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RICHMOND TOWNSHIP, MICHIGAN 2035 MASTER PLAN



Community Planning & Management, P.C.
Planning Communities Since 1973



RICHMOND TOWNSHIP MICHIGAN 2035 MASTER PLAN

ADOPTED BY:

THE RICHMOND TOWNSHIP PLANNING COMMISSION

July 15, 2015

ACCEPTED BY:

THE RICHMOND TOWNSHIP BOARD OF TRUSTEES

September 9, 2015

PREPARED BY:
THE RICHMOND TOWNSHIP PLANNING COMMISSION

ASSISTED BY:
Community Planning & Management, P.C.



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OVERVIEW OF MICHIGAN COMMUNITY PLANNING

The Master Plan is a long-range policy document that guides land use and community development for the future. It clearly communicates community goals and objectives, then follows those statements up with steps that implement those objectives. It is up to the community to follow the path it chooses.

WHAT IS A MASTER PLAN?

A community's Master Plan is a set of instructions for future decisions. It is a long-term document intended to guide development in the Township over the next generation of growth, change, or lack thereof. The Master Plan sets forth public policies for the Township to follow regarding growth, development, and redevelopment. The information and concepts presented in the Master Plan are intended to guide local decisions on both public and private uses of land, as well as the provision of public facilities.

WHY DO WE PREