Planned Acreage

Approximately 40 Acres

Planning Transition

The MFOAH is bordered by the Township's manufactured housing designation to the southwest, one of the Township's commercial designations to the south, the Davis mixed use district to the east and the multiple family designation to the north. The density and intensity in this area provides amenities and like uses to the planned senior area.

Sanitary Sewer

The MFOAH designation lies within the Township's planned sanitary sewer district.

Environment

Based on the available environmental mapping from the County, the site does not appear to have any environmental constraints such as wetlands or identified natural features. The site is traversed by the Healy Brook Drain.

Transportation System

The MFOAH designation does not have direct access to a major thoroughfare. Therefore the development of this property at this density will require the development of access roads to either 26 or 27 Mile Road or to Romeo Plank Road. This will take coordination with the frontage properties along each of these roads as they develop.

OLDER ADULT HOUSING

Should be:

- Developed with access to public sewer and water infrastructure
- Located in close proximity to uses with similar densities within the Township and adjacent Townships to the south and west.
- Located in close proximity to shopping and job opportunities
- Possibly integrated into mixed use developments
- Designed in a manner which utilizes best management practices to reduce or eliminate storm water runoff
- Designed with common open spaces that provide environmental protection or usable park area

MANUFACTURED HOUSING

Planned Density

The planned density of the Manufactured Housing designation is approximately 5-6 dwelling units per acre. The planned density will also depend to some degree on the State's Manufactured Housing Commission which has review of such developments. This designation would require the creation of a new zoning district.

Planned Locations

Section 31

Planned Acreage

Approximately 100 acres

Planning Transition

Being located within the far southwest corner of the Township, at the general point where public sanitary sewer will become available, the Manufactured Housing designation is one of the most intense planned residential land uses. The land use pattern to the north and to the east slowly transitions into a less dense development pattern recognizing the limitations of planned sanitary sewer at its ends.

Sanitary Sewer

The Manufactured Housing designation lies within the Township's planned sanitary sewer district. This designation, being located at the southwest corner of the district, will have the immediate ability to tap into the system when it becomes available to the Township.

Environment

Based on the available environmental mapping from the County, the site does not appear to have any environmental constraints such as wetlands or identified natural features.

Transportation System

The Manufactured Housing designation has immediate access to 26 Mile Road which is a planned regional thoroughfare. Further, major expansions are planned for 26 Mile Road between M-53 and I-94 which includes the widening of the road.

MANUFACTURED HOUSING POLICIES

Should be:

- Located nearest the source of sewer infrastructure within the Township
- Developed with access to public sewer and water infrastructure
- Located along the Township's main transportation route, 26 Mile Road
- Located in close proximity to like uses or similar densities within the Township and adjacent Townships to the south and west
- Located in close proximity to shopping and job opportunities
- Designed in a manner which utilizes best management practices to reduce or eliminate storm water runoff

UNIQUE AREAS

Ray Center

The existing subdivision setting at the southwest corner of 29 Mile Road and Indian Trail is unique to the Township in terms of overall lot size for development. The majority of these properties are one acre or less in size and do not fit the standard requirements for residential lots in the Township. This causes several issues that must be addressed. The first being on-site septic. The Township must maintain awareness of the potential for septic failure and if such should occur, work with the Macomb County Health Department to rectify the situation (as appropriate). The second issue which is more easily addressed, is the properties' relationship to the Township's required setbacks, building placement, etc. Most likely the Township will need to create a separate zoning classification that will provide revised lot areas and setback requirements. This can be accomplished through the implementation portion of the Master Plan.



PLANNING IN THE INTERIM

The proposed Master Plan envisions the long term development of public sewer and water infrastructure within certain areas of the Township. This will require the development of sewer and water district(s), sewer and water ordinances, master plans, etc. It will likely take a number of years to realize the full build out of the planned sewer and water areas as depicted on the Master Plan. Therefore, interim planning measures must be established to transition the Township's sewer and water districts into not only those areas which are not intended for such service, but also to those areas where service may not yet be available but are planned.

The Township has traditionally planned the majority of its land area which is not intended to be serviced by public sewer and water for 90,000 square foot lots. This is done for a number of reasons, to accommodate well and septic systems, protect the existing character of the areas, to limit traffic on the Township's gravel roads, protect environmentally sensitive areas, among others.

For those areas shown on the Master Plan as being planned for; Single Family Residential Low, Single Family Residential Medium, Single Family Residential High, Mixed Use Residential, Multiple Family, and Multiple Family Residential Senior Housing, public sewer and water must be available to achieve the densities envisioned. The Plan does not promote the conversion of these properties to such high densities until such time that the infrastructure to service such is available.

In an effort to maintain the Township's rural areas but to also limit excessive development on the Township's roadways, stress on the groundwater system, the soils ability to absorb and process lechate from septic systems and the like, the Master Plan continues to designate all residential areas of the Township for 90,000 square foot lots until such time public sanitary sewer and water service becomes available. The Township does envision some of the expanded nonresidential areas to be developed prior to the development of public sanitary and water service being available. This is being accepted to help increase tax base to help pay for costs associated with the development of the sanitary and water service areas.

If properties develop within the planned sanitary sewer service area, it is the intent of the Master Plan to have those properties tie into the system as soon as the service becomes available to that property. However, it is noted that the continued use of the conventional septic system can likely continue until such time that the system has either reached the end of its lifespan or the property is redeveloped.

PLANNING WITHIN LIMITATIONS

With the higher planned densities within the Master Plan, the character of some of the areas within the Township will be changed or will need to change to accommodate such higher densities. As the sewer district develops, the development of the Township's water district will also need to be developed simultaneously. With known water problems in much of the Township, the planned higher densities will require a public water source to ensure all residents have access to water and that existing residents, outside of the planned district, on well systems don't lose their water source due to an overburdening of the ground water source.

In addition to the mutual extension of public sewer and water infrastructure, roadways within the planned sewer district will likely need to be improved as well. This includes the paving of roads that are currently gravel, the installation of designated turn lanes at intersections as well as subdivision and development entrances, and potentially new traffic signals to help regulate traffic.

Finally, as development continues to occur, the Township will need to ensure that Township services are able to be maintained at least at their current level. The influx of new residents planned within this Master Plan will require additional municipal facilities and staff for day to day operations, such as assessing, building, clerks office, etc. Further, additional fire fighter staff and facilities will be necessary to provide adequate fire protection to residents and businesses. Lastly, as noted within this Plan, the additional residents will also increase the need for additional park space based on accepted standards. The Township will need to determine if increased park space is viable based on financial constraints and property availability.

A NEW ERA

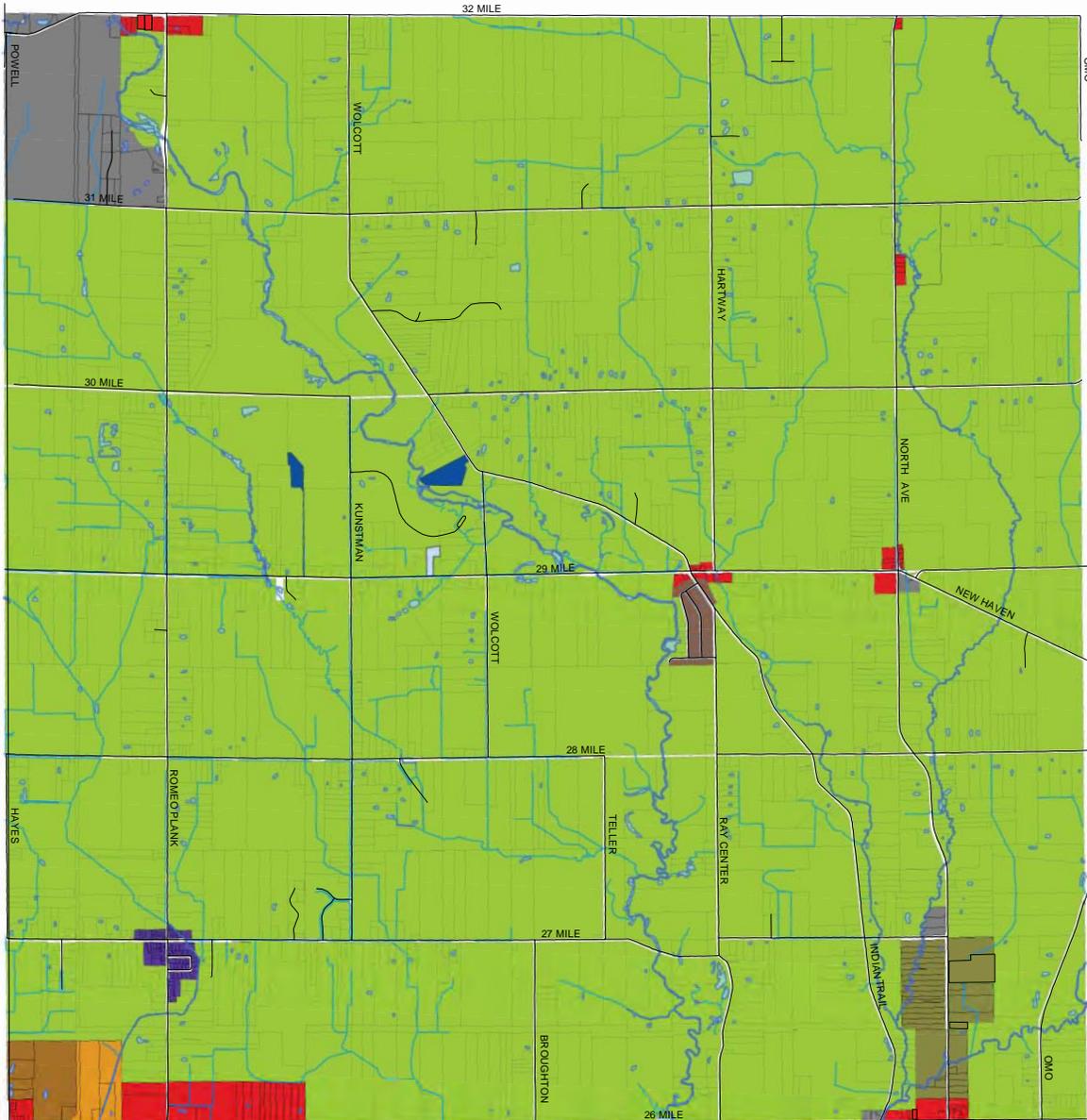
The Township has not traditionally had areas planned for municipal sewer and water and has planned the Township for larger lot single family residential purposes along with farmland preservation. The 2004 Master Plan designated a very small area for public sewer and water at the far southwest corner of the Township near the intersection of 26 Mile Road and Hayes Road. However, this Master Plan brings the Township into a new era of planning, designated a substantial portion of the Township as a public sewer district, drastically increasing densities from what they have traditionally been. In addition, the amount of planned nonresidential land use has been substantially increased from that which has been traditionally planned.

This increase in higher density residential land use as well as nonresidential use will change the character of the southern and western portions of the Township, while the northern and eastern portions of the Township will maintain traditionally planning practices of the Township in terms of large lot single family residential lots, limited nonresidential use and farmland preservation.

This change in planning policies will enter the Township into a housing market that is shared with communities to the west, south, and southeast, such as Washington, Shelby and Macomb Townships. These communities provide similar sized lots as what is planned within Ray Township's planned sanitary district and this competition may slow the development of the planned district. To be successful in the implementation of the district, Ray Township will need to separate itself from the surrounding communities providing additional amenities which draw residents to the community which in turn will allow for the proper development and maintenance of the planned sanitary district.

Illustration #8-3 PROPOSED INTERIM MASTER PLAN

Prepared By: Ray Township Planning Commission
Source: CP&M



LEGEND

- | | |
|----------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|
|  RESIDENTIAL |  COMMERCIAL |
|  MULTIPLE FAMILY |  INDUSTRIAL |
|  MANUFACTURED HOUSING COMMUNITYHP |  INDUSTRIAL RESIDENTIAL |
|  RAY CENTER |  MUNICIPAL |
|  DAVIS | |

Lone Oaks Estates Open Space Development



OPEN SPACE DESIGN - A Preferred Design

Overview

The concept of open space design uses methods to permanently set aside land within a development to help preserve the rural character and viable farmland found on the site. The gaining popularity of this type of development shows the changing attitude of the general public, as well as developers, towards preserving natural areas for future generations. It is important for communities to understand what the basis of this concept is, how these types of developments work, and, ultimately, how to use them to better the community.

The idea is a simple one; it permits the developer to build an allowable number of lots, but only on a portion of the developable land. This benefits the community by retaining open space and the character that the open space provides. Within open space developments, homes are typically set back a greater distance from the exterior roadways to create a greater spacial separation between the passerby and roadway, reducing the visual impact. The number of curb-cuts or driveways is also reduced by not allowing homes to be placed along the exterior roadways. Open space developments preserve environmentally sensitive lands and local ecosystems. This is done by reducing lot widths and, consequently, the lot size. The reduction in lot width is the driving force behind the reduced costs to the developer since infrastructure lengths are not as great. This type of development seems to benefit all three (3) sides of the development equation -- the developer, the community, and the environment. It should be noted that within southeast Michigan, and more commonly in Macomb County, the third element, the environment, is often left out of the development equation with conventional development.

Density

Within open space developments, the net density shall be no greater than that normally permitted within the zoning district for that specific acreage, and in no manner shall it negatively impact the site and/or its present residents, neighboring lands or residents, or the community as a whole.

The maximum "density" shall be the maximum number of lots permitted for the approved parallel plan. Density does not guarantee any specific number of lots from any individual parcel or group of parcels. Rather, density refers to the number of lots which can be platted on a given parcel, while meeting all of the criteria and regulations applicable to a conventional subdivision development. Such density calculations will specifically exclude right-of-ways, lakes, rivers, streams, floodplains, protected environmental resources, storm water, retention and detention areas, and any other site feature which precludes residential lot development. The shape and size of a parcel, the availability of access, and land assembly problems may also reduce the allowable density on a parcel or tract of land. In fact, a parcel of land needs to be designed as a conventional subdivision in order to determine the "lot yield."

TYPICAL OPEN SPACE RESIDENTIAL PLAN

Lot sizes can be reduced to minimum size required for an onsite septic system and well, increasing open space preservation opportunities

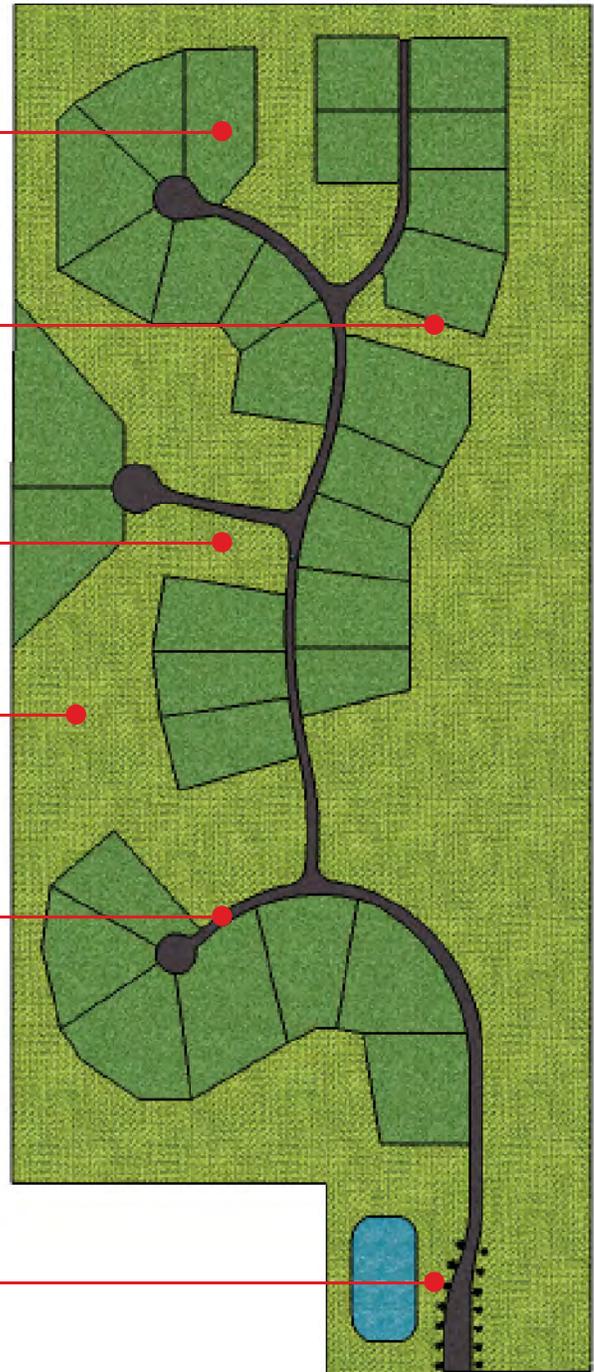
All lots back into or have direct access to open space preservation areas

Open space should be linked throughout the development and between developments to allow for contiguous open space corridors

Open space areas should be permanently maintained through a conservation easement or irrevocable deed restriction

Roadway widths can be limited to reduce impervious surface runoff and increase open space area

Significant setback from exterior roadways reduces visual impact of housing to passerby





SECTION 9.0 NONRESIDENTIAL PLAN

COMMERCIAL

Designations

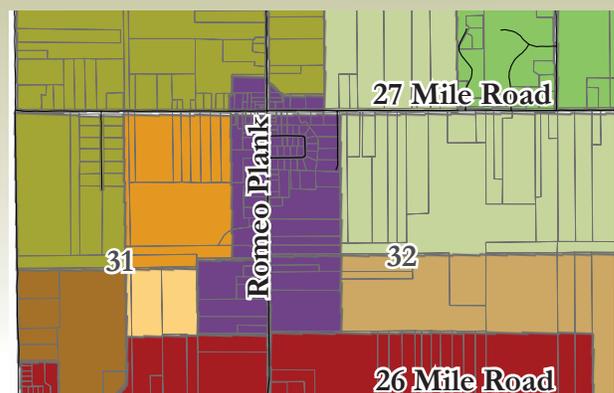
Local Commercial - Local commercial activities consist of those uses intended primarily to meet the daily retail and service needs of nearby residential neighborhoods. They may occur as freestanding buildings or be included in a smaller planned center sharing floor space, parking and access with other tenants. This category of commercial development tends to have trade areas located within a five-minute drive of the business. These uses are commonly located at the intersection of major roads, in close proximity to the neighborhoods that form their primary trade area.

Community-Wide Commercial - The Community-Wide Commercial land use classification includes commercial uses that serve a market area extending several miles beyond the site. Uses in this category will experience more intense auto and truck traffic than in local commercial areas. Typical uses in this commercial district include shopping centers occupying sites of approximately ten acres in size, restaurants, and auto-oriented businesses such as gas stations and drive-thrus.

Master Plan Allocations

In an effort to provide retail shopping for the residents of Ray Township, northern Macomb Township, and those traveling along 26 Mile Road, the Township has planned for an extensive commercial area near the southwest corner of the Township. This area is centered around the intersection of 26 Mile Road and Romeo Plank and extends essentially to the Township's boundary to the west and to the Luchtman/Kunstman alignment to the east. This area totals approximately 165 acres to the east of Romeo Plank, 70 acres at the northwest intersection, and an additional ten (10) acres at the 26 Mile Road and Hayes Road intersection. Macomb Township has planned the southwest corner of 26 Mile Road and Romeo Plank for approximately 27 acres of commercial land use, while the southeast corner has been developed with approximately two (2) acres of commercial land use.

Commercial land use has been planned along 26 Mile Road essentially from Hayes Road to Broughton Road and along Romeo Plank up to Davis



COMMERCIAL

Should (be):

- Located at major intersections within the Township
- Located with access to major roadways
- Developed in close proximity to high intensity use areas within the Township
- Provide appropriate buffering between commercial use and adjacent residential use/designation
- Designed in a manner which utilizes best management practices to reduce or eliminate storm water runoff

This 245 acres of commercial development will provide enough acreage to provide both convenience shopping for Ray Township residents, the surrounding communities and those traveling along 26 Mile Road.

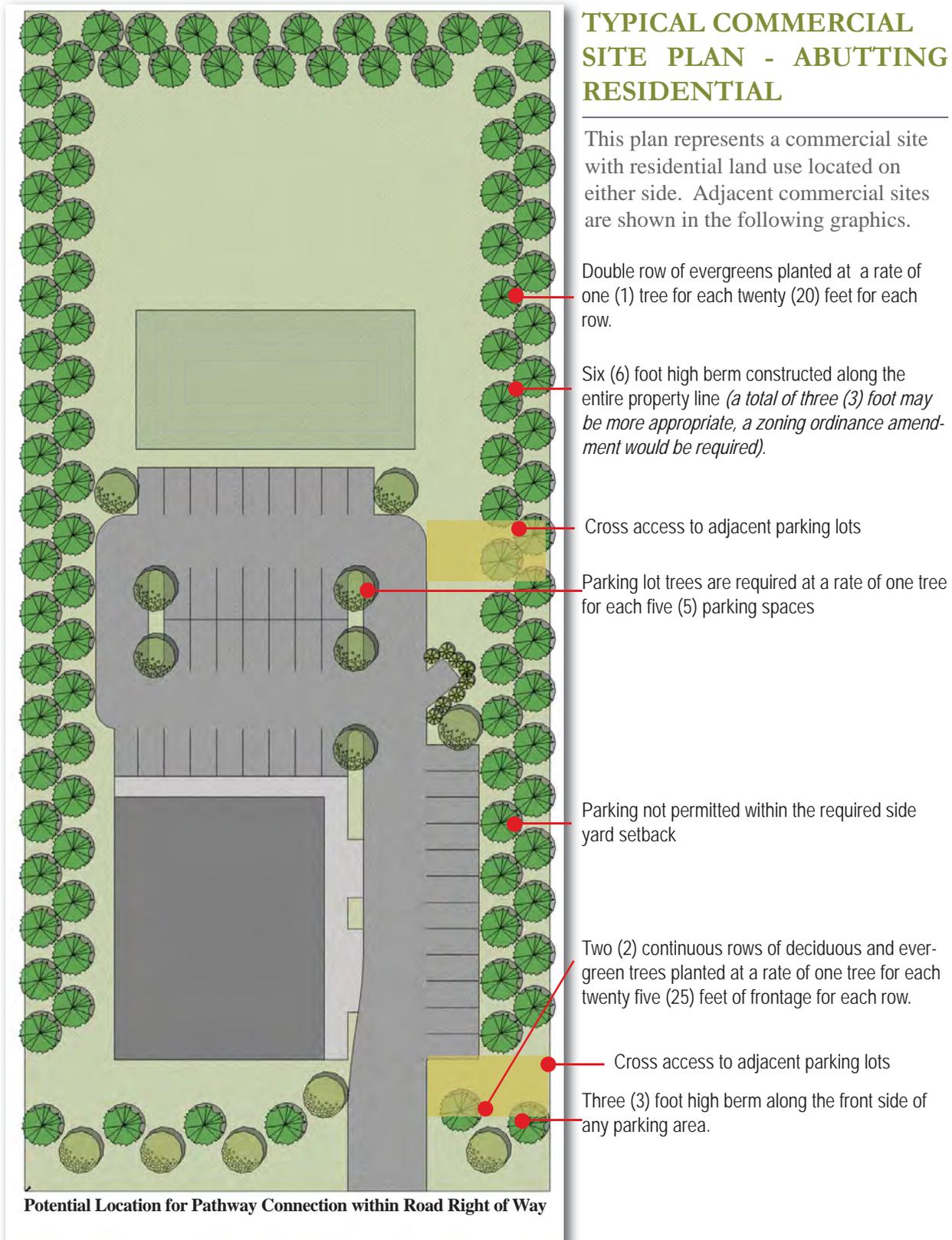
The commercial designation along 26 Mile Road is designed to end at the alignment of Luchtman/Kunstman. As noted within the Township Thoroughfare Section, the plan calls for the extension of Luchtman/Kunstman from 26 Mile Road to the north to 27 Mile Road to provide additional access to the area. As this road is developed, the commercial on the east side of this alignment will be limited to the immediate intersection. Land area further to the east is planned as Mixed Use Residential.

It is further envisioned that access or collector roads will be developed connecting Luchtman (as extended) and Romeo Plank as well as 26 to 27 Mile Roads. If developed as separate developments, the Township will need to ensure that appropriate cross access easements and rights of way are secured to ensure that these access roads can be developed. In addition, each site plan review will need to ensure proper alignment of parking and maneuvering areas to help further facilitate the alignment of access in this area. These additional access roads should be utilized to reduce the total number of access drives which are required along 26 Mile Road.

At the intersection of 26 Mile Road and North Avenue the Master Plan envisions a total of thirteen (13) acres of commercial land use on the northeast corner and 26 acres of commercial land use between North Avenue and Indian Trial. Nearly twenty six (26) acres is planned between North Avenue and Indian Trail. A total of four (4) acres is shown on the west side of Indian Trail. Macomb Township has planned only a small area for commercial on the west side of North Avenue to accommodate the existing convenience store. This commercial area then transitions into the Townships Industrial Residential designation

At the intersection of 32 Mile Road and Romeo Plank, the Plan envisions fourteen (14) acres on the southeast corner and an additional thirty five (35) acres on the southwest corner. The southwest corner is currently home to a gasoline service station. The area to the west will be somewhat difficult to develop for commercial purposes due to the presence of the River in that area. Great care will need to be taken in protecting the floodplain and ensuring water quality of the river. Surface water filtration systems should be utilized in this area to help ensure sediments, oils, greases and other particulates are removed before entering the River flow. Armada Township has planned for a total of fourteen (14) acres of commercial at this intersection with ten (10) acres being planned on the west side and an additional four (4) acres being planned on the east side.





The only other commercial node along 32 Mile Road is located at the North Avenue intersection. A total of two (2) acres located at the southeast corner. This corner is currently home to a convenience store and the remainder of the intersection on both sides is gas field storage and is unlikely to be utilized for commercial purposes. The land area to the north in Armada Township is planned for commercial purposes as well with 34 acres being designated for such.

The Township has also recognized the existing commercial area along North Avenue, just south of 31 Mile Road on the east side of the road. The Township however, does not envision any expansion of this area beyond what is currently planned, zoned and developed.

The intersection of 29 Mile Road and North Avenue has been planned for commercial land use since the adoption of the 2004 Master Plan. This intersection already has several commercial uses on the northwest and northeast corners. In addition, a commercial/industrial use is located on the southeast corner. The Master Plan calls for the continued existence of these areas for commercial purposes.

At the southwest corner, the Master Plan calls for an additional ten (10) acres of commercial land use. This area is bounded by the church to the south, limiting any further expansion to the south along North Avenue.

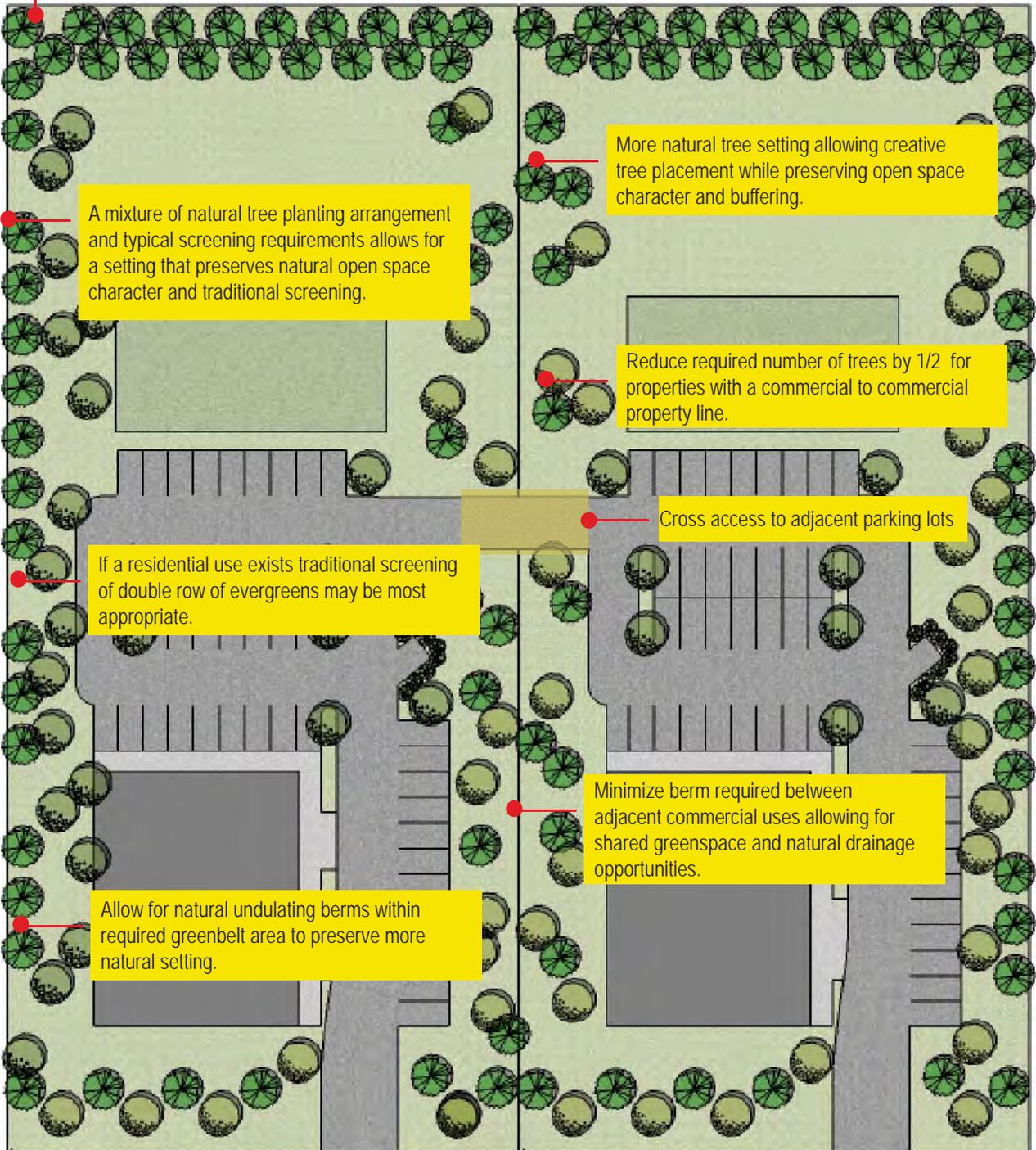
Finally, the intersection of Wolcott, 29 Mile Road and Indian Trail is planned for a small commercial node, approximately fifteen (15) acres. This planned area reflects much of the existing commercial land use which is currently located at this intersection. However, no major expansion of the land area is planned. The Township will need to review zoning standards for this area because of the excessively small lot sizes, minimal setbacks and relationship of buildings to the roadways. No major commercial developments are planned for this area based on the limited planned area and lot configuration.

Within all of the planned commercial areas, landscaping and buffering will be essential between commercial sites and abutting single, multiple family, and mixed use sites. The Township has developed substantial greenbelt requirements for those sites which include a double row of evergreens, and an earthen berm within a designated greenbelt. This landscape is also supplemented by parking lot trees requirements, substantial tree frontage requirements, and building landscape requirements.

The Master Plan suggests the review of these standards in an effort to ensure that the proper amount of landscaping is being provided, and that the landscaping is being provided in an appropriate manner providing natural looking appropriate screening.

ALTERNATIVE COMMERCIAL SITE PLAN - ADJOINING COMMERCIAL SITE PREFERRED

Double row of evergreens planted at a rate of one (1) tree for each twenty (20) feet for each row.



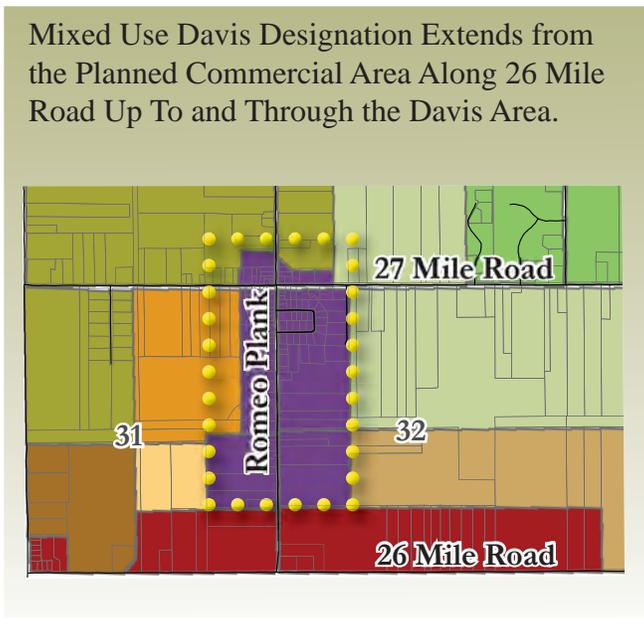
Potential Location for Pathway Connection within Road Right of Way

MIXED USE DAVIS DESIGNATION

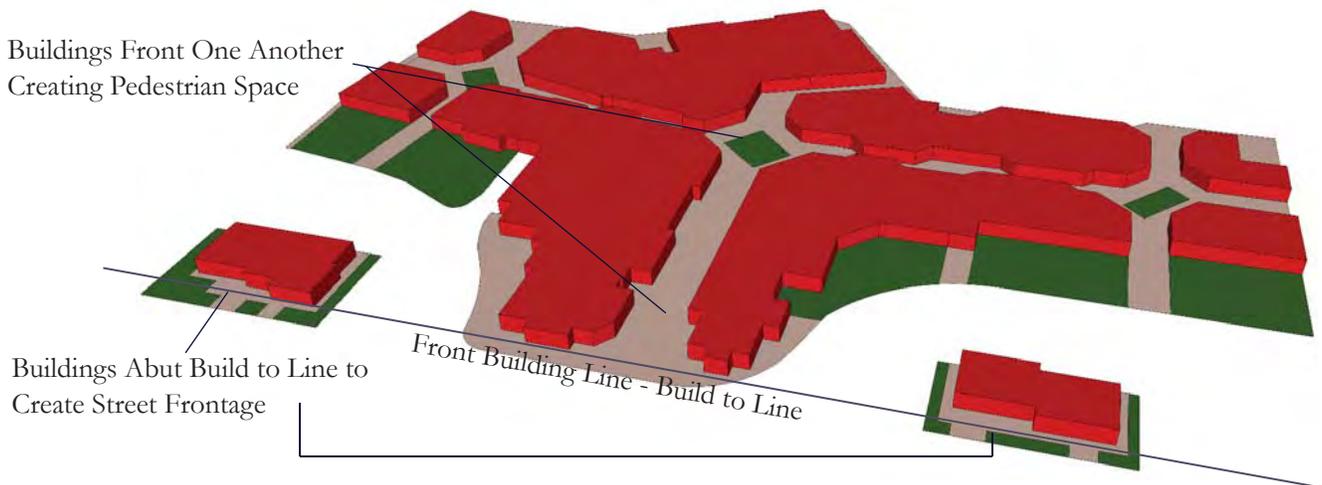
The Mixed Use Davis area anticipates a mixture of commercial, office and entertainment uses with upper story residential units. Davis was originally settled as the service center for the Township. This master plan designation encompasses the traditional limits of Davis and extends the same mixed use concept to the south towards 26 Mile Road.

The Davis designation extends approximately one quarter mile east of Romeo Plank and approximately one eighth of a mile on the west side. To the west, the Davis designation transitions into the planned multiple family and senior family residential designations. These densities will help further support the anticipated commercial and entertainment market for the area. The eastern edge of the Davis designation is the end of the Township's planned sanitary sewer district and is therefore abutted by planned larger lots of essentially 60,000 square feet.

The Mixed Use Davis designation transitions into one of the Township's main commercial areas located along 26 Mile Road. The intersection of Romeo Plank and 26 Mile Road is planned to become the Township's main commercial intersection and will provide the entrance into the Mixed Use Davis area.



As a part of the Master Plan implementation, new zoning districts will need to be developed to help permit the ideas and concepts of the Mixed Use Davis Designation. The districts should allow for the mixture of uses anticipated as well as minimal setbacks which would allow for flexibility in building design and placement.



Care will need to be taken with the transition of newly constructed buildings and uses as they relate to the existing building and uses within the traditional Davis area. This is a result of the very small properties located within the Davis area. Ideally, several properties will be acquired to allow for a more unified development scheme. However, if individual properties are developed, the Township will likely need to ensure that a number of easements for maintenance, access, parking and the like are in place.

Building design will also be crucial in the development of this area. Buildings within the Davis designation should be accommodating at a pedestrian scale, while still recognizing that accommodations for the automobile will still be necessary. Architectural details including building openings such as windows and doors as well as building facade deviation should be designed into each building. Further, buildings should be placed in such a manner that they create "spaces of interest" and form appropriate relationships on the site. Further, the Township Ordinance will need to create a build to line that will require buildings to touch the setback line, helping establish a more uniform streetscape, while limiting the amount of parking that will be visible from the roadway.

The use of pedestrian scale elements such as awnings, pedestrian scale lighting, wide sidewalks, benches and the like should also be incorporated into the design. The Township may wish to adopt a uniform theme for each of these amenities that can be incorporated in the Ordinance or Township policy.

An Ordinance format that may best suit this type of development area may be a form based code that provides a visual guideline/regulation depicting the Township's expectations for setbacks, building massing, use types, architectural character and the like.

Downtown Development Authority (DDA) or Corridor Improvement Authority (CIA)

As a part of the development of the Mixed Use Davis District, it may be appropriate to establish a non-traditional DDA or CIA. These authorities are permitted to capture tax increment increases in taxable value, levy millages via the Township Board, administer grants, purchase, lease, and sell properties within its boundaries, construct improvements to the physical environment within the defined district as well as advertise and promote the general area.

To establish a separate DDA or CIA, the Township would need to establish a separate ordinance creating such an authority and board, as well as define its actual boundaries. In addition, the DDA or CIA board would also have to develop and adopt a separate Tax Increment Financing (TIF) Plan which actually establishes the capture from increases in taxable revenue as well as includes the TIF Development Plan, which describes the proposed physical projects which the tax increment will be spent on.

However, consideration must be given to the overall impact of establishing a DDA or CIA in terms of revenue lost from the Township's general fund, since taxes collected within the DDA or CIA stay with the authority. A balance must be made between loss to the general fund and the gain of tax monies spent within the defined district.

INDUSTRIAL

Designations

Light Industrial - Uses within the category are intended to include less intense repair and assembly shops, warehousing, office and research facilities, and similar industrial uses. While it is expected that uses in this category will have a minimal impact on the environment, truck traffic will likely remain prominent.

Heavy Industrial - The Heavy Industrial Designation is intended to contain a more intensive type of industrial use. Manufacturing, assembly, and fabrication facilities are typical uses. These operations will most likely be large in scale and have a significant amount of outdoor storage. The northwest corner of the Township provides an ideal setting for this type of development due to highway access, limited residential use, and proximity to both the Romeo Ford Plant and Romeo State Airport.

Master Plan Allocations

Ray Township has traditionally planned the northwest corner of the Township for industrial purposes. The rationale for this was the proximity to the Romeo State Airport, the proximity to the commerce center of Romeo, the adjacent planned and zoned industrial areas of Armada and Bruce Townships, the Village of Romeo, and the proximity to the M-53 Bypass among others.

In this plan, the areas to the east and to the south of the Romeo State Airport have been planned for industrial purposes. This is largely consistent with State of Michigan Land Use Compatibility Matrix for those areas surrounding airports. Further, the extension of planned industrial land use to the south of 31 Mile Road also allows flexibility for allowing potential expansion/extensions to the Romeo State Airport as necessary. The southern boundary of this industrial area may also be impacted by the relocation of 31 Mile Road should that occur as a part of the Airport expansion. If relocated, 31 Mile Road would become the southern boundary of the planned industrial designation.

INDUSTRIAL

Should (be):

- Located in proximity to the Romeo State Airport
- Used as a buffer between airport runways and adjacent residential uses
- Provide appropriate buffering between industrial use and adjacent residential use/designation
- Manage the outdoor storage of goods and materials to limit visual and other impacts to adjacent residential and public areas
- Designed in a manner which utilizes best management practices to reduce or eliminate storm water runoff

Industrial Land Use
Romeo Airport, Existing
Industrial Development and
Proposed Extension South of
31 Mile Road



A total of 285 acres is planned for industrial land use south of 31 Mile Road. In addition to reviewing the land use policies south of the airport for compatibility reasons, the Township also planned this area for industrial purposes to help increase the potential tax base for the Township. The remainder of the industrial area, to the east of the Romeo State Airport totals approximately 180 acres. This total acreage is substantially larger than that planned in the Township's previous Master Plans. This is a result of the extension of the planned industrial area to the south of 31 Mile Road.

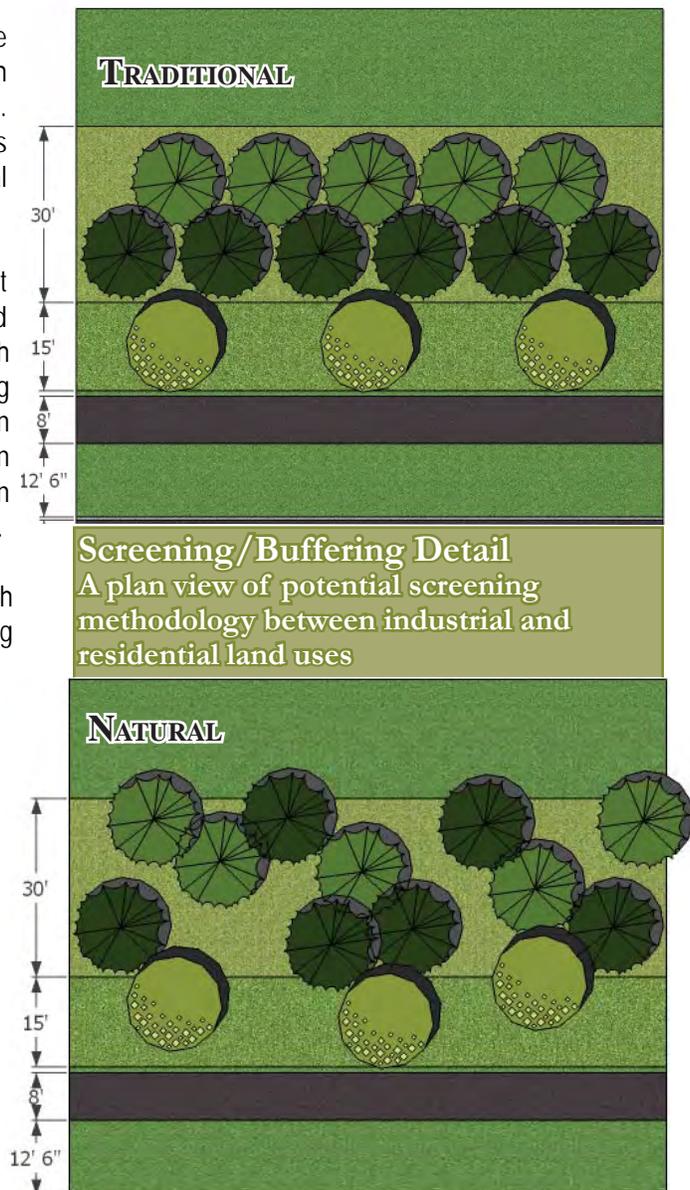
The actual area of the Romeo State Airport, shown on the Plan as public property, is also considered to be industrial in nature. This totals another approximate 265 acres of industrial property. If additional uses are to be developed on the site they should be of an industrial nature. Again, this would be consistent with the surrounding planned land uses in Ray Township as well as the surrounding Townships. However, the Township does promote the continued existence and operation of the Romeo State Airport in its current capacity.

Planned land uses in Section 7, to the south of the industrial area are Single Family Residential Low, which anticipates densities of approximately 1.2 units per acre. The immediate transition between the two different uses will need to be heavily screened by both the industrial users as well as the residential users.

A landscaping scheme similar to that shown to the right may be appropriate along the planned 31 Mile Road alignment to ensure that the residential uses to the south are properly screened and protected. The screening scheme could also be implemented along the southern industrial boundary of the planned industrial area, even if the 31 Mile Road alignment is not constructed, again ensuring the protection of residential uses to the south.

To the east, the industrial area is buffered by the North Branch of the Clinton River, as well as Romeo Plank along the southeastern corner. Care will need to be taken for any further development which may impact the river to ensure water quality is maintained.

To the west within Washington Township the planned land use is industrial along 32 Mile Road. The planned industrial designation extends south of 32 Mile approximately one quarter mile. The remainder of Section 1 within Washington Township is planned for Large Lot Residential which envisions densities of 0.5 to 1.0 dwelling units per acre. The Plan also calls for the potential development of a mixed use planned unit development (PUD).



The different land uses, intensities and land use locations are not specifically described. If commercial land uses are developed along 32 Mile Road as a part of the planned unit development proximate to the Ray Township boundary, it may be appropriate to review the potential for commercial land use at the intersection of 32 Mile Road and Powell Road. These uses would need to be carefully reviewed in relationship to the airport as well as surrounding industrial uses.

Further to the south in Washington Township along the south side of 31 Mile Road, the plan calls for Large Lot Residential, this again envisions densities consistent with 0.5 to 1.0 dwelling units per acre.

Within the planned industrial areas of Section 6 and 7, very little environmental impact on identified natural features such as wetlands and woodlands should occur. However, as noted above, the edge of the planned industrial area does abut the North Branch of the Clinton River which has been identified as a Priority Three Natural Feature area by the County's Natural Features Inventory. Any sort of water runoff from the planned industrial uses will need to be carefully filtered through retention/detention ponds or sedimentation ponds. The use of other Best Management Practices such as greenbelts, bioswales, etc. could also be utilized as further industrial development occurs.

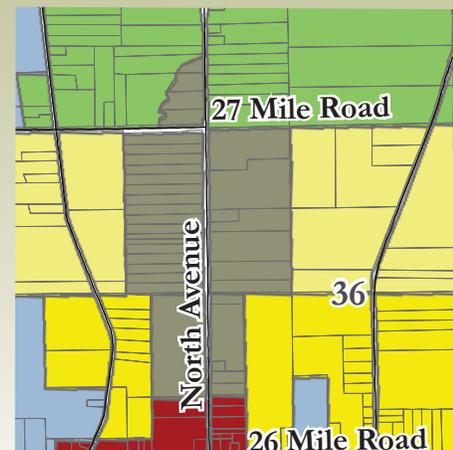
Industrial Residential

The industrial residential designation is designed to provide an alternative location for small scale industrial uses as well as those small scale commercial uses which are of a more industrial nature. These may include landscaping and contractors yards, building contractors, commercial truck drivers, as well as other uses which would require minor outdoor storage.

One factor in developing this area for such a designation is that North Avenue as well as 26 Mile Road are both designated as Class A roadways which would allow for the usage of the roadway year round with commercial type vehicles. The Township's Zoning Ordinance has already dedicated parts of this area for the storage of commercial type vehicles. Further, this area, since the adoption of the last Master Plan, has had the introduction of several minor industrial/commercial uses.

The further intent of the designation is to allow existing residential units to be maintained as a part of the industrial natured operation. However, no major subdivision development is foreseen in this area (corridor) of the Township. This is based on the introduction of the planned industrial and commercial uses and the natural incompatibility between those uses.

Industrial Residential Land Use
Along North Avenue - From
North of 26 Mile Road to 27
Mile Road.



This area may likely become the Township's second industrial area as the corridor develops. As this occurs, and more industrial type users enter the area and the area becomes more of a true industrial corridor, the Township may need to re-examine whether the long term presence of residential dwellings is appropriate.

The total land area contained within the Industrial Residential designation is approximately 228 acres. This includes approximately 110 acres on the west side of North Avenue between 26 and 27 Mile Roads, 105 acres on the east side and an additional 13 acres on the north side of 27 Mile Road.

The industrial residential designation extends essentially from 26 to 27 Mile Roads along North Avenue for a depth of approximately 1,300 feet along the northern half of the designation, while the southern half of the designation extends only approximately 880 feet deep on the west side of North Avenue and approximately 550 feet deep on the east side. The designation does extend to the north of 27 Mile Road to include the existing industrial uses along the west side of North Avenue up and to the river. This area includes an additional 13 acres of Industrial Residential property.

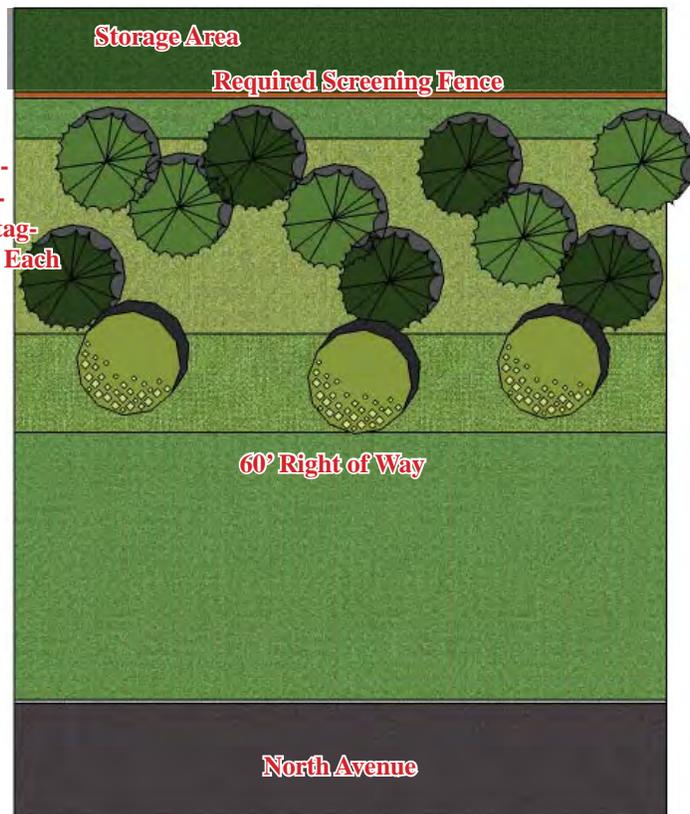
The planned densities within the industrial residential designation are essentially one (1) unit per lot. Again, not allowing large scale residential development, but allowing a single residence to be constructed or maintained in addition to the industrial operation.

As a part of the Master Plan implementation, the creation of a new zoning district or zoning district overlay will need to be developed which allows the coexistence of residential and industrial land uses on the same properties.

Further, care will need to be taken to ensure that the properties are properly maintained as this area of the Township is typically seen as one of the major gateways into the Township for those persons traveling northbound on North Avenue. Proper landscaping and setbacks will need to be maintained along the frontages for any form of outdoor storage or use areas. This will include major screening along the roadway to screen views of outdoor storage areas. Screening should consist of heavy evergreen planting as well as some form of fence enclosing the outdoor storage area. The fencing or enclosure is important due to the presence of residential units in this area and the inherent conflict between the two uses.

**Required Greenbelt -
Double Row of Ever-
greens - Naturally Stag-
gered - One Tree for Each
10 Feet**

Required Street Trees



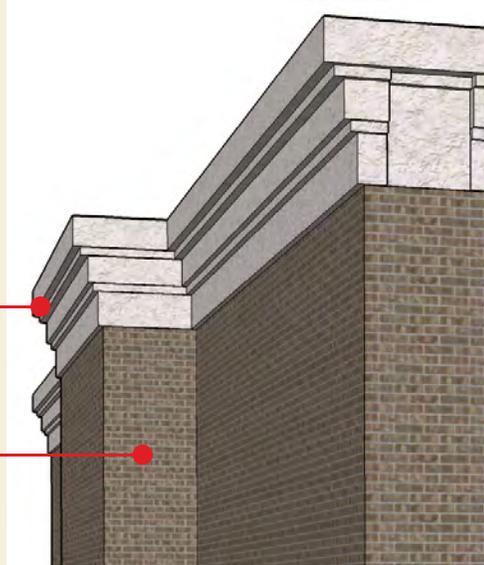
Finally, a large portion of this area is also prone to some minor flooding and some areas have been identified as potential wetland areas. These areas will need to be maintained / protected as appropriate to ensure that additional flooding is not caused by removal of flood storage area or the addition of impervious surface without proper stormwater storage. Care will also need to be taken to ensure that these environmental areas will not be damaged by either physical intrusion or by contaminated runoff or sediment. Filtration devices in addition to stormwater detention facilities should also be utilized to ensure such a situation does not occur.

DESIGN GUIDELINES

Architectural Details - Roofline Details & Facade Variation

Architectural detail along roof line - Proper use of EIFS or similar material

Facade breaks provided along all facades to provide visual interest



Architectural Details - Building Materials

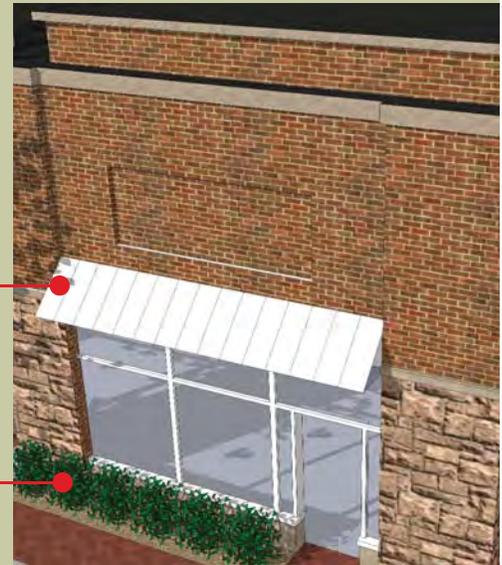
Diversity of Building Materials - Including use of Decorative Face Brick, Cultured Stone, EIFS Accents etc..



Architectural Details - Base Landscaping

Provide awnings above entry windows and to provide facade color variation

Landscaping, both evergreen shrubs and seasonal flowers should be planted at the base of the facade



Architectural Details - Pedestrian Amenities

Provide substantial pedestrian areas for both walking as well as congregating along buildings

Provide dedicated pedestrian crossing areas across all vehicle maneuvering lanes. Dedicated areas may be striped, a change in material, etc, and should be barrier free.



Architectural Details - Frontage Landscaping

Frontage landscaping should be provided to help frame the architecture of the building and enhance building details.



Architectural Details - Parking Details

On street parking should be provided along building frontages.

Different materials should be utilized between pedestrian walking areas and designated parking areas





SECTION 10.0

COMMUNITY FACILITIES PLAN

INTRODUCTION

Community facilities are an important part of a municipality's overall development and consequently need to be considered in the preparation of the Master Plan. Those community facilities considered in this report include schools, parks, utilities, libraries, and other municipal buildings.

Each of these facilities can have an impact on the community's future land use pattern and are important to the operation of a community. These facilities can also make a significant contribution to a community's overall identity. Often, the impression created by a particular community is directly related to its municipal buildings, schools, parks, libraries and other public buildings.

Some types of community facilities, particularly schools and parks, have appropriate size or need requirements that should be considered during the Master Plan process. Including community facilities in the Master Plan also offers a practical basis for allocating community funds during the capital improvement budget.



Ray Township Park
Looking out over the baseball fields from the parking lot

RECREATION PLAN

Recreational Development Standards

A community's recreation needs, both short and long-term, should be evaluated in relation to the amount of land available for recreation purposes, the types of facilities available at these sites and the range of programs and services offered to Township residents.

RECREATION	ACRES PER 1,000 PERSONS	IDEAL ACRES	SERVICE AREA (RADIUS MILES)
Neighborhood Parks	1.0 - 2.0	5 +	1/4 to 1/2
Community Parks	5.0 - 8.0	25 +	1 -2
Regional Parks	5.0 - 10.0	200 +	1 Hr. Driving Time

Several techniques are used for the purpose of projecting future needs. Frequently, these techniques rely on comparisons of existing facilities to commonly accepted standards. These standards present optimum conditions as a benchmark against which progress can be measured. The risk in using these standards is that they are not uniformly applicable to all communities and need to be adapted to the unique physical, social and economic conditions that characterize a specific community. The community's participation in other recreational facilities provided nearby also should be factored into the formula.

RECREATION TYPE	SPACE REQUIREMENTS	RECREATION AREA
Children Play Lot (with equipment)	1 per 3,000 persons	Neighborhood Park, School Playground and Community Park
Tennis - Outdoor Basketball - Other Sport Court	1 court per 10,000 persons	Neighborhood Park and Community Park
Swimming	1 outdoor pool per 25,000 persons	Community Park
Picnicking	1 table per 200 persons	All Parks
Softball	1 field per 5,000 persons	Community Park

Recreation Plan

The following analysis offers an evaluation of anticipated future recreation needs on the basis of commonly accepted planning standards. These estimates, however, need to be evaluated in relation to the Township's existing and proposed development pattern and the availability of other recreation opportunities in the Township and in nearby communities.

As population and housing growth continue, there is frequently an expectation on the part of residents for those services customarily available in a more suburbanized setting. The availability of parks is among the type of services that is frequently requested and expected by residents. Parks and recreation services can also make a significant contribution to the community's overall quality of life.

The purpose of the Master Plan is to consider the Township's recreation needs on a long-term basis. The longer view is necessary, especially for considering land acquisition needs. Land required for any future park sites should be identified and acquired before choice sites are committed to other uses. Acquisition of needed acreage at a later date, when the development pattern is set, is frequently more expensive than when it is done earlier in the development process.

While the Plan anticipates a broader role for the Township as a recreation provider, it recognizes the financial limitations accompanying such an expanded role. In order to lessen the financial burden of an expanded recreation role and to avoid an unnecessary duplication of services, the Plan promotes cooperative arrangements with other recreation providers, especially the Township's four (4) resident school districts, Huron-Clinton Metropolitan Authority, and the State of Michigan.

Neighborhood Parks

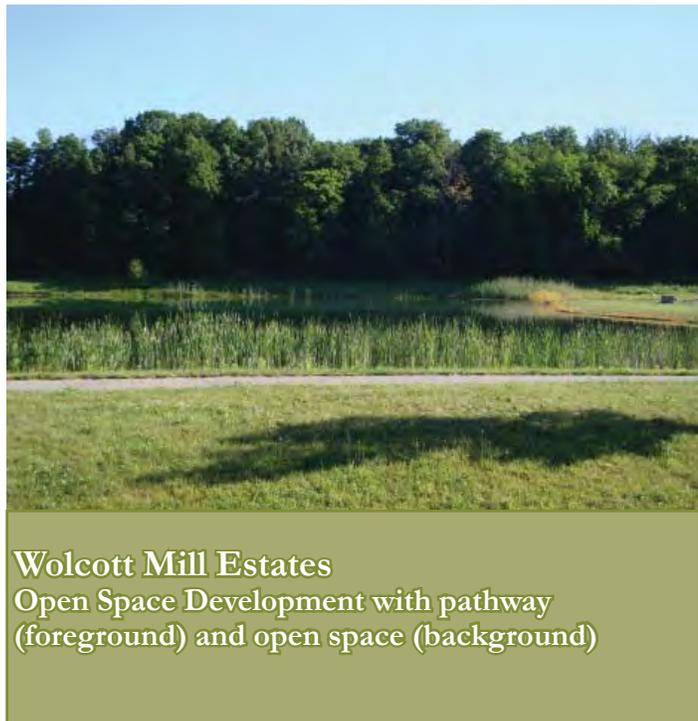
These sites are intended to be areas for intense recreational activities, such as field games, court games, crafts, playground apparatus areas, skating and picnicking, among others. This type of park is optimally suited to serving a neighborhood consisting of up to 5,000 people and having a service radius of one-quarter to one-half mile. The desirable size of such a facility is approximately five acres. Between one and two acres of neighborhood park land should be provided for each 1,000 persons anticipated to reside within a given neighborhood area. Such facilities should be easily accessible to the neighborhood they are intended to serve, with consideration given to pedestrian and bicycle safety. This type of park may be appropriately developed in conjunction with an elementary school.

When neighborhood parks are developed in conjunction with elementary school sites as shared school/park sites, they have many inherent advantages. These include reduced land costs and economies of scale relative to both development and maintenance. Joint use arrangement avoids duplication of services and requires less total acreage than developing each facility independent of one another.

Applying the above standards to Ray Township, with a current (2000 census) population of 3,740 persons, a total of 3 ½ - 7 acres of neighborhood parkland is necessary. Applying these same standards to the projections for population in the year 2035 provided by SEMCOG, a total of 6 - 12 acres of neighborhood parkland will be necessary.

These totals represent only recommended standards and may not be sufficient based on community standards or expectations. These parks are intended to be a minimum of five acres in size and actually service a relatively small physical area. These parks are more typical of a more urban setting such as the planned sanitary sewer areas of the Township rather than the more rural setting of the northeast half of the Township. With larger lot sizes (90,000 square feet), many recreation functions which would normally occur at a neighborhood park can likely take place at a single residence.

Further, with the development of open space residential communities within the Township, the need for public neighborhood parks may be further reduced. These residential communities are typically developed with a path, play structures and the like. These are the same amenities that are typically found in a park provided by the Township. Community park standards may be more applicable to Ray Township due to the size of the park and the typical amenities provided.



Wolcott Mill Estates
Open Space Development with pathway
(foreground) and open space (background)

Community Parks

These parks should customarily include facilities such as playground equipment for children, picnic tables, walking paths, ballfields, open play areas, landscaping and tennis courts, among other improvements. The design of each site should be related to the characteristics of the selected site and the preferences of the residents being serviced. They may also feature an area of natural quality for outdoor recreation activities, such as walking, viewing, sitting and picnicing. Community parks are intended to serve several neighborhoods located within a one to two-mile radius and should be easily accessible to these neighborhoods.

Community-wide recreation needs are examined by comparing anticipated recreation needs to the availability of existing Township or school-operated facilities. Ideally, community parks should be provided at a ratio of between five and eight (5-8) acres per 1,000 persons. Applying these standards, a population base of 3,700 persons yields an estimated demand of between 18 and 30 acres. Continued growth will escalate this demand further. For instance, a total projected population of 6,101 persons would generate the need for approximately 30 - 48 acres of community wide recreation space. The Township Hall recreation site would constitute a community park site. The Township Hall recreation site provides approximately 17 acres of land or half the demand. It should be noted that build out projections for the Township, upon completion of the sanitary sewer district would be approximately 36,000 persons which would require upwards of approximately 180 to 288 acres of community park land, at least ten (10) times the current park land acreage.

The Master Plan breaks the Township into four (4) main recreation planning areas. These areas can be generally defined by the areas west of Wolcott Mill Metropark, north and south of 29 Mile Road, as well as the areas east of Wolcott Mill, again north and south of 29 Mile Road. It is the direction of the Recreation Department to provide one community level park in each of these sections. These four community parks would be in addition to the centrally located Township Hall recreation site. This corresponds with the service area (1-2 mile radius) typically associated with the this type of park. As the sanitary sewer district develops, additional community park land will be necessary in the area serviced by sewer. The Township may wish to prioritize acquisition of property in these areas.



Township Park Site
Toddler Play Area

The Township Hall site provides a number of different play structures including one newly constructed play structure, several baseball fields, a basketball court, several picnic pavilions as well as the Township's senior activity facility. The park has a relatively thorough sidewalk and pathway system allowing access to a majority of the facilities for all users. The Township has completed a walking path around the exterior perimeter of the park which also allows for a greater number of users. Additional access points to the baseball fields, and several of the play structures will be necessary to allow barrier free access. A new play structure has also been added which services older children. Several new pieces of play equipment could be added to those currently in the park to provide a larger array of structures.

The Township's former transfer station is another alternative for redevelopment of Township property into usable parkland. The transfer station abuts the planned 29 Mile Road pathway as well as the potential pathway within the 29 Mile Road ITC Utility Corridor. With its location, this potential park could be available to a number of different users on a more regional scale.

One additional park site may be the potential Township property which is part of a consent judgement for the property at 28 Mile Road and Hayes Road. While the main function of this property is for a potential fire sub station, the acreage available may allow a dual function for the site. Consideration would need to be given to having a play area at such a facility and how they would interact.

Regional Parks

The location of Wolcott Mill Metropark in Ray Township offers numerous benefits for the long-term preservation of open space and farming within the community. The foremost advantage of the park is the varied activities available at the park. Park activities ranging from play structures, walking and equestrian paths as well as the operational farm provide unique recreational opportunities to the residents of the Township. Additionally, the Huron-Clinton Metropolitan Authority's extensive land holdings in the Township (approximately 2,625 acres) effectively preserve many of the community's unique natural features, including the North Branch of the Clinton River and the woodlands and wetlands associated with this water course. The Park, therefore, makes a significant contribution to maintaining the Township's rural character. For these reasons, the Master Plan encourages the continued use of Wolcott Mill as a regional recreation facility. The Master Plan for Wolcott Mill is included and adopted as a part of the Township's Master Plan. The Master Plan does anticipate that the main entrance for the Park will likely be developed along 26 Mile Road. Twenty six (26) Mile Road will provide easier access to and from the park for those users coming to the Park from outside of the Township. The Township maintains its past practice that all improvements within the boundaries of the park would appear before the Township Planning Commission for formal approval.



WOLCOTT MILL metropark

Pedestrian/Bicycle/Equestrian Circulation

As noted in the previous Township Master Plan, as the growth pressures within the Township continue to grow over the long term, as well as the trend for communities to provide recreational trails as a means of improving quality of life, it is the goal of the Township to provide walking paths in certain areas. It is envisioned that these pathways would either be constructed as a part of roadway development, expansion or as a part of the County or region's larger pathway system. The former would be constructed as funds become available for roadway improvements. The latter would likely be constructed as a part of an overall grant or other funding mechanism. Obviously being part of public improvements funded with public dollars, the pathways should be developed in accordance with the requirements of the State of Michigan for multipurpose pathways.

The plan envisions the development of a path through the Detroit Edison Corridor that runs north of 29 Mile Road through Washington and Ray Townships. This path will also tie the Township's former transfer station to a larger network of parks and pathways. This tie in, would likely promote the idea of cleaning up the former transfer station and converting such into a Township park.

The 26 Mile Road pathway was carried in the previous Ray Township Master Plan. This pathway would provide a connection between Stony Creek to the west and the southern tip of Wolcott Mill and Wetzel State Park to the east.

Development of a pathway system along the remainder of the gravel roadways or other paved roadways is not envisioned within the time frame of this Master Plan. In addition, it would be undesirable to require pathways along these natural, typically heavily vegetated roadways.

HCMA North - South Connection

The Master Plan also envisions a much less defined pathway along the North Branch of the Clinton River through the Wolcott Mill Metropark. This pathway system would help provide the north-south connection between the Metropark as well as the Macomb Orchard Trail. This path would likely be developed in conjunction with the Huron Clinton Metropark Authority since the trail would benefit both parties and the trail would be developed mostly on HCMA property. Careful attention will need to be given regarding the placement and construction of such a trail due to the presence of substantial floodplains and wetlands along the entire Clinton River corridor.

Macomb Orchard Trail - Grand Trunk Railroad

In the fall of 1998, the Railroad was granted an abandonment of the rail line starting at the southern end of Washington Township and running north and east to Richmond Township. The trail provides a link at a larger regional scale by providing a connection from Richmond to the northeast via the Bridge to Bay Trail and Oakland County and the Paint Creek Trail System to the southwest.

Ray Township does not directly connect to the Macomb Orchard Trail; however, it is envisioned through the Master Plan that a connection to the Trail will be provided near the intersection of 32 Mile Road and Romeo Plank. At this point, the Township is only approximately one mile from the proposed trail. A coordinated effort with Armada Township would need to be established to complete the link along Romeo Plank to 33 Mile Road.

Illustration #10-1 NON-MOTORIZED TRAILWAYS PLAN - RAY SPECIFIC

Prepared By: Ray Township Planning Commission
Source: Macomb County Planning & Economic Development

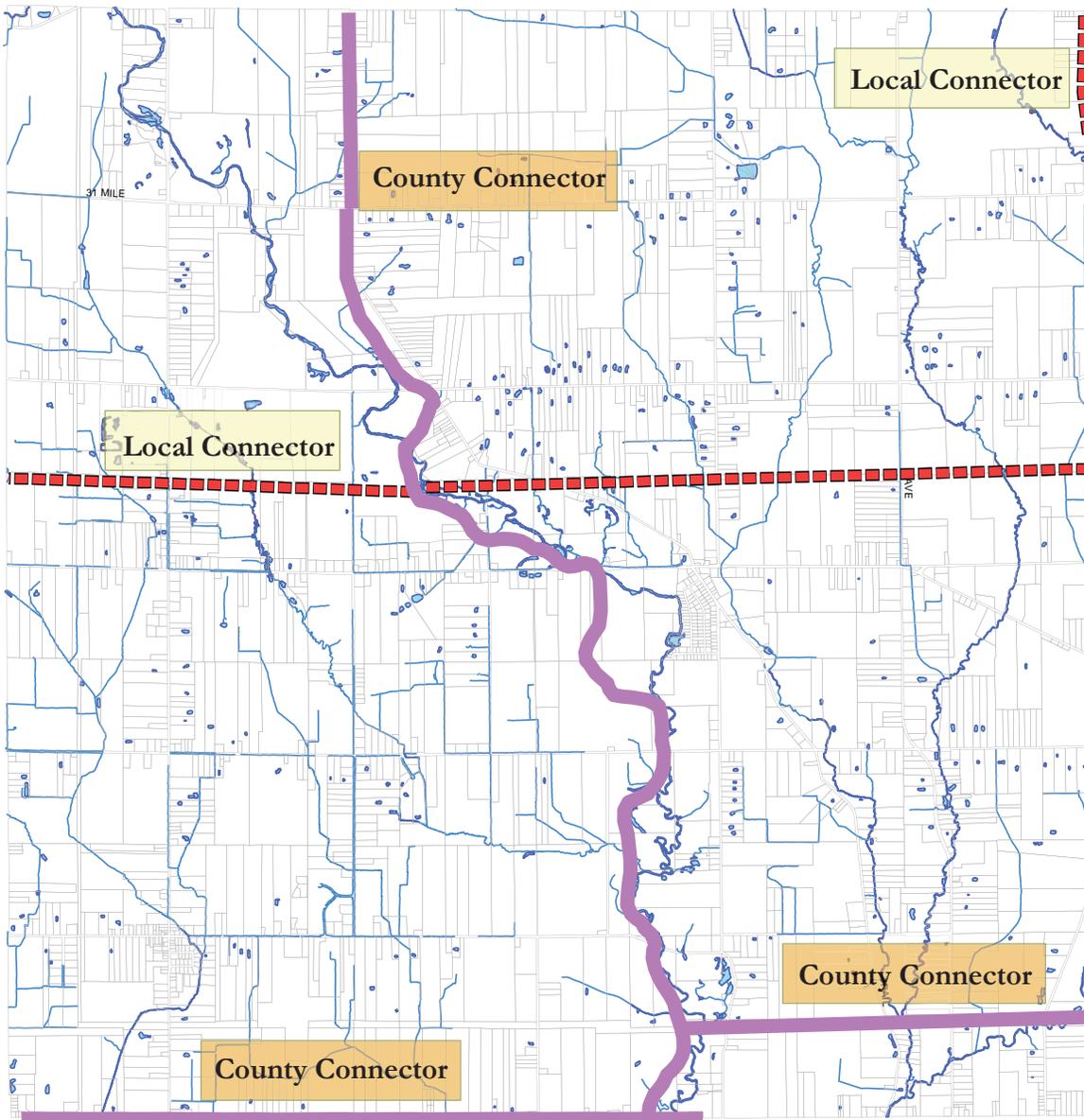


Illustration #10-2 MACOMB COUNTY TRAILWAYS PLAN - COUNTYWIDE

Prepared By: Ray Township Planning Commission
Source: Macomb County Planning & Economic Development



Macomb County Trailways Master Plan

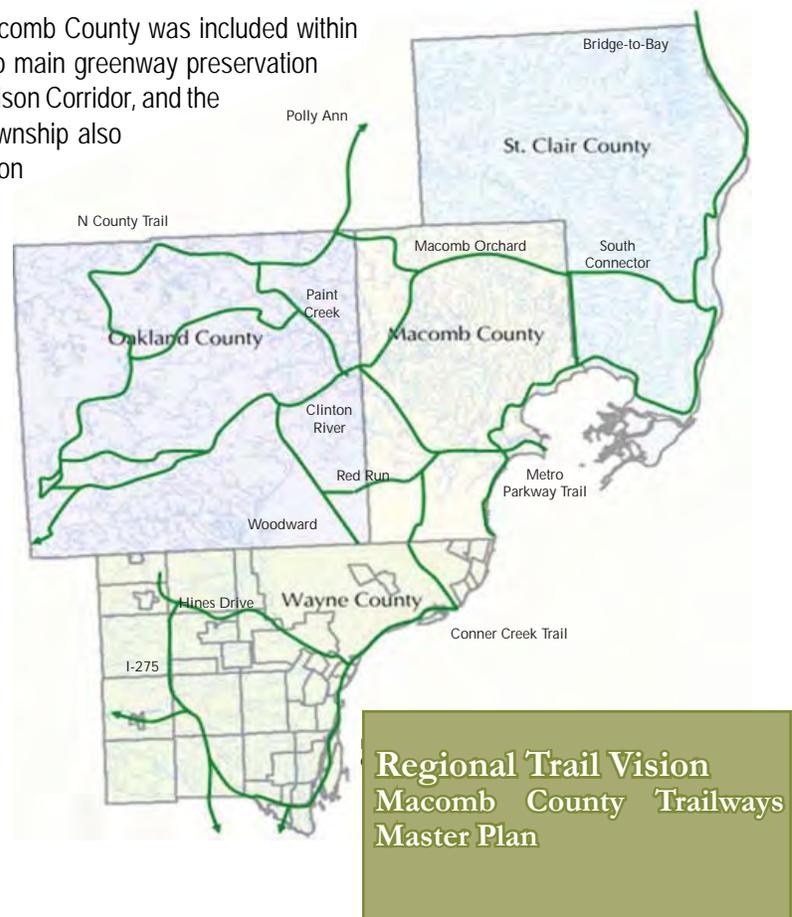
In 2003-4 the Macomb County Department of Planning & Economic Development developed a comprehensive trailways plan for the County. This was done with the hopes that a more unified approach to trailway and greenway planning be implemented at the local level. The Trailways Plan depicts three (3) main trails/pathways within Ray Township. The first being the 26 Mile Road corridor trail. This trail as shown would follow along 26 Mile Road from Stony Creek to the west to Wolcott Mill in Ray. At Wolcott Mill the trail transfers into the Detroit Edison Corridor one half mile north. The second trail is the trail north of 29 Mile Road from the Township's western boundary running eastward into Wolcott Mill and the Township Park. The third and final trail is the north-south connection running through the HCMA property from 26 Mile Road to 31 Mile Road and then northerly along Wolcott Road into Armada Township and ultimately to the Macomb Orchard Trail.

Greenways Vision

In late 1998, a joint effort between the Rails-to-Trails Conservancy, RTC's Michigan Field Office, and the National Park Service Rivers, Trails and Conservation Assistance Program, in conjunction with a number of other organizations yielded the publication "A Vision for Southeast Michigan Greenways." Within this publication, the seven counties which make up Southeast Michigan, were inventoried and analyzed as to their potential for greenway and environmental preservation. A large portion of the preservation areas dealt with existing rail corridors and existing watercourses.

Ray Township along with the remainder of Macomb County was included within the study. Within the Township, there are two main greenway preservation areas; the first area being the Central Detroit Edison Corridor, and the second being Wolcott Mill Metropark. The Township also contains small portions of the East Branch Coon Creek Project.

The Greenway Visions Plan suggests the importance of the local level of government as being the body, which has the most key role in implementing the projects outlined within the Plan. It is indicated that the visions and goals of the Greenway Plan be incorporated into every necessary bureaucratic level to ensure proper involvement and feedback during the entire process.



Parkland Acquisition

The Township currently has several uses or other land areas, which if would ever become available for purchase, could be beneficial for acquisition. These include the site known as the "Field of Dreams" site location at the far southeast corner of the Township, the B&BS Gun Club located north of 31 Mile Road near the center of the Township, the Belojski property located along North Avenue, and the "Cascades" along the west side of Romeo Plank between 31 and 32 Mile Roads.

The Field of Dreams is a private facility including an improved baseball field and pavilion area. The B&BS Gun Club is currently held under private ownership and should that ownership ever cease, the Michigan Conservation Club would then take ownership. The Township may elect at that time to reach an agreement for the transfer of the property. The "Cascades" was formerly a part of a private residential development (which was never constructed) which created a series of improvements along the North Branch of the Clinton River, created dams, lakes, etc. This area could provide the Township with an excellent opportunity to create a passive park system within the northwest corner of the Township. Another potential land acquisition site is the remaining land for Wetzel State Park which lies in Ray Township. This small land area lies to the east of Omo Road at approximately 27 Mile Road.

Several of these areas are within the planned sanitary sewer service area and would provide additional neighborhood or community wide recreation space. Again, as the sanitary sewer service area develops the Township should provide a substantial increase in available parkland to match typical planning standards.

As a part of acquisition, the Township would need to secure substantial funding through either a millage or other outside source such as donation, grant, etc.

Recreation Administration and Funding

Currently, the Township employs a recreation coordinator who is in charge of recreational programming and facilities. The Township also employs a Senior Recreation Director. This includes general recreation as well as senior activities. The Recreation Director works in conjunction with the Parks and Recreation Commission. The Parks and Recreation Commission is made up of five (5) community residents, which also includes one Township Board Member. The Commission is responsible for the delegating of available funds (as approved by the Township Board), organizing activities such as the community picnic, Easter egg hunt, Fire Department ladies auxillary, Christmas tree lighting, etc. Physical improvements approved by the Recreation Commission must also appear before the Township Planning Commission.

GREENWAY PLANNING

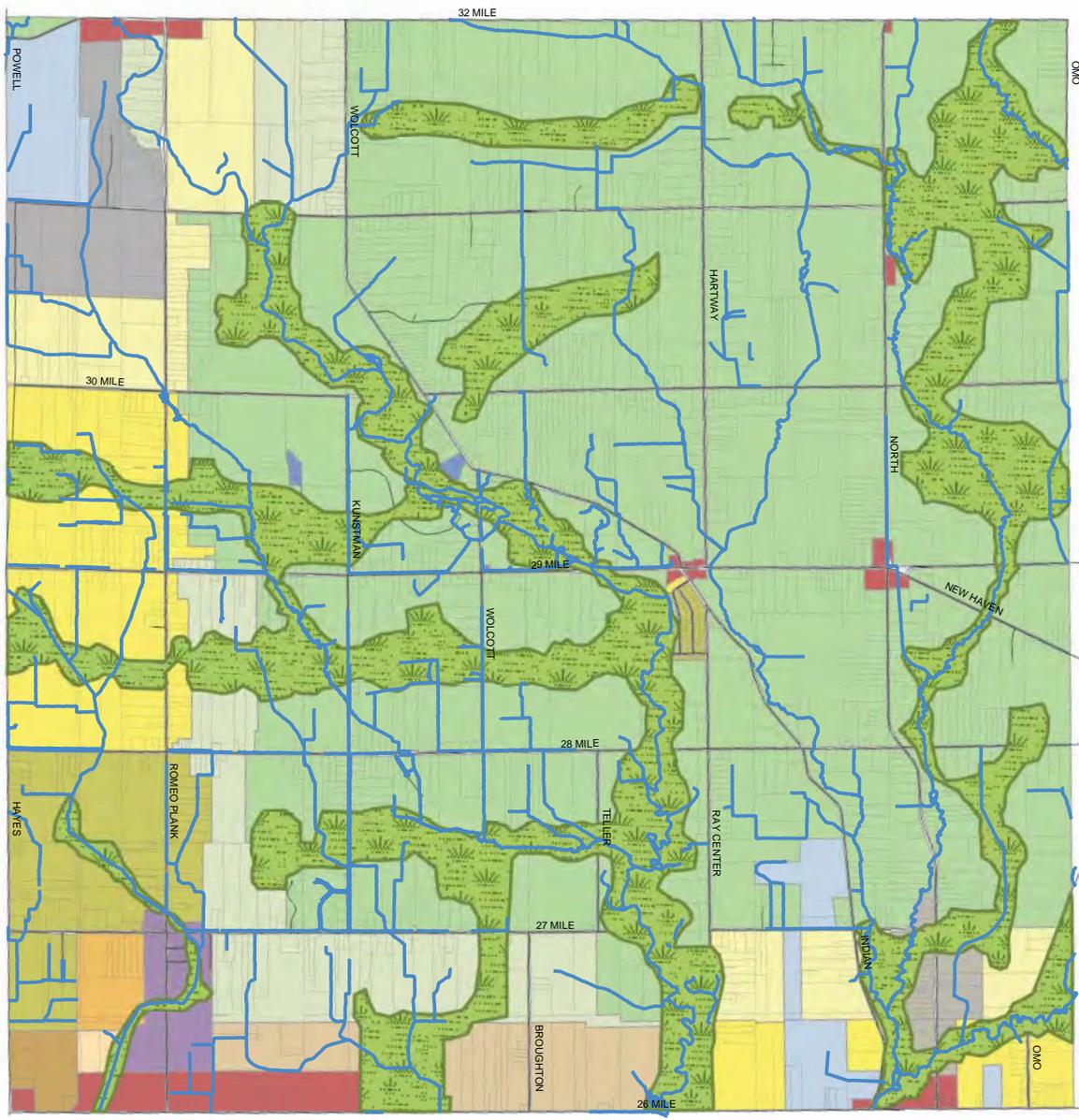
As a part of the overall development of the Master Plan, the Planning Commission recognized that the higher density residential uses as well as the higher intensity nonresidential uses, associated with the development of a planned sanitary sewer district would typically yield a much different development style than traditionally seen in Ray Township. This type of development may not preserve the same amount of open and greenspace found throughout the Township. Therefore, the Commission recognized the need to address how development within the Township was to occur, both inside and outside of the planned sanitary sewer district.

The concept of open space residential development was not new to the Township or the previous master planning efforts, as the Township has always been at the forefront in terms of innovative planning techniques. Therefore, the Commission simply transferred the concept of open space design to commercial and industrial land planning and that these sites should be developed in the same manner as residential sites within the Township. Further, that the idea of interconnecting open and greenspaces regardless of land use allowing these areas to be developed as preservation corridors or as hike/bike paths.

The Master Plan supports the development of open space requirements for nonresidential developments which will mandate that open space areas be preserved on a site by site basis, the key is then for the Township to review the alignment of these preserved open spaces as development continues to occur to ensure connectivity between sites.

Illustration #10-3 GREENWAYS

Prepared By: Ray Township Planning Commission



TOWNSHIP HALL

The current Township Hall is housed in what was originally the Ray "Union Church" built in 1869. In the 40's attendance lagged at the church and the trustees decided to abandon the church and to turn the property over to the township to be used by its residents. On June 6, 1950 a formal agreement was signed between the church trustees and the trustees of the Township. The Township Board began holding meetings at the hall in 1968 and in 1973 opened a small office in the back room. In 1996 the Ray Township Senior Center addition was built on the back of the hall. The interior of the old hall was renovated in 2001 to provide much needed office space for the Township Hall. *(Taken from the Ray Township website)*

The Master Plan encourages the preservation of the Township Hall and Senior Center in its current location along with the Library and Township Park as a focal point of the community. At this time, no additions to the Township Hall are envisioned for the timeframe of the Master Plan. This can be reviewed as a part of the five year review of the Master Plan.



Ray Township Hall

LIBRARY

The Township Library is located in a former one-room schoolhouse that was built in 1863. The "Mill School" served the community to educate the children of Ray Township for ninety-one years. The ownership of the school and property was transferred to Ray Township in 1953. The building was reconditioned in 1983 and opened as the Ray Township Library. The library provides residents with over 13,000 books, DVD's, videos, magazines, etc. *(Taken from the Ray Township website)*

Much like the Township Hall, the Master Plan encourages the preservation of the library and the continued improvement of the library as a key component to the overall municipal campus along with the Township Hall and Park. The Master Plan does not envision any expansions to the library during the timeframe of the Plan. The Township is currently refinishing the outside of the building.



Ray Township Library

SCHOOLS

While the Township has no control over school operations or functions, school needs, particularly the location of schools, impact the community's overall land use plan. Schools are, therefore, considered as part of this analysis for coordination purposes.

Four school districts serve Ray Township. The four school districts are as follows: Romeo, Utica, Armada and New Haven. Currently only the New Haven School District operates a school facility within Ray Township.

The Township is currently home to the E.F. Seifert Elementary School and the New Haven Middle School is being constructed (2009-2010). Both of these schools are located along 26 Mile Road. The New Haven School District does anticipate future construction of additional school facilities at the same property(s) as the middle school as the need arises, building needs arise and monies become available.



The Master Plan suggests that residential land use densities are increased around school facilities reducing the need for transportation and using the school as a focal point for neighborhood development. The Future Land Use Map provides for these increased densities around the current and planned school sites.

SEWER

The Township has planned an overall sanitary sewer district to service the western portion of the Township. The sanitary sewer service area totals approximately 6,600 acres and stretches from 26 Mile Road to 32 Mile Road from the Hayes Road alignment to just east of Romeo Plank. In addition, the sanitary sewer district extends eastward along 26 Mile Road from Hayes Road to Omo Road. The depth of the district along 26 Mile Road ranges from one half (1/2) mile to approximately one (1) mile in depth.

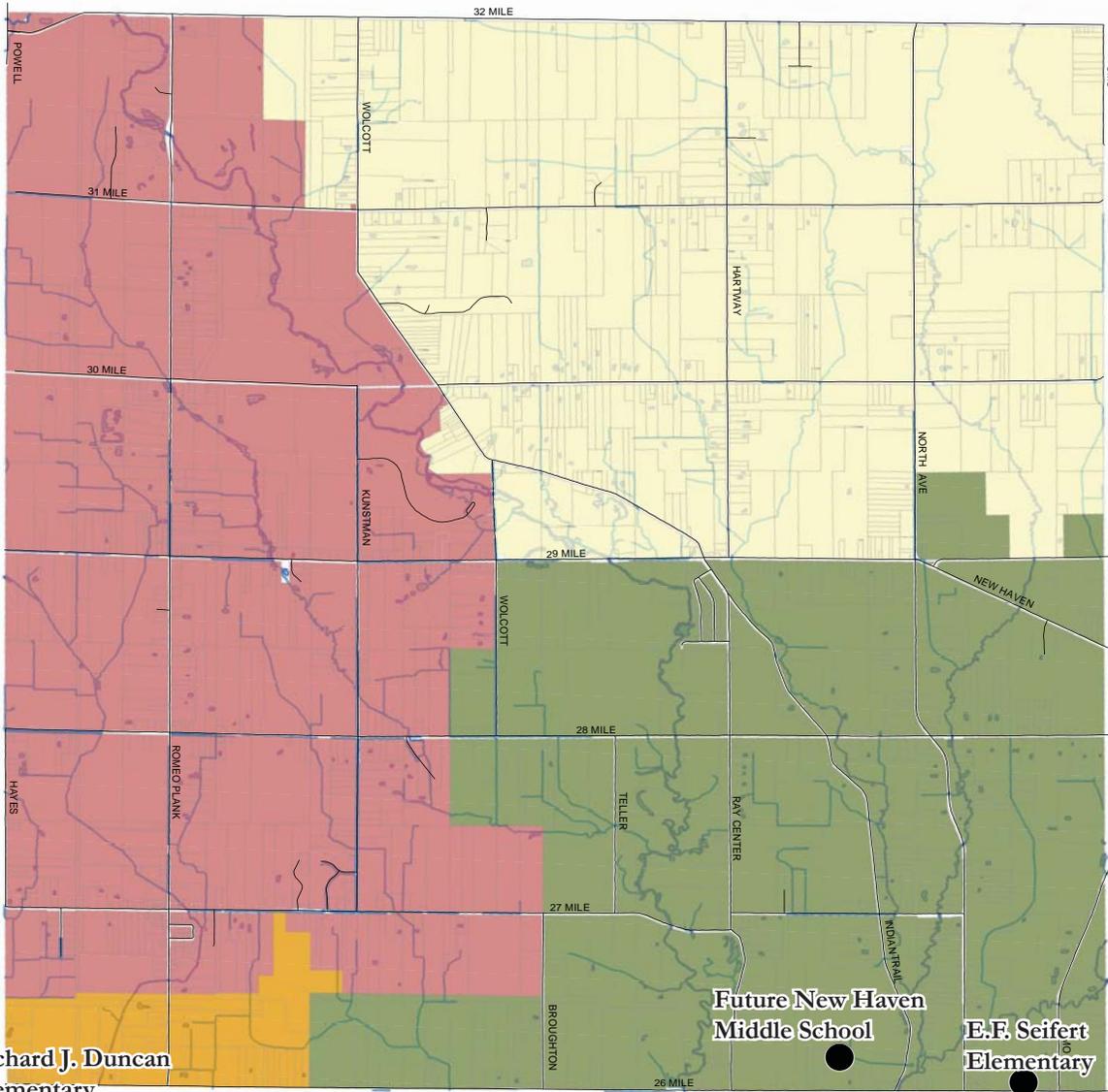
At this time no specific source of sewer is available to service the planned service area. The Township had previously been working with the County and Washington Township to extend additional capacity to the area. However, in 2009 those plans dissolved. Therefore, as part of the implementation of the Master Plan, the Township will need to examine what other feasible sewer sources or partners are available. Having an unknown source may generate the need to further amend the sanitary sewer district as a source becomes available based on location, capacities, etc of the sewer source.

It is envisioned that the sanitary sewer facilities will be implemented in stages or phases so as to not over-extend the sanitary sewer lines with minimal users tapping in for services, thereby driving up maintenance and pay back costs. In addition, the Township anticipates that the system will be largely market driven, with property owners and developers constructing the lines in compliance with the overall sanitary sewer master plan as development is approved.

The Master Plan encourages the development of an official Township Sanitary Sewer Master Plan which will provide the framework for the installation of sanitary sewer infrastructure for the Township, accomplishing the goals of this Master Plan.

Illustration #10-4 SCHOOL DISTRICTS

Prepared By: Ray Township Planning Commission



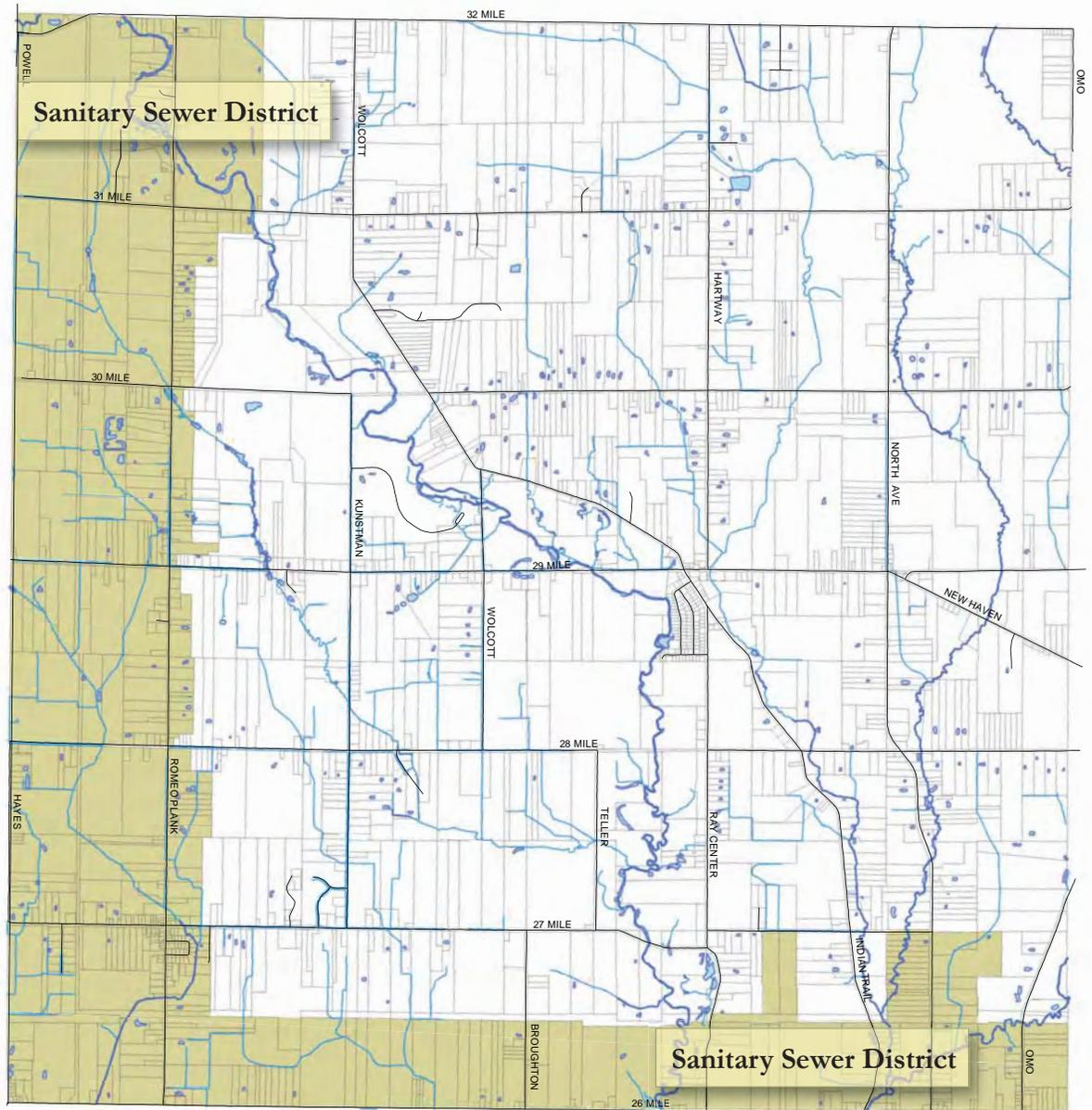
Richard J. Duncan
Elementary

LEGEND

- | | |
|-----------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|
|  ROMEO SCHOOL DISTRICT |  ARMADA SCHOOL DISTRICT |
|  UTICA SCHOOL DISTRICT |  NEW HAVEN SCHOOL DISTRICT |

Illustration #10-5 PLANNED SEWER DISTRICT

Prepared By: Ray Township Planning Commission
Source: Anderson, Eckstein & Westrick and CP&M



WATER

As a part of the overall development of the Master Plan, it is recognized that at a minimum, the Township will also need to develop plans for a public water supply to service those areas of the Township which are planned to be serviced with public sanitary sewer. The Township may also wish to evaluate the potential for servicing properties outside of the planned sanitary sewer area since well water within the Township is not always dependable.

The water supply may be available from several potential sources, each of these should be explored for providing a long term solution to providing public water to the Township. This includes tapping into the water systems of surrounding communities such as Washington or Macomb to provide services or directly tapping a Detroit Water and Sewer Department line in the area. One possibility that has been discussed is a tap at 33 Mile Road and McKay in Bruce Township. This would likely be a joint venture with other communities which may also desire new or additional water service.

The Master Plan encourages the development of an official Township Water Distribution Master Plan which will provide the framework for the installation of the water distribution infrastructure as well as the source for providing such water services for the Township, accomplishing the goals of this Master Plan.

AIRPORTS

Romeo State Airport

The Township promotes the existence of the Romeo State Airport within the northwest section of the Township. The Master Plan for the Romeo State Airport, shows the desired three (3) phase development plan which would take the Airport to its ultimate buildout. The Township however, only currently recognizes the Airport's expansion within its current boundaries. This corresponds with Phase I of the Airport's Master Plan. Phase II and Phase III would require the closure of 31 Mile Road to accommodate major runway expansion.

If the State desires to proceed with Phase II or Phase III of the Master Plan, those efforts would have to be coordinated with the Township. Additional parties such as Washington Township and the Road Commission of Macomb County would also play major roles in any expansion of the Airport to the south.

In planning for the Airport, the Township has planned for industrial land uses to the south and to the east. The height of structures within this area must also be closely monitored in relation to the approved Airport Master Plan as well as FAA regulations. *(Suggested land use policies are also included in this section)*



Romeo State Airport

Ray Community

The Ray Community Airport occupies 91 acres on the west side of Indian Trail, between 27 and 28 Mile Roads. The three (3) roads that service the site are gravel surfaced. Within the previous Master Plan, an extensive set of policies and limitations were derived for the long term improvement of the site. In 2001-2002 the last of these improvements were approved by the Township. These included the development of hangars 4 and 5 and B and C. The Master Plan envisions the continued existence as well as the current operation levels of the Airport throughout the time frame of the Master Plan. However, the Master Plan does not recognize the expansion of the Airport beyond its current physical boundaries. The Master Plan does recognize that additional hangar construction and operation building improvements may occur within the time frame of the Master Plan. It is recognized that such expansions or improvements will require the proper site plan and special land use review. The Master Plan does not envision the expansion of the number of aircraft stored onsite.



Ray Community Airport

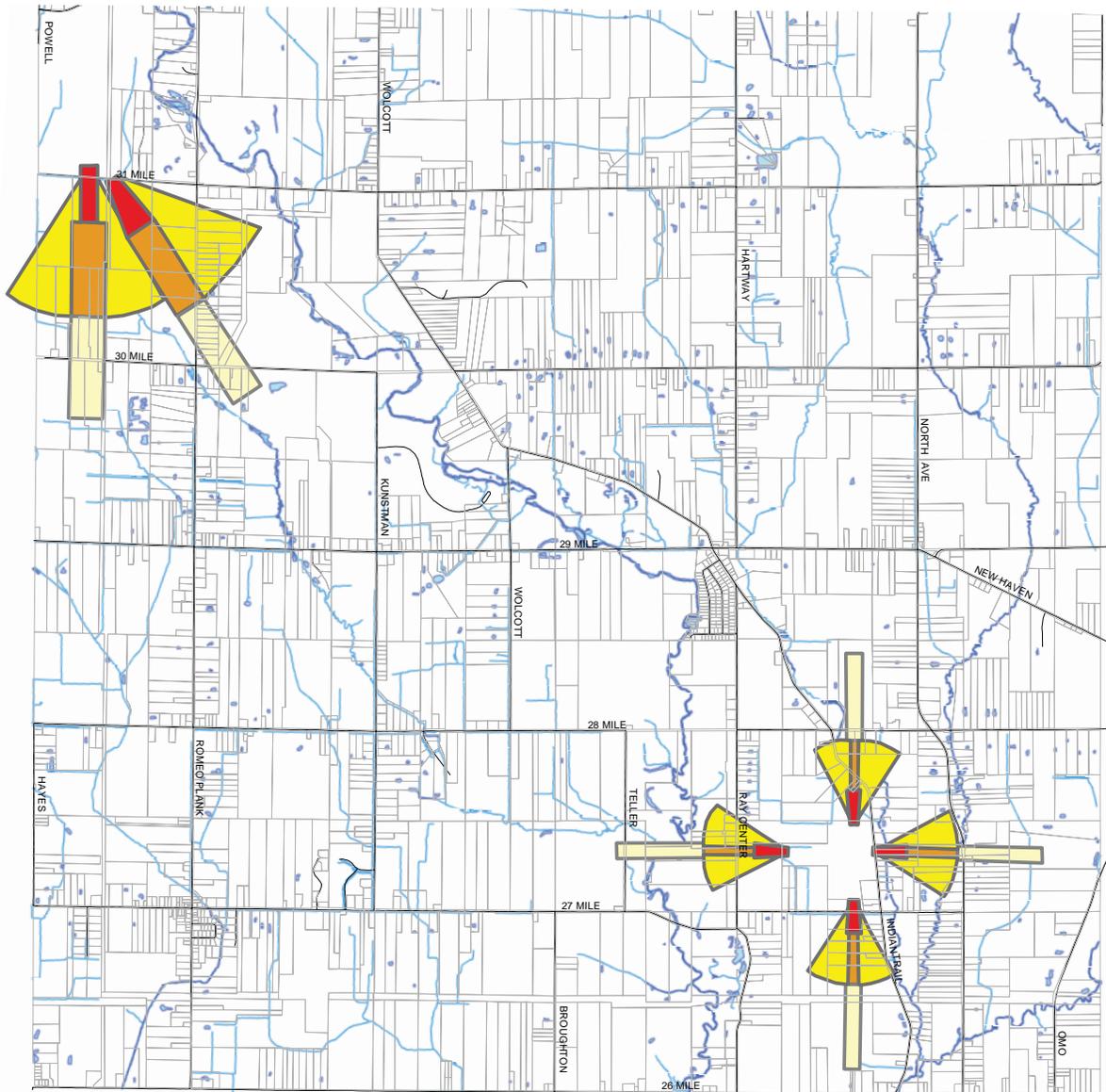


Private Airfields

The Township also has two (2) additional airfields that are recognized. These are private airfields, one being located at the southwest corner of 29 Mile Road and Kunstman. The other is located on the south side of 30 Mile Road, east of Romeo Plank. These private facilities do not require the same safety or protection zones as public facilities, but care still needs to be given to the relationship of the airfield and the surrounding residences. Therefore, being private airfields, the Township Master Plan envisions that any expansion to the size of such facility or major alteration to the orientation of the facility would still require special land use approval.

Illustration #10-6 AIRPORT SAFETY ZONES

Prepared By: Ray Township Planning Commission
 Source: Michigan Aeronautics Commission



LEGEND

- | | | | |
|-------------------------------------------------------------------------------------|---------------|-------------------------------------------------------------------------------------|---------------|
|  | Safety Zone 1 |  | Safety Zone 3 |
|  | Safety Zone 2 |  | Safety Zone 4 |

ACCIDENT SAFETY ZONE	LAND USE CHARACTERISTICS	LAND USE GUIDELINES	LAND USE PLANNING STRATEGIES
Zone 1	Population Density	Avoid land uses which concentrate people indoors and outdoors	<ol style="list-style-type: none"> 1. 0-5 people / acre. 2. Airport sponsor should purchase property if possible. 3. Zone land uses, which by their nature, will be relatively unoccupied by people (i.e. mini-storage, small parking lots).
	Residential vs. Non Residential Land Use	Prohibit all residential land uses. All nonresidential land uses permitted outright subject to the Population Density and Special Function Land Use guidelines	<ol style="list-style-type: none"> 1. Create a height hazard overlay ordinance around the airport. 2. Airport sponsor should purchase property if possible. 3. Airport sponsor should obtain aviation and obstruction easement. 4. During the site development process, shige all structures away from the runway centerlines if possible. 5. Landscaping requirments shall establish only low growing vegetation. 6. Prohibit high overhead outdoor lighting. 7. Require downward shading of lighting to reduce glare. 8. Evaluate all possible permitted conditional uses to assure compatible land use.
	Special Function Land Use	Prohibit all Special Function Land Uses	<ol style="list-style-type: none"> 1. Prohibit overhead utilities and all noise sensitive land uses. 2. Zone land for uses other than for schools, play fields, hospitals, nursing homes, daycare facilities and churches. 3. Limit storage of large quantities of hazardous or flammable material. 4. Ensure permitted uses will not create large areas of standing water, or generate smoke/steam, etc.

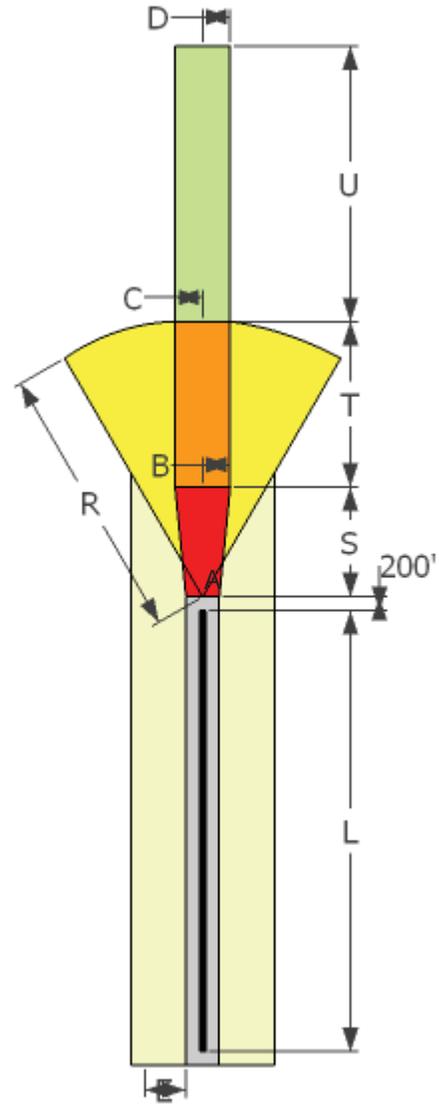
ACCIDENT SAFETY ZONE	LAND USE CHARACTERISTICS	LAND USE GUIDELINES	LAND USE PLANNING STRATEGIES
Zone 2	Population Density	Avoid land uses which concentrate people indoors and outdoors	<ol style="list-style-type: none"> 1. 0-5 people / acre. 2. Zone land uses, which by their nature, will be relatively unoccupied by people (i.e. mini-storage, small parking lots).
	Residential vs. Non Residential Land Use	Prohibit all residential land uses. All nonresidential land uses permitted outright subject to the Population Density and Special Function Land Use guidelines	<ol style="list-style-type: none"> 1. Create a height hazard overlay ordinance around the airport. 2. Obtain aviation and obstruction easement. 3. During the site development process, shift all structures away from the runway centerlines if possible. 4. Prohibit mobile home parks. 5. Landscaping requirements shall establish only low growing vegetation. 6. Prohibit high overhead outdoor lighting. 7. Require downward shading of lighting to reduce glare. 8. Evaluate all possible permitted conditional uses to assure compatible land use.
	Special Function Land Use	Prohibit all Special Function Land Uses	<ol style="list-style-type: none"> 1. Prohibit overhead utilities and all noise sensitive land uses. 2. Zone land for uses other than for schools, play fields, hospitals, nursing homes, daycare facilities and churches. 3. Limit storage of large quantities of hazardous or flammable material. 4. Ensure permitted uses will not create large areas of standing water, or generate smoke/steam, etc.

ACCIDENT SAFETY ZONE	LAND USE CHARACTERISTICS	LAND USE GUIDELINES	LAND USE PLANNING STRATEGIES
Zone 3	Population Density	Avoid land uses which concentrate people indoors and outdoors	<ol style="list-style-type: none"> 1. < 25 people acre. 2. Zone land uses, which by their nature, will be reatively unoccupied by people (i.e. mini-storge, small parking lots, etc.
	Residential vs. Non Residential Land Use	<ul style="list-style-type: none"> • Runway<4,000 feet - prohibit all residential land uses • Runway 4,000 to 5,9999 feet - Limit residential development to Low Density Housing standards • Runway > 6,000 feet - Limit residential development to Low Density Housing Standards All nonresidential land uses permitted outright subject to Special Function Land Use guidelines 	<ol style="list-style-type: none"> 1. Create a height hazard overlay ordinance around the airport. 2. Obtain aviation and obstuction easement. 3. During the site development process, shift all structures away from the runway centerlines if possible. 4. Prohibit mobile home parks. 5. Landscaping requirements shall establsih only low growing vegetation. 6. Prohibit high overhead outdoor lighting. 7. Require downward shading of lighting to reduce glare. 8. Evaluate all possible permitted conditional uses to assure compatible land use.
	Special Function Land Use	Prohibit all Special Function Land Uses	<ol style="list-style-type: none"> 1. Prohibit overhead utilities and all noise sensitive land uses. 2. Zone land for uses other than for schools, play fields, hospitals, nursing homes, daycare facilities and churches. 3. Limit storage of large quantities of hazardous or flammable material. 4. Ensure permitted uses will not create large areas of standing water, or gener-ate smoke/steam, etc.

ACCIDENT SAFETY ZONE	LAND USE CHARACTERISTICS	LAND USE GUIDELINES	LAND USE PLANNING STRATEGIES
Zone 4	Population Density	Limit population concentrations	1. < 40 people / acre in buildings, < 75 persons / acre outside buildings
	Residential vs. Non Residential Land Use	<ul style="list-style-type: none"> • Runway < 4,000 feet - prohibit all residential land uses • Runway 4,000 to 5,999 feet - Limit residential development to Low Density Housing standards • Runway > 6,000 feet - Limit residential development to Low Density Housing Standards All nonresidential land uses permitted outright subject to Special Function Land Use guidelines 	<ol style="list-style-type: none"> 1. Create a height hazard overlay ordinance around the airport 2. Obtain aviation easement 3. Clustered development to maintain density as long as open space remains unbuilt. Place clustered development away from extended runway centerline. 4. Prohibit mobile home parks. 5. Require downward shading of lighting to reduce glare. 6. Evaluate all possible permitted conditional uses to assure compatible land use.
	Special Function Land Use	Prohibit all Special Function Land Uses	<ol style="list-style-type: none"> 7. Evaluate noise sensitive land uses in light of aircraft noise contour lines (if available) when establishing new zoning. 8. Prohibit high overhead utilities and all noise sensitive land uses. 9. Zone land for uses other than for schools, play fields, hospitals, nursing homes, daycare facilities and churches. 10. Limit storage of large quantities of hazardous or flammable material. 11. Ensure permitted uses will not create large areas of standing water, or generate smoke/steam, etc.

ACCIDENT SAFETY ZONE	LAND USE CHARACTERISTICS	LAND USE GUIDELINES	LAND USE PLANNING STRATEGIES
Zone 5	Population Density	Avoid land uses which concentrate people indoors and outdoors	<ol style="list-style-type: none"> 1. 0-5 people / acre 2. Zone land uses, which by their nature, will be relatively unoccupied by people (i.e. mini-storage, small parking lots)
	Residential vs. Non Residential Land Use	Prohibit all residential land uses. All nonresidential land uses permitted outright subject to the Population Density and Special Function Land Use guidelines	<ol style="list-style-type: none"> 1. Airport sponsor should purchase property if possible. 2. Create a height hazard overlay ordinance around the airport 3. Obtain aviation and obstruction easement 4. During the site development process, shift all structures away from the runway centerlines if possible. 5. Landscaping requirements shall establish only low growing vegetation 6. Prohibit high overhead outdoor lighting . 7. Require downward shading of lighting to reduce glare. 8. Evaluate all possible permitted conditional uses to assure compatible land use.
	Special Function Land Use	Prohibit all Special Function Land Uses	<ol style="list-style-type: none"> 1. Prohibit overhead utilities and all noise sensitive land uses. 2. Zone land for uses other than for schools, play fields, hospitals, nursing homes, daycare facilities and churches. 3. Limit storage of large quantities of hazardous or flammable material 4. Ensure permitted uses will not create large areas of standing water, or generate smoke/steam, etc.

DIMENSION	RUNWAY LENGTH CATEGORY (L)		
	Runway Less Than 4,000	Runway 4,000 to 5,999	Runway 6,000 or more
A	125	250	500
B	225	505	875
C	225	500	500
D	225	500	500
E	500	1,000	1,000
F	4,000	5,000	5,000
R	2,500	4,500	5,000
S	1,000	1,700	2,500
T	1,500	2,800	2,500
U	2,500	3,000	5,000



ACCIDENT SAFETY ZONES	
1	Runway Protection Zone
2	Inner Safety Zone
3	Inner Turning Zone (60 degree sector)
4	Outer Safety Zone
5	Sideline Safety Zone



SECTION 11.0 THOROUGHFARE PLAN

INTRODUCTION

A transportation system provides a means to move people and goods among various geographical areas. Because transportation has a significant impact on economic conditions, environmental quality, energy consumption, land development, and the overall quality of life in a community, it is critical that future transportation needs and problems be anticipated and reflected in the Master Plan process.

The Transportation Plan provides the community with an opportunity to coordinate local transportation planning activities with those occurring on a regional or State-wide basis. Roads are the physical improvements that link communities together. Coordinating the planning associated with the regional transportation system offers some opportunities to consider mutually compatible land use policies relating to these needs. Finally, roads make a significant contribution to the community's image and identity. Streets offer an opportunity for urban design improvements in the way of landscaping and monuments. Too often, this opportunity is neglected with streets becoming cluttered with excessive signage and overhead utilities.



Wolcott Mill Estates
Entrance Roadway - reduced roadway width with open ditching

Preparation of a Transportation Plan has several practical applications that have important consequences for the community's ultimate development pattern. Through the identification of future right-of-way locations and standards, a community establishes the system of streets and roads that will provide access for future development. Designating right-of-way widths also helps a community establish consistent setback requirements, which are accomplished through the administration of a Zoning Ordinance. This minimizes the potential of having to acquire homes or businesses when road widening becomes necessary.

The Transportation section is divided into three (3) primary topics. Each topic is identified below:

- The first topic is an identification of transportation planning concepts. Broadly accepted concepts are offered as a way of providing a common basis of understanding or vocabulary.
- The second topic describes the characteristics of Ray Township's road system. This includes lane configurations, traffic volumes along major roads and high accident intersections.
- The section concludes with a description of the Transportation Plan. Major proposals and recommendations for the future are offered.

CURRENT CONDITIONS

SMART - Suburban Mobility Authority for Regional Transportation

The SMART Bus system does not currently have designated routes for Ray Township. SMART does provide curb to curb advance reservation service via its North Macomb Connector.

Traffic Crashes

The most dangerous intersection within the Township on an annual basis based on recent data is 26 Mile Road and Romeo Plank. This intersection on average totals approximately twelve (12) accidents per year over the last five (5) years. This is followed by 32 Mile Road and Romeo Plank which on average totals ten (10) accidents, 26 Mile Road and North Avenue with seven (7), 27 Mile Road and Romeo Plank with six (6) and 32 Mile Road and North Avenue with five (5). The majority of intersections with the most accidents are located along one of the four major roadways within the Township, 26 and 32 Mile Roads as well as Romeo Plank and North Avenue.

LOCAL RANK	INTERSECTION	ANNUAL AVERAGE 2004-2008	2008
1	26 Mile Road & Romeo Plank	12	9
2	32 Mile Road & Romeo Plank	10	8
3	26 Mile Road & North Avenue	7	8
4	27 Mile Road & Romeo Plank	6	4
5	32 Mile Road & North Avenue	5	10
6	29 Mile Road & Romeo Plank	5	7
7	32 Mile Road & Powell	4	4
8	29 Mile Road & North Avenue	3	3
9	32 Mile Road & Wolcott	3	1
10	26 Mile Road & Indian Trail	2	2

The majority of intersections with the most accidents are located along one of the four major roadways within the Township, 26 and 32 Mile Roads as well as Romeo Plank and North Avenue.

Traffic Counts

The most traveled roadways within the Township are 26 Mile Road and 32 Mile Road (from Powell Road to Romeo Plank Road). The Township's highest traffic count based on most recent SEMCOG data is that portion of 26 Mile Road from Hayes Road to Romeo Plank. That portion of 32 Mile Road from Powell Road to

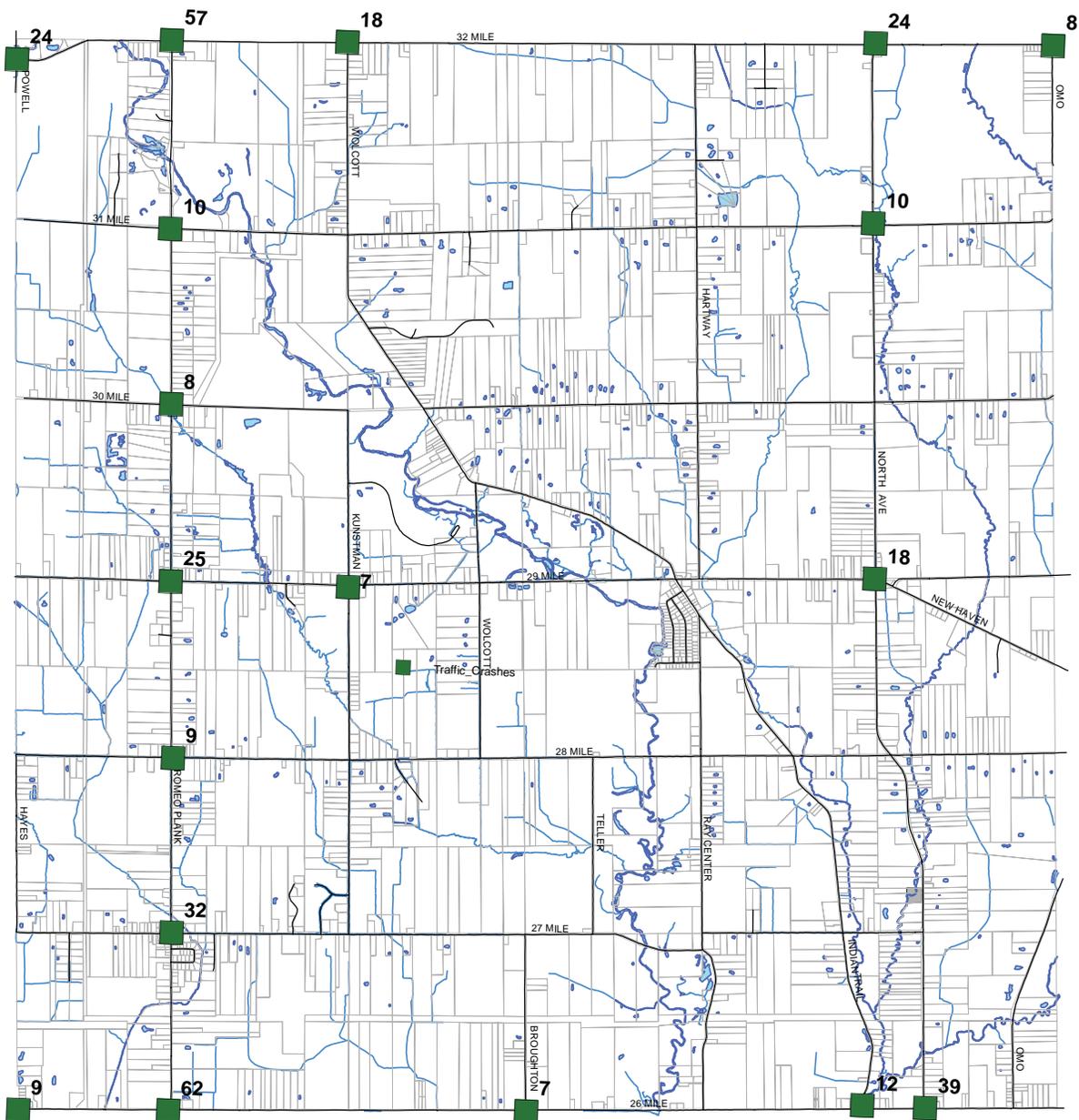
LOCAL RANK	ROAD SEGMENT	CROSS ROADS	AVERAGE DAILY TRAFFIC
1	26 Mile Road	Romeo Plank to Hayes	15,731
2	32 Mile Road	Romeo Plank to Powell	15,203
3	26 Mile Road	Ray Center to Indian Trail	13,298
4	26 Mile Road	North Avenue to Omo	12,845
5	26 Mile Road	West of Broughton	12,363

Romeo Plank however, has almost an identical number of vehicles 15,731 and 15,203 respectively.

Illustration #11-1

ROAD COMMISSION OF MACOMB COUNTY - TRAFFIC CRASHES

Prepared By: Ray Township Planning Commission
 Source: Road Commission of Macomb County - SEMCOG



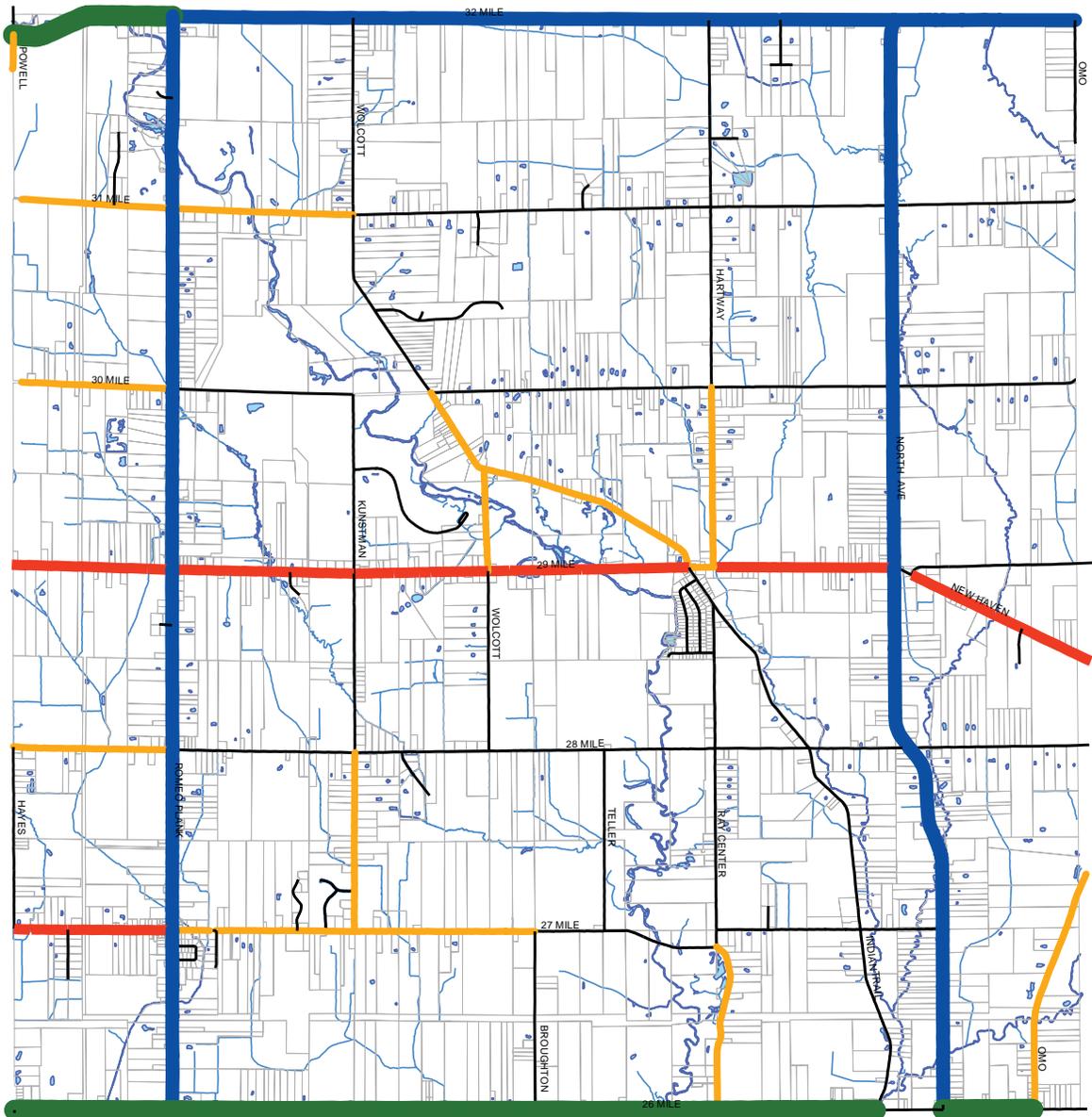
LEGEND

■ TRAFFIC CRASHES (#)

Illustration #11-2

ROAD COMMISSION OF MACOMB COUNTY - TRAFFIC COUNTS

Prepared By: Ray Township Planning Commission
 Source: Road Commission of Macomb County - SEMCOG

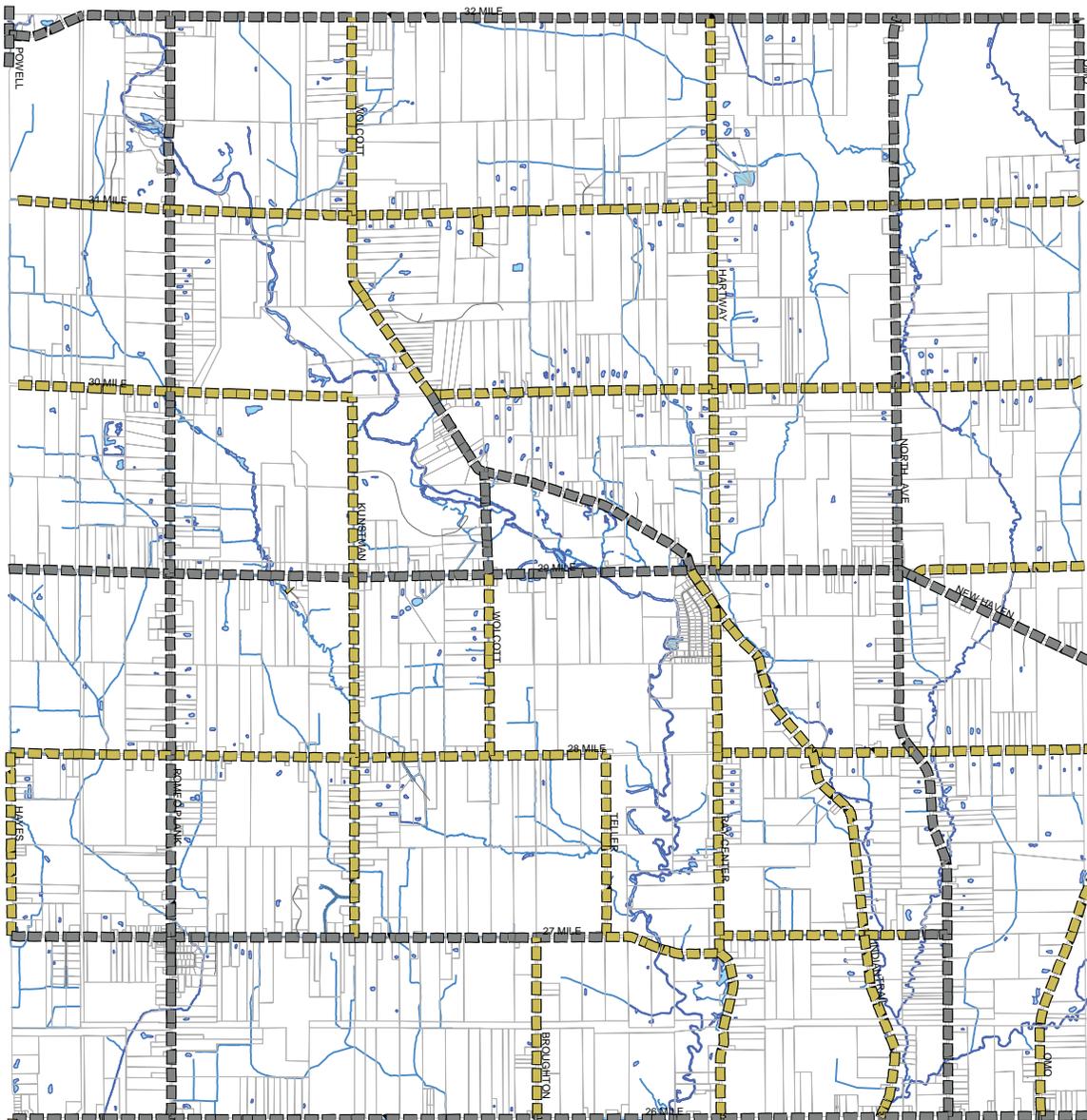


LEGEND

- | | |
|---------------|----------------|
| — 0 - 330 | — 4662 - 9863 |
| — 331 - 1659 | — 9864 - 15731 |
| — 1660 - 4661 | |

Illustration #11-3 ROAD CONDITIONS - PAVED/GRAVEL

Prepared By: Ray Township Planning Commission
Source: Road Commission of Macomb County - SEMCOG



LEGEND

- Gravel
- Paved

Roadway Condition

Within the Township there is approximately 37.5 miles of paved roadway. This total does not take into account any subdivision or site condominium roads. In addition there is approximately 40 miles of gravel roadways.

Within the Township there are no roadways in excess of two lanes (with the exception of intersections).

LONG RANGE MASTER PLAN

The Road Commission of Macomb County adopted a long range master plan in April 2005. The Plan provides an update to and expands the scope of the 1982 plan and creates a Long Range Master Plan for 2004 – 2030 time frame. The Long Range Master Plan not only includes planned rights-of-way, but also identifies projects to be planned, improved, and/or expanded in the transportation system.

Planned Improvements

Short Term

Conduct intersection study at 26 Mile Road and Romeo Plank

Conduct intersection study at 29 Mile Road and Romeo Plank

Mid Term

Widen 26 Mile Road from North Avenue to Omo Road to four (4) lanes with a boulevard

Widen 26 Mile Road from Romeo Plank to Hayes Road to four (4) lanes

Pave 29 Mile Road from North Avenue to Township boundary (*this is part of a larger project to provide a paved connection between North Avenue and Gratiot Avenue*)

Long Term

Widen Romeo Plank to five (5) lanes from 26 Mile Road to 32 Mile Road

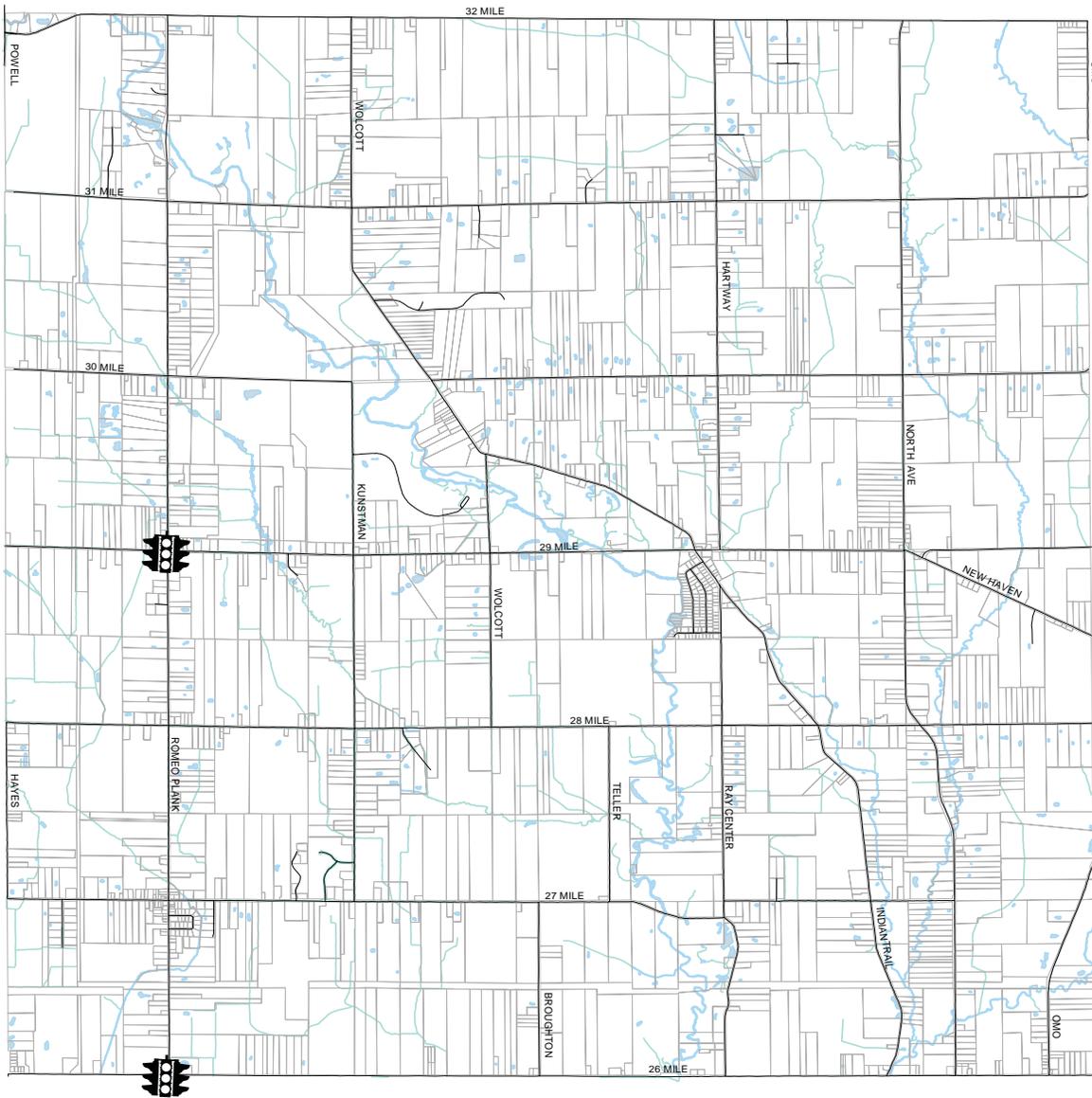
Widen North Avenue to five (5) lanes from 26 Mile Road to 29 Mile Road

Widen 26 Mile Road to four (4) lanes from Romeo Plank to North Avenue

The Ray Township Master Plan supports all of the planned improvements contained within the Long Range Master Plan for the Road Commission.

Illustration #11-4 ROAD COMMISSION OF MACOMB COUNTY - PLANNED IMPROVEMENTS - SHORT TERM

Prepared By: Ray Township Planning Commission
Source: Road Commission of Macomb County



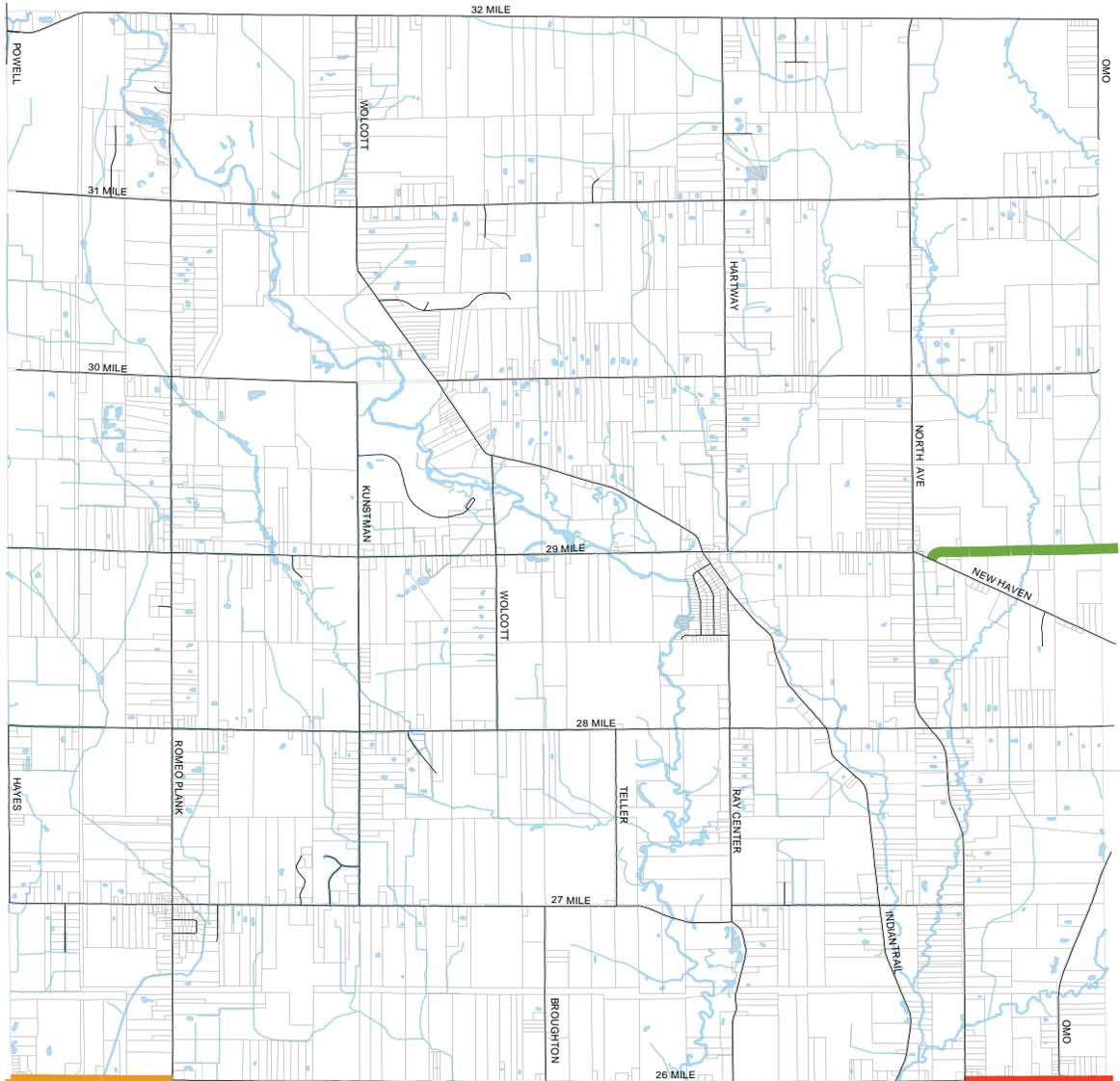
LEGEND

 Intersection Studies

Illustration #11-5

ROAD COMMISSION OF MACOMB COUNTY - PLANNED IMPROVEMENTS - MID TERM

Prepared By: Ray Township Planning Commission
Source: Road Commission of Macomb County

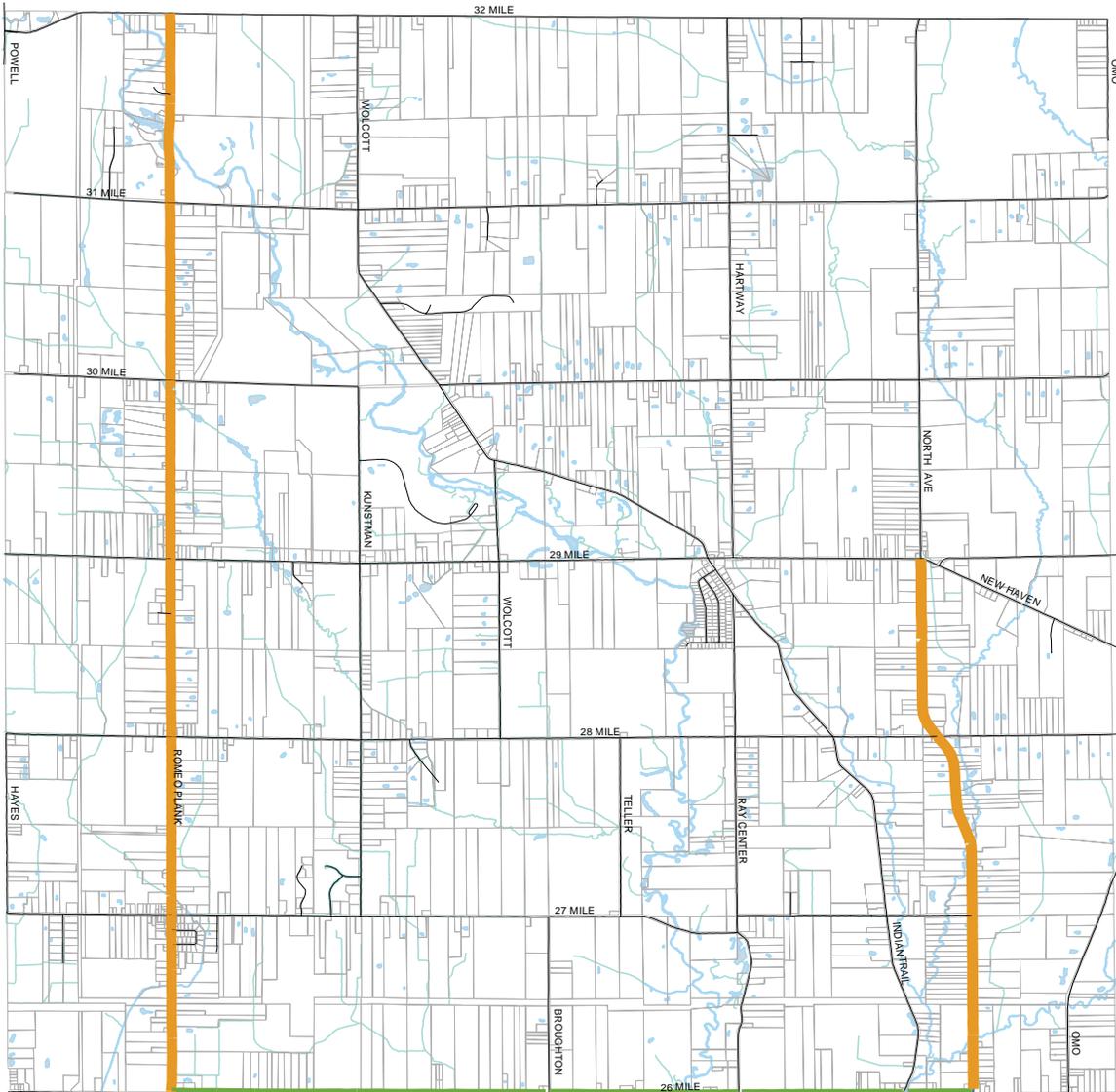


LEGEND

- Red line: Widen to 4 Lanes
- Orange line: Widen to 4 Lanes with Boulevard
- Green line: Repave

Illustration #11-6 ROAD COMMISSION OF MACOMB COUNTY - PLANNED IMPROVEMENTS - LONG TERM

Prepared By: Ray Township Planning Commission
Source: Road Commission of Macomb County



LEGEND

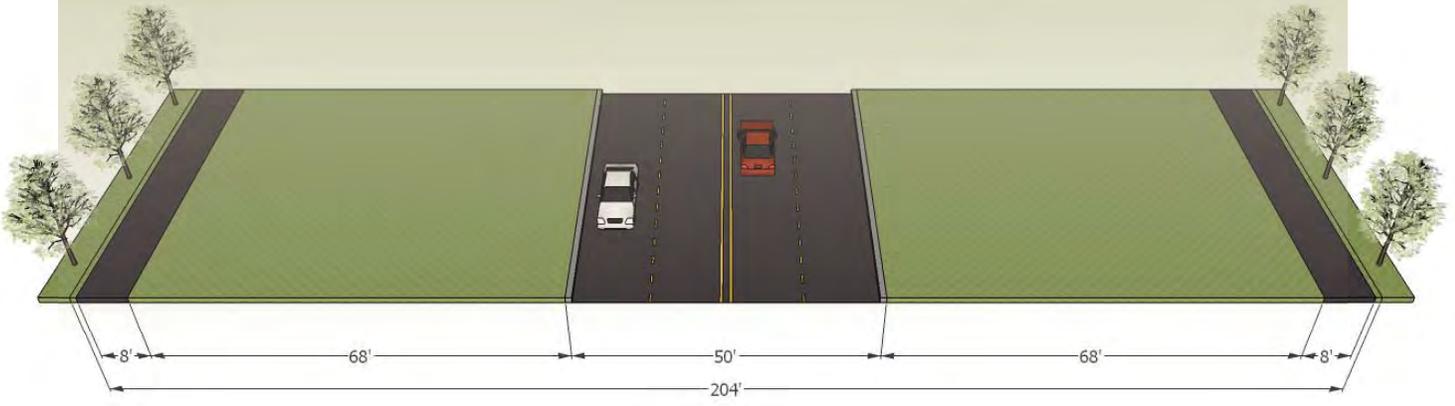
Orange line: Widen to 5 Lanes

Green line: Widen to 4 Lanes

Road Cross Section

Major Roadways

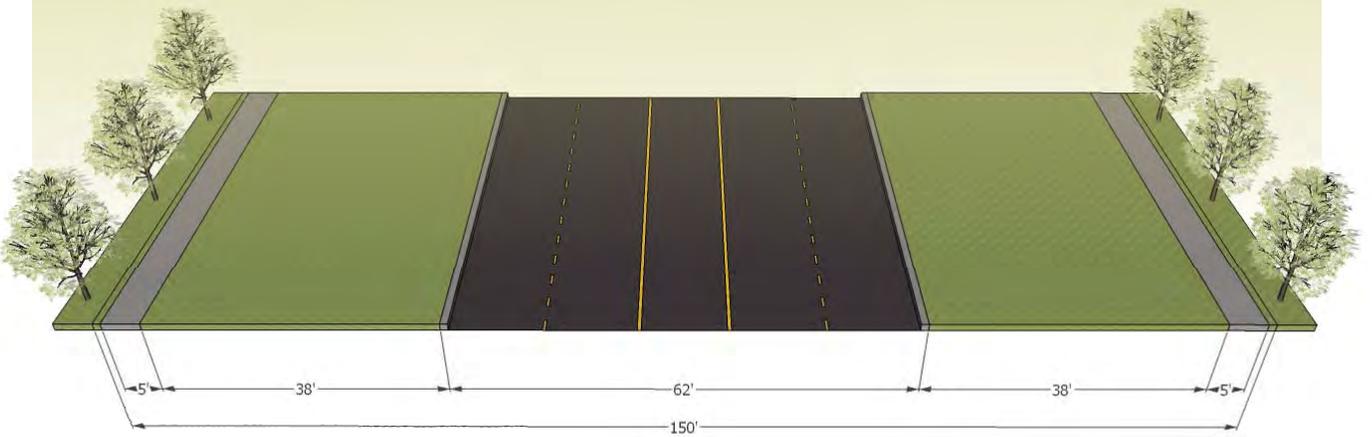
26 Mile Road



Road Cross Section

Major Roadway (150)

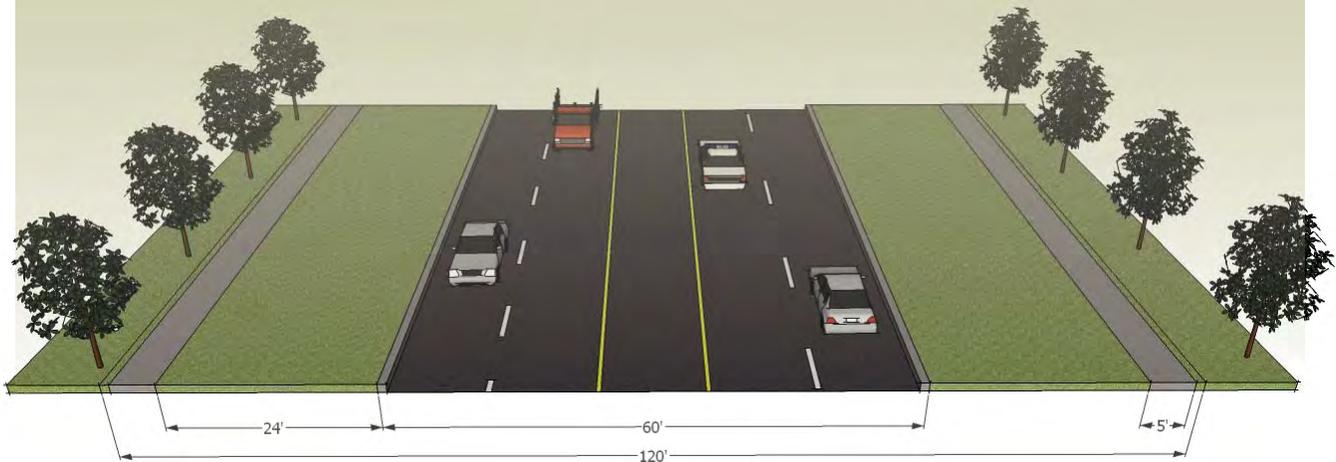
North Avenue



Road Cross Section

Major Roadway (120)

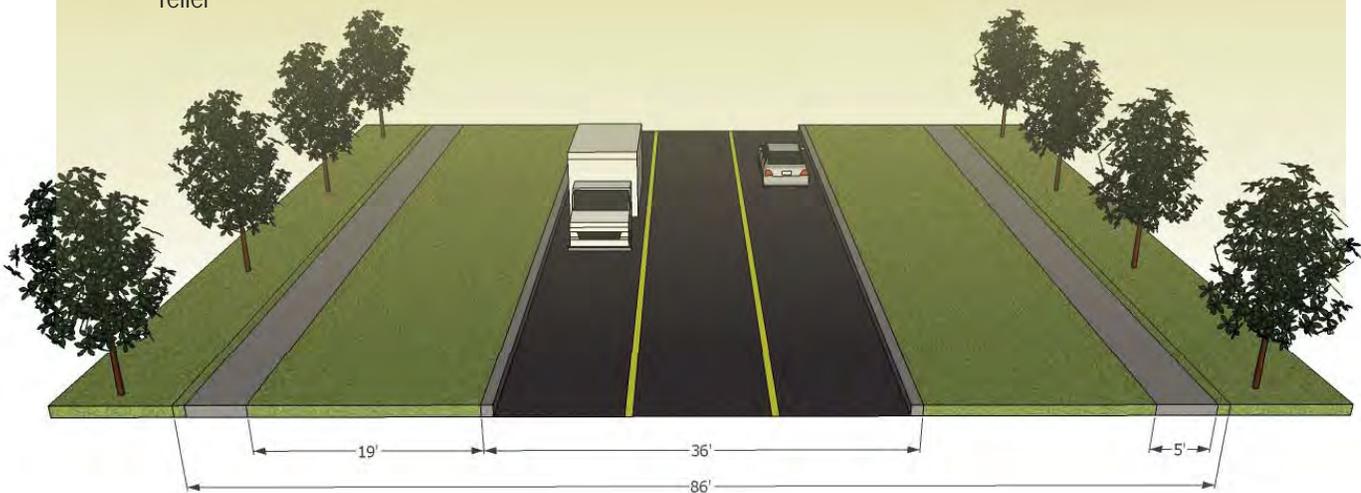
27 Mile Road	32 Mile Road
28 Mile Road	Hartway
29 Mile Road	New Haven
30 Mile Road	Omo
31 Mile Road	Romeo Plank
	Wolcott



Road Cross Section

Collector Roadway (86)

Broughton
 Indian Trail
 Kunstman
 Teller



Road Cross Section

Local Roads

All other roads in the Township
All new Subdivision or Site Condominium Roads

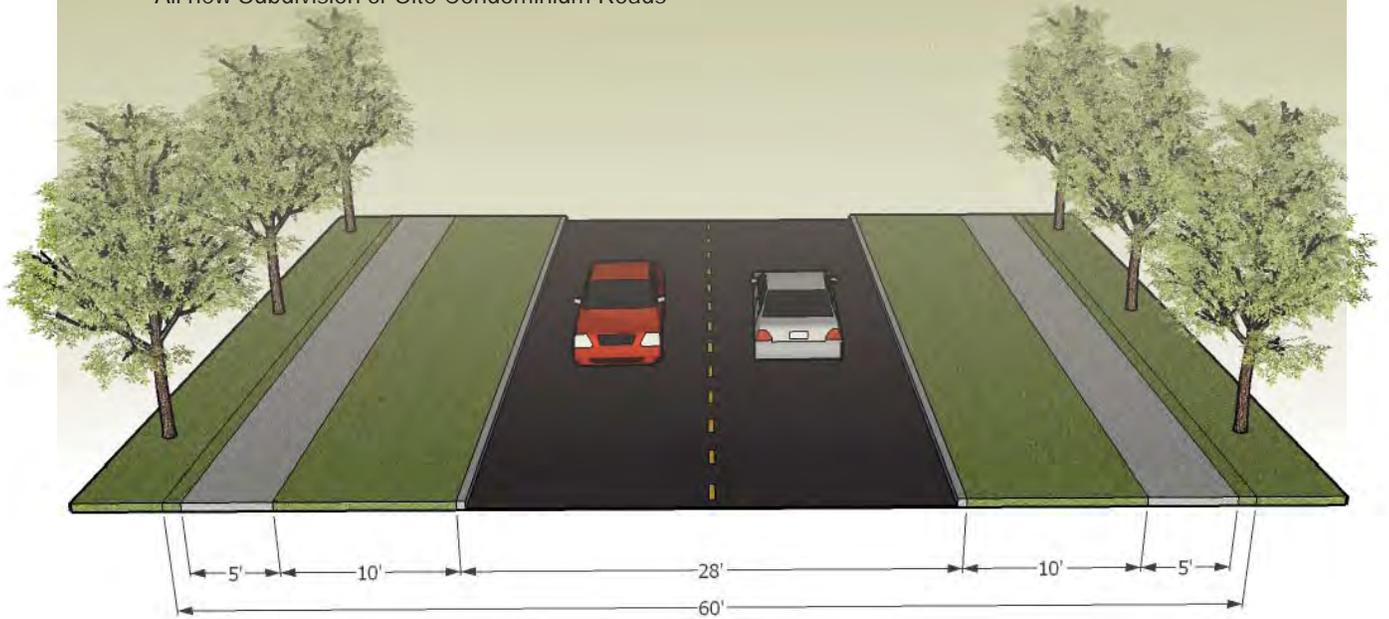
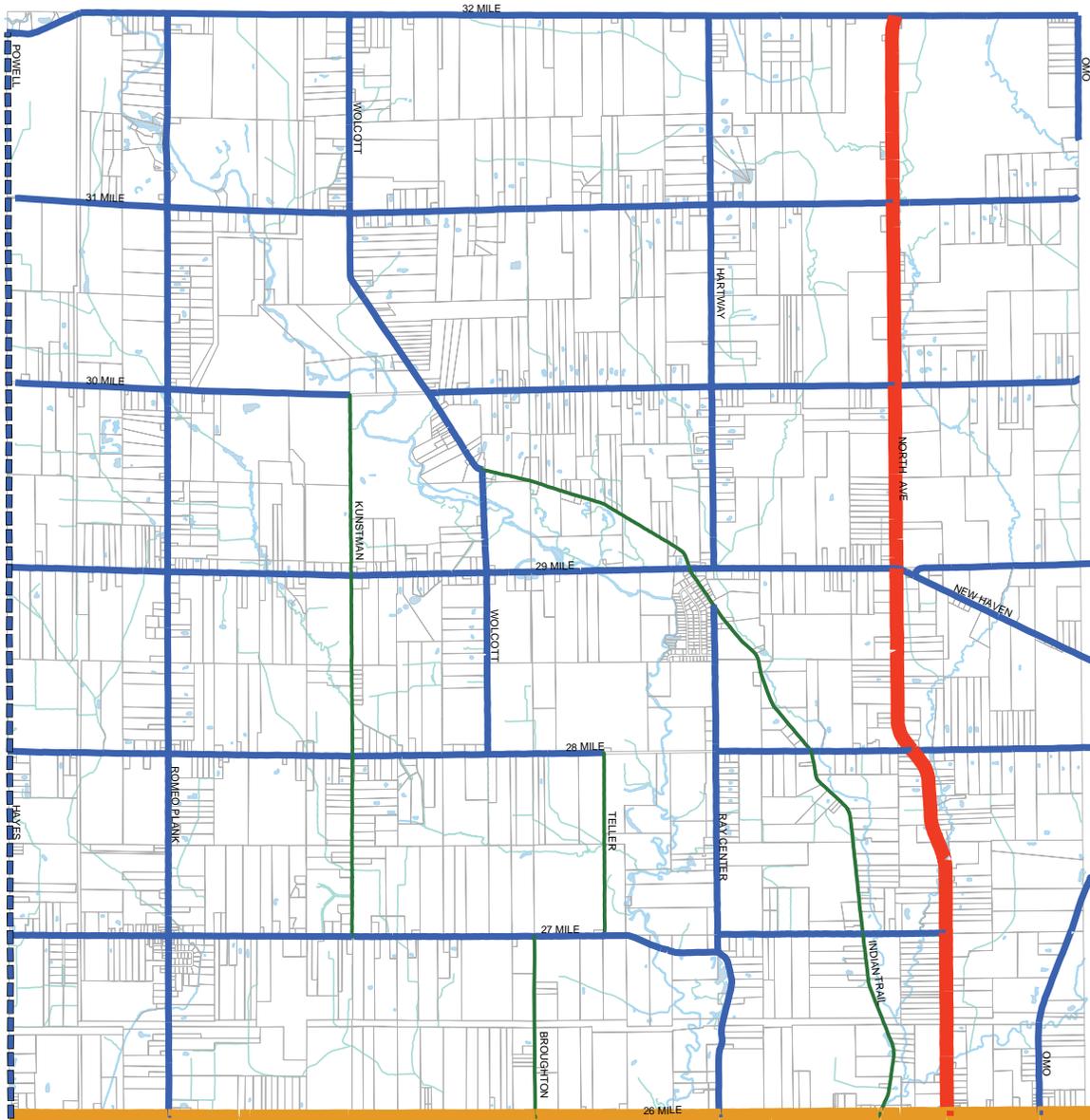


Illustration #11-7 ROAD COMMISSION OF MACOMB COUNTY - PLANNED RIGHT OF WAY

Prepared By: Ray Township Planning Commission
Source: Road Commission of Macomb County



LEGEND

- Regional Roadway 204'
- Major Roadway 120'
- Major Roadway 150'
- Collector Roadway 86'

PLANNED RIGHT OF WAY

Transportation Planning Concepts

Roads are grouped into a number of different classifications necessary for administrative, design and planning purposes. Most classification systems make a distinction based on the intended purpose of the road and the geographic areas it is intended to serve. Common road classifications include freeways, major arterials, collectors and local roads. Each classification carries with it suggested minimum design standards.

Major Thoroughfare - This class of streets brings traffic to and from the expressway and serves those major movements of traffic within or through the urban area that are not served by expressways. Major Thoroughfares interconnect the principal traffic generators within the community, as well as important rural routes. Major Thoroughfares handle trips between different areas of the community and should form a reasonably integrated system. The length of the typical trip on the system should exceed one mile.

Collector - This class of streets serves internal traffic movements within an area of the community, such as a subdivision, and connects this area with the arterial system. Collectors do not handle long through-trips and are not, of necessity, continuous for any great length. In grid-iron street patterns, however, a street of several miles in length may serve as a collector, rather than an arterial if the predominant use is to reach the next junction with an arterial.

Local - The sole function of local streets is to provide access to adjacent land. These streets make up a large percentage of the total street mileage of the Township, but carry a small proportion of the vehicle miles of travel. In and around the local neighborhoods, local streets may carry traffic volumes measured in thousands, but this is the exception. Local residential streets, in most cases, carry daily volumes of 1,000 or less. This is typical of most streets and roads within the Township.

Planned Right of Way

The planned thoroughfare map for the Ray Township Master Plan is the same as the planned right of way map for the Road Commission of Macomb County. The illustration previously shown as well as the list below depicts the planned rights of way for each significant road within the Township.

Regional Roadway - 204 Feet
26 Mile Road

Major Roadway - 150 Feet
North Avenue

Major Roadway - 120 Feet

27 Mile Road
28 Mile Road
29 Mile Road
30 Mile Road
31 Mile Road
32 Mile Road
Hayes Road
Hartway
Wolcott
Ray Center
Romeo Plank
New Haven Road
Omo Road

Collector Roadway

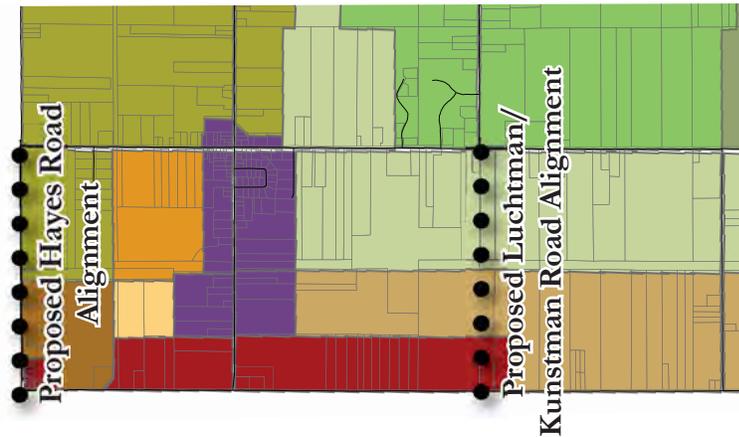
Broughton
Kunstman
Teller
Indian Trail

Local Roadways

All other roadways within the Township

PROPOSED ROAD EXTENSIONS

As a part of the Master Plan, the Township envisions the extension of several roadways within the Township. Two of the main extensions are Hayes Road along the Township's western boundary as well as the extension of Luchtman from 26 Mile Road north to 27 Mile Road to connect with Kunstman. The extension of these roadways has been deemed necessary based on the planned densities within the southern sections of the Township as well as the planned growth to the south in Macomb Township.



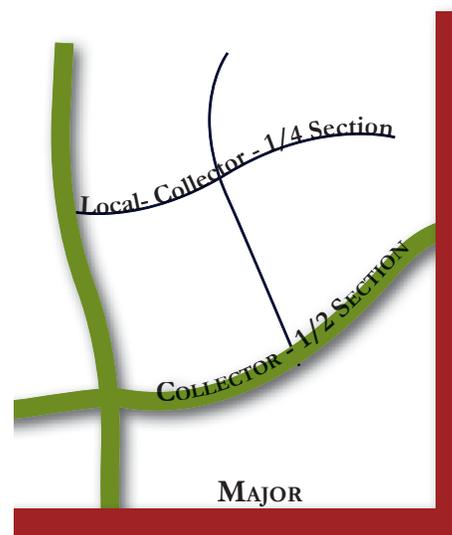
Hayes Road should be developed as a major thoroughfare along the Township's western boundary with Washington Township. This is consistent with County plans as well as Washington Township plans.

Further the Township envisions the creation of a secondary roadway along the rear of the planned commercial areas along 26 Mile Road. This will help alleviate traffic entering and exiting directly onto 26 Mile Road.

ROADWAY PLANNING-EXTENSION PHILOSOPHY

Within the planned sewer and water areas, the Township will work to provide for half section roadway as well as quarter section roadways where feasible. While the standard or traditional square grid may not be completely feasible, the connections through subdivision development will be sought providing connections between major mile roads and section line roads.

In those areas where subdivisions or other types of developments are being developed, the planning phases should include dedication of rights of way appropriate for either collector or major roadways in the appropriate locations. The dedication of these rights of way or improved roadways will also help fulfill the Township's access management efforts. This will be of particular importance within the Township's planned sanitary sewer district based on the increased housing and land use density and the associated traffic generated by such an increase.



COORDINATION WITH OTHER AGENCIES

Ray Township does not have any direct control over the maintenance or improvement of the road system serving the community. The principal control over local roads rests with the Road Commission of Macomb County.

In spite of the lack of control over the major road system, the Township can directly influence the amount of traffic generated on these roads through careful land use planning. Ray aims to limit densities in areas of the community where the existing road infrastructure would become unduly burdened by added traffic. Efforts to maintain a minimum Level of Service (LOS) of "C" on all roads will allow residents to move freely throughout the Township, without the worry of traffic congestion. Again this will need to be closely coordinated with the Road Commission.

The Township can also influence the road improvement process by maintaining an ongoing relationship with those agencies responsible for transportation issues, including the Road Commission and SEMCOG, which coordinates the regional transportation planning process. Sharing local planning issues with officials at these agencies assists them in their efforts to allocate funding for existing or anticipated transportation needs.

Ray Township shall require, in their continuing planning and implementing ordinances, sufficient setbacks so that additional right-of-way requirements can be met clear of obstruction. The nodes of commercial activity located at major intersections should be closely regulated with respect to turning movements, bypass lanes, parking, setbacks, signs and displays. With the potential of many hazards along its major roads, the Township should rigidly enforce these and other requirements necessary to protect the public health, safety and welfare.

ACCESS MANAGEMENT

Access management and internal circulation are critical elements in creating a safe and efficient roadway system. The capacity of a regional or major thoroughfare can be enhanced and its useful life extended by careful attention to access controls and circulation between adjacent sites. This coordination and review will also likely reduce the total number of access drives as well as the total number of conflict points. The Township has the ability at this point in time to implement access management standards which will allow for the property planning and placement of access drives in the Township. If not implemented at this time, these standards will only become more difficult to implement as the Township continues to face growth pressures.

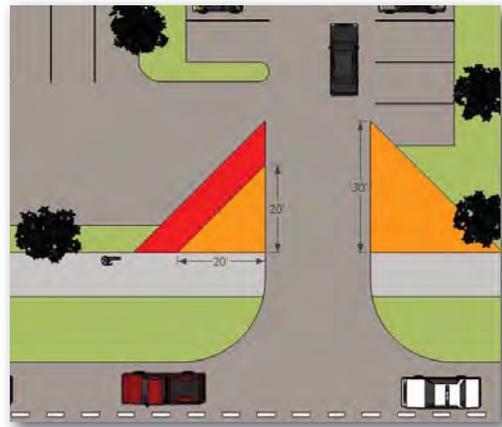
The concept of access management techniques is that the owners of property along a specified roadway, specifically those owning commercial, office or industrial property will be given access to their property, but not unlimited access. There are many access management standards which can be implemented within the Township. These include driveway spacing, limiting the number of access drives, shared drives and others. As part of the Master Plan, the Township has noted the following objectives for access management.

Joint Access Easement

Another method of reducing the need for access drives onto major thoroughfares is to provide joint or cross access easements between sites. During the site planning process, consideration should be given to the alignment of parking lot maneuvering lanes which would allow for continuous and safe travel between parking lots. Joint access easements allowing for such travel should be required prior to site plan approval. These documents will need to be reviewed by the Township Attorney as well as the Township Engineer.

Maximizing Corner Clearance

Curb cuts for properties located on a corner parcel require special attention. Access drives and curb cuts should provide the maximum amount of spacing possible from the intersection to the curb cut. Further, in most cases, the access drive should be limited to the secondary roadway rather than the primary. This will help in channeling vehicles to a common intersection rather than creating new turning areas.



Maximize Clear Vision

Particular attention should be given to the areas of the Township where commercial access drives would be located on curves or undulating portions of roadways. Clear vision for motorists in this area should be reviewed carefully due to potential blind spots. If possible, access drives should be located in such a manner where clear vision in both directions is maximized. Further, structures such as fences, signs, and other entry structures must be kept clear of the clear vision triangle.

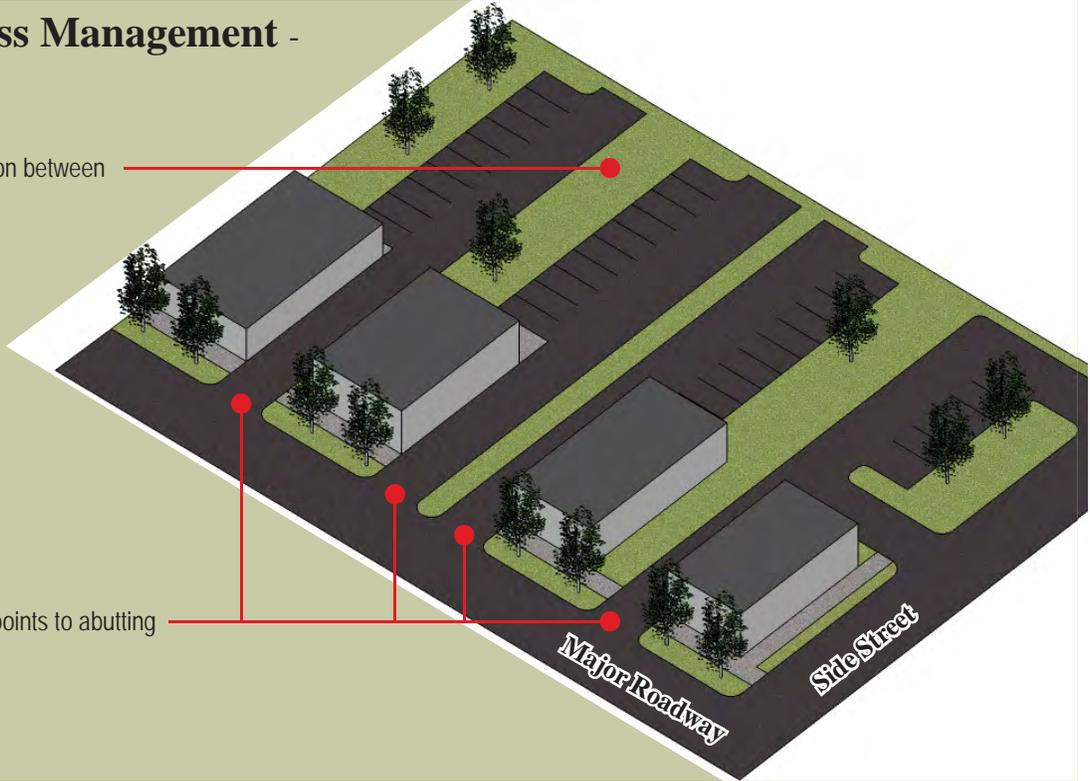
Maximize Drive Offset

The Planning Commission in their review of site plans, needs to pay particular attention to driveway offsets. Driveways and roadways on opposite sides of the road can increase the potential for conflict. Therefore, if drives cannot be aligned across a street, the distance between driveway center lines should be maximized. The Planning Commission must insist on existing drives and improvements being shown on the site plan which are within 100-200 feet of the subject site. This will show all potential conflict areas and allow the Planning Commission to make an educated decision. Further, the Commission may wish to implement Zoning Ordinance provisions which require safe driveway and offset distances between existing and proposed access drives.

Poor Access Management -

No interconnection between parking areas

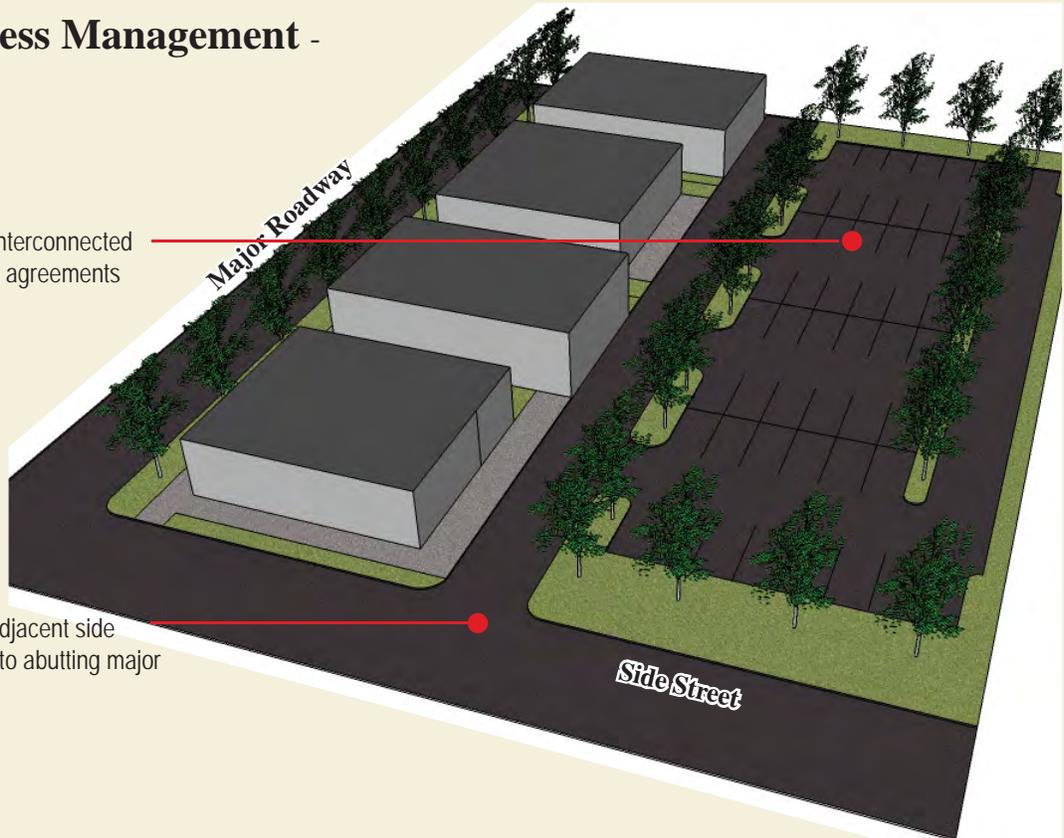
Multiple access points to abutting major roadway



Proper Access Management -

Parking areas are interconnected with mutual parking agreements

Access limited to adjacent side street - No access to abutting major roadway



Interior Parking Lot Review

The Planning Commission must also give attention to interior parking lot configuration. Review of parking lot efficiency and safety will allow for traffic to move onto the site quickly without generating traffic backups onto the adjacent roadway. Particular attention should be given to maneuvering lanes which cross the main access drive. This may cause conflict or the need for slowing or stopping. Further attention must be given to the potential conflict between pedestrians and automobiles.

Coordinated Review Process

The Township should establish an open line of communication between itself and the Road Commission of Macomb County. The Township does not grant driveway permits, and therefore if particular attention is to be given to a section of roadway or area of the Township, the appropriate road agency must be aware of the goals and objectives of the Township. This will allow for the Road Commission to be proactive in the granting or not granting of permits based on the Township's access management policies.



NON-MOTORIZED TRAILWAYS

Regional Corridor

Regional corridors include primary routes and corridors that connect into planned and/or built systems in adjacent counties as well as provide access to major regional destinations such as Lake St. Clair, and the Huron-Clinton Metropolitan Authority System.

County Connectors

County connectors are routes that provide significant connections into the larger regional system and continuously traverse a considerable portion of the County in all directions.

Local Connectors

Local connectors are segments within the system that lead from the regional or county system to various destinations or points of interest. Local connector segments also serve as feeder connections within a community into either the County Connectors or Regional Corridors.

In November of 2004 the Macomb County Board of Commissioners adopted the Macomb County Trailways Master Plan. This document was intended to provide a wholistic view of a planned trailway system within the County which would include trailways for running, walking and bicycling, as well as equestrian, and finally blueways for navigating the water bodies of the County.

A specific plan was developed for each community identifying those trails which were identified as Regional Corridors, County Connectors, Local Connectors, etc. The specific trail master plan for Ray Township is shown to the right.

Regional Corridors

No regional corridors are currently proposed within Ray Township, however, the Macomb Orchard Trail (regional corridor) is located just a few miles to the north and west in Washington and Armada Townships.

County Connectors

A significant north-south route is proposed to connect the Macomb Orchard Trail to the Wolcott Mill Metropark south to 26 Mile Road. This route is illustrated along Wolcott Road, south into the planned Metropark trail system. The connection between Wolcott Mill and the Macomb Orchard Trail should also accommodate equestrian use. An east-west route is also planned within an existing ITC electrical corridor connecting Wolcott Mill to the W.C. Wetzel State Recreation Area.

Local Connectors

An east-west local connector is proposed within an ITC electrical corridor between 29 and 30 Mile Roads, to provide a connection into Washington Township.

Trail Head/Staging Area

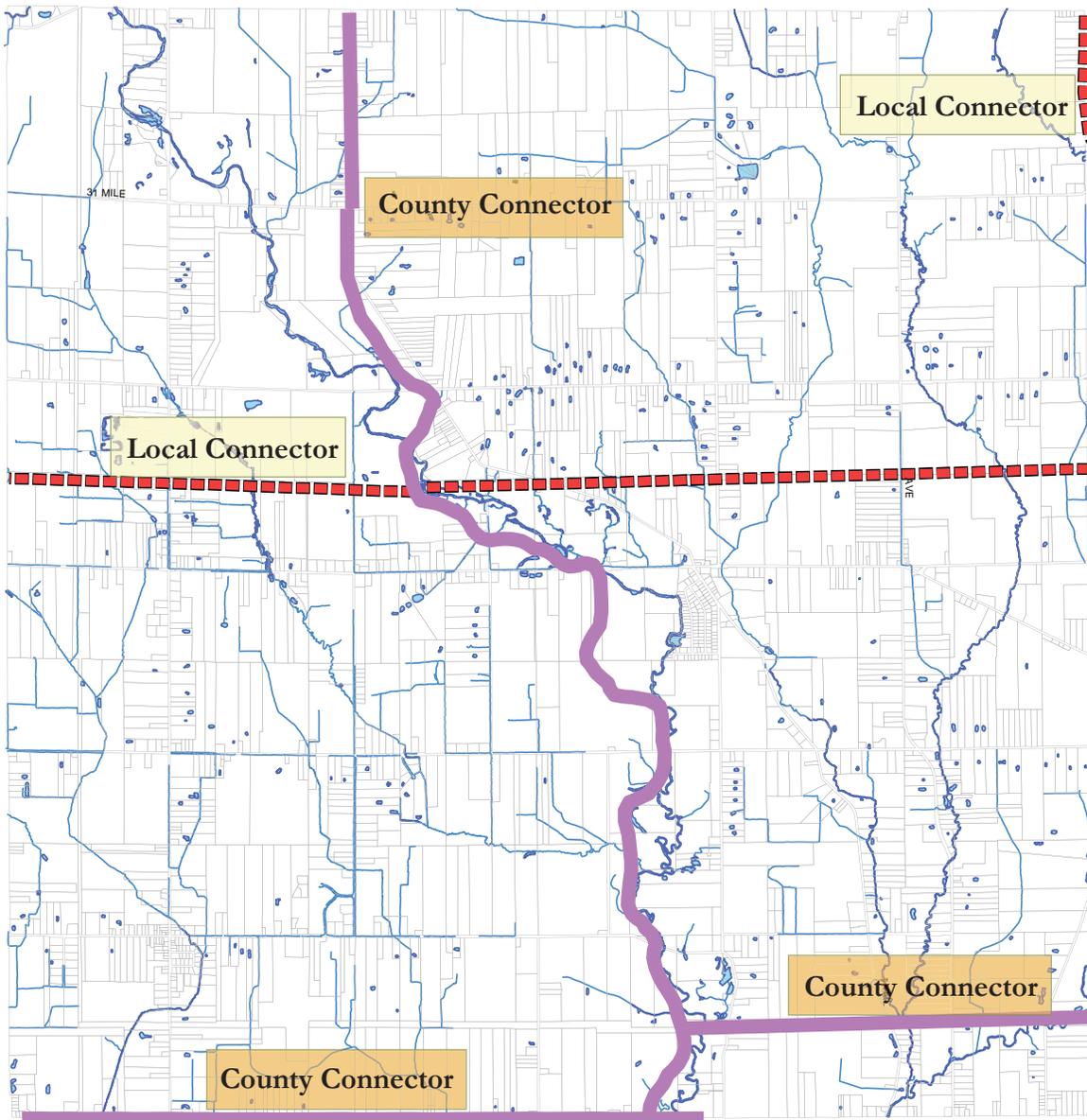
Wolcott Mill Metropark has been proposed as a trail head within the county-wide system.

Other Issues

Equestrians represent a large number of potential users in the northern portion of the County. There was considerable interest at public forums to incorporate equestrian trails into planning, design and construction efforts. The Macomb Orchard Trail (MOT), in Armada and Richmond Townships is planned to accommodate equestrians. Significant equestrian trails exist within Wolcott Mill. Providing a trail connection that accommodates equestrians between these two amenities is a priority in Ray Township. There is potential for the connection between Wolcott Mill and the MOT to follow near the North Branch of the Clinton River rather than Wolcott Road. If airport expansion plans progress, this possibility should be further investigated.

Illustration #11-8 NON-MOTORIZED TRAIL PLAN

Prepared By: Ray Township Planning Commission
Source: Road Commission of Macomb County



There are also several ITC electrical corridors as well as gas easements within Ray Township. Although not currently identified as a priority connection, these corridors may prove to be viable, contiguous land areas where future trail connections could be accommodated.

Coordination efforts should continue between the Township, ITC, Wolcott Mill Metropark, W.C. Wetzel Park and adjacent communities.



SECTION 12.0

IMPLEMENTATION

INTRODUCTION

The Planning Commission's thoughtful preparation and adoption of any plan would be for not without a program of implementation strategies to bring the Plan to life. The following implementation techniques permit the Township to turn potential issues or concerns into opportunities. The following section attempts to identify each specific plan recommendation with an appropriate implementation technique and the parties involved to facilitate that recommendation. These techniques should be referred to frequently and used systematically so that the outcome is a consistent program of implementation over the life-span of the Master Plan. This "checklist" can be viewed as just that, a checklist for Township use on a day to day basis.

IMPLEMENTATION TOOLS

Following is a brief discussion of several key implementation tools available to the Township.

Zoning Ordinance Amendments

The Township's most effective tool to implement the land use arrangement of the Master Plan are zoning standards and zoning districts. A zoning ordinance is meant to be a fluid document, catering to the ideals and needs of the community. The experiences communities undergo in the application of their zoning rules and the review of unusual new land uses constantly change the body of professional knowledge related to planning and zoning standards. Periodic review of the zoning ordinance will result in the application of the most up-to-date standards in the design of new uses and the maintenance of existing developments. Review sessions may be appropriate at least annually, unless otherwise needed throughout the year.

Special Design Plans and Functional Plans

Much like the Zoning Ordinance, the Master Plan needs to be constantly reviewed. Further, sometimes a Master Plan must be followed by more detailed data or design studies in order to further identify issues, provide data for decisions making or to illustrate specific concepts that can only be covered briefly in the plan. These smaller, more specific plans can also help to implement certain ideals outlined in the Plan.

Subdivision and Condominium Regulations

Subdivision Regulations and Condominium Regulations Ordinances are valuable tools in achieving the type of residential development desired by the Township since the vast majority of the Township is planned for residential development. These ordinances should be periodically reviewed and updated to incorporate effective standards that will result in high quality, attractive residential developments.

Site Plan, Special Land Use, Planned Development, and Rezoning Approval

Many essential components of the Plan will be the subject of a site plan or special land use application, perhaps preceded by an application for rezoning or submitted as a combined “planned development.” Now is the appropriate time to review the community’s site plan and special land use approval processes and standards. The standards should clearly set forth the ideals and preferences of the Township. Once these standards are in place, the Planning Commission must adhere to them consistently when reviewing development proposals. The implementation of the Plan could take 20 years or longer, which will likely be the case for Ray Township. In order to maintain the vision, consistent application of the Ordinance standards will be essential.

Re-Evaluation and Adjustment of the Plan

The final – and sometimes most difficult – step in the planning process is the last one: reevaluation and adjustment. The process is never really finished. A community’s population, economic status, goals, land uses, land use problems, and political climate are constantly changing. It is important to assess how well the Plan is addressing the present land use issues in the community, and whether amendments should be made to keep the Plan relevant and make it the most appropriate guide for the community’s future land use. If the Plan no longer reflects the vision of the community, the Planning Commission can then begin the planning process again. Based on State Statute, the Plan must be reviewed every five (5) years to ensure the Plan is up to date and reflects current policy.

IMPLEMENTATION STRATEGY	RESPONSIBLE PARTY	TIMEFRAME	SECTION	PAGE
Develop a residential zoning district requiring 60,000 square foot lots	Planning Commission / Township Board	Mid Term - Upon Implementation of Sewer District	Residential Plan	8-9
Develop a residential zoning district requiring 30,000 square foot lots	Planning Commission / Township Board	Mid Term - Upon Implementation of Sewer District	Residential Plan	8-10
Develop a residential zoning district requiring 20,000 square foot lots	Planning Commission / Township Board	Mid Term - Upon Implementation of Sewer District	Residential Plan	8-11
Develop a residential zoning district requiring 15,000 square foot lots	Planning Commission / Township Board	Mid Term - Upon Implementation of Sewer District	Residential Plan	8-12
Develop a mixed use residential zoning district requiring lots consistent with 3 dwelling units per acre	Planning Commission / Township Board	Mid Term - Upon Implementation of Sewer District	Residential Plan	8-13
Develop a residential zoning district permitting senior housing in a multiple family or other creative setting.	Planning Commission / Township Board	Mid Term - Upon Implementation of Sewer District	Residential Plan	8-15
Develop a residential zoning district specifically for manufactured housing parks	Planning Commission / Township Board	Short Term	Residential Plan	8-16
Develop a residential zoning district requiring lot sizes consistent with housing in Ray Center	Planning Commission / Township Board	Short Term	Residential Plan	8-17
Review current standards for commercial sites adjacent to residential land uses	Planning Commission / Township Board	Short Term	NonResidential Plan	9-6
Develop a mixed use davis district	Planning Commission / Township Board	Mid Term - Upon Implementation of Sewer District	NonResidential Plan	9-7
Review current standards for industrial sites adjacent to residential land uses	Planning Commission / Township Board	Short Term	NonResidential Plan	9-10
Develop an industrial residential district which allows both industrial users and single family residential uses	Planning Commission / Township Board	Short Term	NonResidential Plan	9-11
Develop a zoning regulation adopting design guideline elements	Planning Commission / Township Board	Short Term	NonResidential Plan	9-15

IMPLEMENTATION STRATEGY	RESPONSIBLE PARTY	TIMEFRAME	SECTION	PAGE
Continue to develop neighborhood parks to provide a park ratio consistent with standards	Planning Commission / Township Board	Long Term	Community Facilities Plan	10-5
Continue to develop community wide parks to provide a park ratio consistent with standards	Planning Commission / Township Board	Long Term	Community Facilities Plan	10-6
Continue to work with HCMA to review new park improvements	Planning Commission / Administration	Ongoing	Community Facilities Plan	10-7
Develop pathways as defined in Master Plan	Planning Commission / Township Board / Administration / Regional	Ongoing	Community Facilities Plan	10-8
Develop a north south pathway connector through Wolcott Mill	Planning Commission / Township Board / Administration / Regional	Ongoing	Community Facilities Plan	10-8
Develop a pathway connection with Macomb Orchard Trail	Planning Commission / Township Board / Administration / Regional	Ongoing	Community Facilities Plan	10-8
Acquire properties as defined in Master Plan as available and appropriate	Township Board	Ongoing	Community Facilities Plan	10-12
Widen 26 Mile Road from North Avenue to Omo Road	Road Commission	Mid Term	Thoroughfare Plan	11-8
Widen 26 Mile Road from Romeo Plank to Hayes Road	Road Commission	Mid Term	Thoroughfare Plan	11-8
Pave 29 Mile Road from North Avenue to Township boundary	Road Commission	Mid Term	Thoroughfare Plan	11-8
Widen Romeo Plank to 5 Lanes from 26 Mile to 32 Mile Road	Road Commission	Long Term	Thoroughfare Plan	11-8
Widen North Avenue to 5 Lanes 26 Mile to 29 Mile Road	Road Commission	Long Term	Thoroughfare Plan	11-8
Widen 26 Mile Road to 4 Lanes from Romeo Plank to North Avenue	Road Commission	Long Term	Thoroughfare Plan	11-8
Construct Hayes Road from 26 Mile to 32 Mile Road	Road Commission	Long Term	Thoroughfare Plan	11-15
Construct Kunstman Road from 26 Mile Road to 27 Mile Road	Road Commission	Mid Term	Thoroughfare Plan	11-15

IMPLEMENTATION STRATEGY	RESPONSIBLE PARTY	TIMEFRAME	SECTION	PAGE
Develop 1/2 and 1/4 Section Roadway connections	Planning Commission / Road Commission / Private Development	Ongoing	Thoroughfare Plan	11-17
Coordinate Review Process with Road Commission to ensure Access Management	Planning Commission / Road Commission	Ongoing	Thoroughfare Plan	11-21

ZONING PLAN

Zoning is one of the Township's most effective and common tools for implementing the recommendations of the Master Plan. The structure and recommendations of this Master Plan are a departure from past planning practice. The Township has traditionally had a limited number of Master Plan Designations and consequently Zoning Districts. However, this Master Plan is a significant deviation from that past planning methodology. For instance, the Master Plan does suggest the creation of a number of new Zoning Districts to help implement the development of the Township's new sanitary sewer district. However, this may not be necessary immediately, based on the timing of when the sanitary sewer district may be available. The reason for this is that the Future Land Use Map represents the Township's long-range land use vision when sewer and water become available, while the Zoning Ordinance regulates specific use and development of property today with public sewer and water infrastructure. As one of the main implementation tools, the Zoning Plan Matrix illustrates how the future land use designations generally correspond to the existing zoning districts as well as those that must be created.

MASTER PLAN DESIGNATION	DENSITY (Dwellings/Acre)	LOT WIDTH (Suggested in Feet)	EXISTING ZONING DISTRICT	CREATION OF NEW ZONING DISTRICT NECESSARY
Agricultural Residential	0.5	150	R-1	N/A
Single Family Residential Transitional	0.8	150	N/A	✓
Single Family Residential Low	1.0	100	N/A	✓
Single Family Residential Medium	2.0	80	N/A	✓
Single Family Residential High	3.0	60	N/A	✓
Mixed Use Residential	3.0	60	N/A	✓
Multiple Family Residential	6.0	N/A	RM	N/A
Multiple Family Residential Older Adult Housing	5.0	N/A	N/A	✓
Manufactured Housing	5-6.0	N/A	N/A	✓
Single Family Residential Ray Center	2.5	100	N/A	✓
Local Commercial	N/A	150	B-1	N/A
Community Wide Commercial	N/A	150	B-2	N/A
Mixed Use Davis	3.0	N/A	N/A	✓
Industrial	N/A	150	M-1	N/A
Industrial Residential	1 Dwelling per Lot	150	N/A	✓

RAY TOWNSHIP

MACOMB COUNTY, MICHIGAN

LONG TERM LAND USE PLAN

-  Agricultural Residential 90,000
-  Single Family Residential Transition 60,000
-  Single Family Residential Low 30,000
-  Single Family Residential Medium 20,000
-  Single Family Residential High 15,000
-  Mixed Use Residential
-  Multiple Family
-  Multiple Family - Senior Housing
-  Manufactured Housing Community
-  Commercial
-  Industrial
-  Industrial Residential
-  Mixed Use Davis District
-  Semi - Public
-  Public

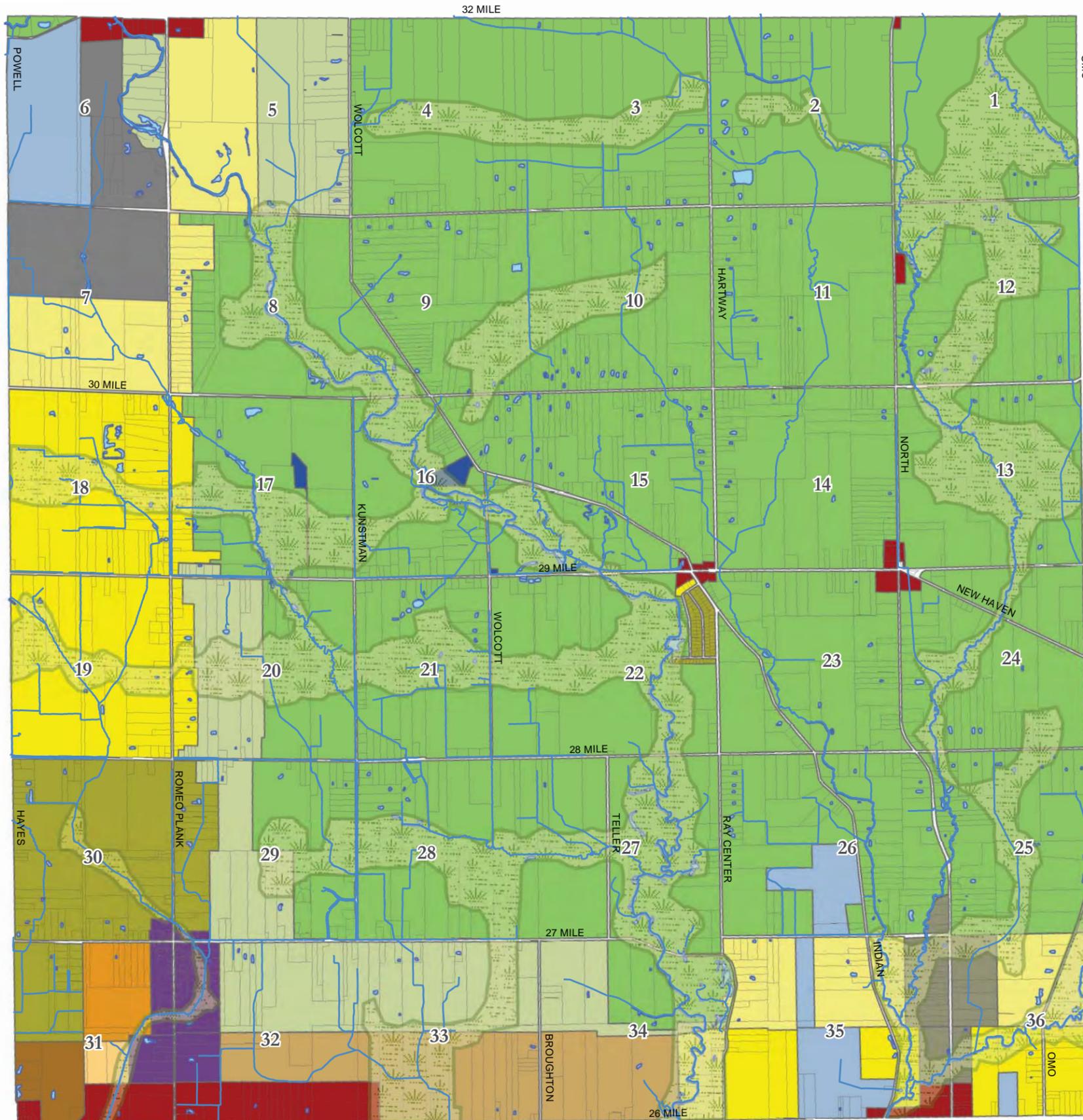
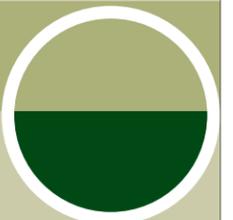
Adopted by:
Ray Township Planning Commission
May 11, 2010

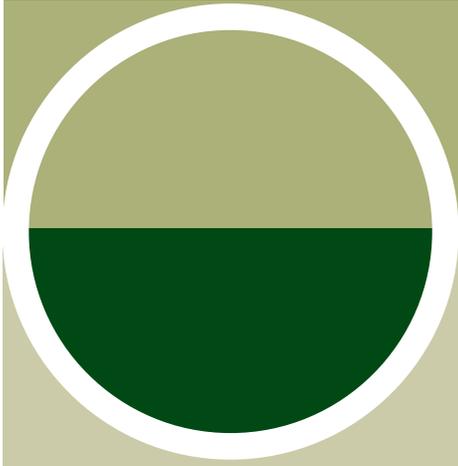
Endorsed by:
Ray Township Board of Trustees
June 1, 2010

Prepared By:
The Ray Township Planning Commission



Base Map Provided By:
MCPED





Ray Township

Macomb County

Master Land

Use Plan

Appendix A

Preference Survey



Date: January 12, 2009

To: Ray Township Planning Commission

From: Christopher P. McLeod, AICP, PCP

Re: Preference Survey

The enclosed survey is designed to receive comments from the Commission relative to different types of development which may occur within the Township as a result of the implementation of the Master Plan. The survey presents a snapshot of a certain type of development and then leaves space for each Commissioner to provide comments relative to that picture, whether positive, negative or both. Commissioners are also encouraged to provide comments which may make the development pictured more desirable (i.e. This development would be more desirable if additional landscaping was provided along the street front and within the parking area).

In addition, the survey also provides an area to rate the picture. The rating scale is (1-5), with 1 being less desirable and 5 being most desirable. Just simply circle the number which you feel the picture represents. The results of the survey will help develop guidelines for some of the Master Plan designations that we have been discussing.

PICTURE

COMMENT

1



Nice mixed use

Loading Area? Trash Area? Access?

Good for Davis Area

Design and Use = 4

AVERAGE SCORE 3.6

OVERALL RATING

1 2 3 4 5

2



Mundain

Parking?

Variation in Design, Offsets - Design = 4

Nice Open Space

Building and Landscape - OK

AVERAGE SCORE 3.2

OVERALL RATING

1 2 3 4 5

PICTURE

COMMENT

3



Too Downtown

Crowded

Smart land use - high density

Style = 4

Variety in design

AVERAGE SCORE 3.0

OVERALL RATING

1 2 3 4 5

4



Too Typical

No variety

Too much paving

Style = 3

Plain front, and Simple Roof

AVERAGE SCORE 2.8

OVERALL RATING

1 2 3 4 5

PICTURE

COMMENT

5



Too Downtown

Front porch encourages interaction

Not a fan of steps or balconies - high maintenance

Style = 5

Large front yard, variety, balconies

AVERAGE SCORE 3.0

OVERALL RATING

1 2 3 4 5

6



Yuck

Good use of sidewalks, turf, shrubs, etc

Style = 4

Variety in design, porches, brick

AVERAGE SCORE 3.2

OVERALL RATING

1 2 3 4 5

PICTURE

COMMENT

7



Too City

Good green space

Style/Design = 5

Brick, variety in design, roof design

AVERAGE SCORE 3.4

OVERALL RATING

1 2 3 4 5

8



Buildings need to be offset

No wasted space - design will work

Style Design = 4

No front offsets, bad roof drainage

AVERAGE SCORE 3.0

OVERALL RATING

1 2 3 4 5

PICTURE

COMMENT

9



Buildings need to be offset

Sitting area between road and building - safety concern

Style / Design = 4

Greenspace and pedestrian areas

AVERAGE SCORE 2.8

OVERALL RATING

1 2 3 4 5

10



Boring

Industrial

Style Design = 4

Brick, greenspace, pedestrian areas

AVERAGE SCORE 2.6

OVERALL RATING

1 2 3 4 5

PICTURE

COMMENT

11



Bad parking lot

Ease and safety design for maneuverability and snow removal

Style Design = 3

Roof variation, some greenery

AVERAGE SCORE 3.4

OVERALL RATING

1 2 3 4 5

12



Blow up

Accepting of national chain design - landscaping may block view for safety

Style Design = 3

Exterior, parking, greenspace, signs are negatives

AVERAGE SCORE 2.4

OVERALL RATING

1 2 3 4 5

PICTURE

COMMENT

13



No style

Building design serves its purpose
- landscape may help but not alot

Style Design = 2

Metal building, pole barn, lack of windows,
signage, and entry are negatives

AVERAGE SCORE 2.0

OVERALL RATING

1 2 3 4 5

14



Nice prison

Style Design = 4

Brick facade, metal roof, roof variation,
greenspace are positives

AVERAGE SCORE 2.75

OVERALL RATING

1 2 3 4 5

PICTURE

COMMENT

15



Outdated

Like to pull up close to drop off and pick up

Style Design = 2

Cement block, flat simple design, lack of greenspace, signs are negatives

AVERAGE SCORE 2.0

OVERALL RATING

1 2 3 4 5

16



Landscape serves no purpose

Style Design = 4

Brick/block, offset front, and greenspace are positives

AVERAGE SCORE 2.6

OVERALL RATING

1 2 3 4 5

PICTURE

COMMENT

17



Nice

Style Design = 5

Brick/block, metal roof, roof varieties, green space, signs, covered pedestrian way are positives

AVERAGE SCORE 4.4

OVERALL RATING

1 2 3 4 5

18



Low maintenance roof, berm not too high

Style Design = 4

Brick/block, roof style, parking, and green-space are positives

AVERAGE SCORE 3.2

OVERALL RATING

1 2 3 4 5

PICTURE

COMMENT

19



Not bad for office building

Style Design = 4

Brick, roofs, windows, front offsets, green-space, signs are positives

AVERAGE SCORE 3.8

OVERALL RATING

1 2 3 4 5

20



Downtown Davis idea

Low use of valuable sq. footage

Style Design = 4

Brick, walkways, greenspace, benches, off-sets, are positives

AVERAGE SCORE 4.0

OVERALL RATING

1 2 3 4 5

PICTURE

COMMENT

21



Downtown Davis idea

Not a fan of this style

Style Design = 5

Brick, signage, walkways, lighting, greenspace are positives

AVERAGE SCORE 4.2

OVERALL RATING

1 2 3 4 5

22



Too contemporary

Too much waster space out front - increases maintenance and inconvenience

Style Design = 5

Brick, pillars, open glass, greenspace, signage are positives

AVERAGE SCORE 3.4

OVERALL RATING

1 2 3 4 5

PICTURE

COMMENT

23



Style Design = 4

Block variety, greenspace, signage are positives

Roof and parking are negatives

AVERAGE SCORE 3.2

OVERALL RATING

1 2 3 4 5

24



Meijer has done better

All topics = 5

Style Design = 3

Parking, roofs, greenspace, lighting, windows are negatives

AVERAGE SCORE 2.8

OVERALL RATING

1 2 3 4 5

PICTURE

COMMENT

25



Dislike signage

Style Design = 3

Block building, roofline, signage, parking, lighting lack of greenspace are negatives

AVERAGE SCORE 2.8

OVERALL RATING

1 2 3 4 5

26



OK

Inviting

Style Design = 5

Brick, windows, signage, entry protection are all positives

AVERAGE SCORE 4.2

OVERALL RATING

1 2 3 4 5

PICTURE

COMMENT

27



Nice

Style Design = 5

Brick, window, roof, entry protection, greenspace, and lighting are positives

AVERAGE SCORE 4.4

OVERALL RATING

1 2 3 4 5

28



Boring

Office fronting warehouse looks good

Style Design = 3

Brick, block, metal, windows, green-space, and signs are positives

Roof is a negative

AVERAGE SCORE 2.6

OVERALL RATING

1 2 3 4 5

PICTURE

COMMENT

29



Boring

Roof mounted applicances should be screened

Style Design = 3

Brick, windows, greenspace are positives

Roof and signs, are negatives

AVERAGE SCORE 2.8

OVERALL RATING

1 2 3 4 5

30



Not bad for a bank

Beautiful

Style Design = 5

Roofs, windows, signs, greenspace, parking and lightng are all positives

AVERAGE SCORE 4.4

OVERALL RATING

1 2 3 4 5

PICTURE

COMMENT

31



Nice

Style Design = 5

Brick, front facade, windows, roofs, greenspace

AVERAGE SCORE 4.8

OVERALL RATING

1 2 3 4 5

32



Not bad

Sitting area safety

Style Design = 5

Brick, front, windows, roof , sign, green-space, parking and lighting are positives

AVERAGE SCORE 3.6

OVERALL RATING

1 2 3 4 5

PICTURE

COMMENT

33



acceptable

Fire hydrant location?

Style Design = 5

Brick, frontage, windows, roofs, green-space, parking and lighting are positives

AVERAGE SCORE 4.4

OVERALL RATING

1 2 3 4 5

34



I like it

Style Design = 5

Brick, frontage, windows, roofs, green-space, parking and lighting are positives

AVERAGE SCORE 4.4

OVERALL RATING

1 2 3 4 5

PICTURE

COMMENT

37



Yes

Nice features

Style Design = 5

Fascia, frontage, windows, roof, signs, greenspace, parking and lights are positives

AVERAGE SCORE 4.6

OVERALL RATING

1 2 3 4 5

38



Yes

Lacks greenspace - not inviting

Not a fan of parellel parking

Style Design = 5

Fascia, frontage, windows, roofs, signs, greenspace and lights are positives

AVERAGE SCORE 4.6

OVERALL RATING

1 2 3 4 5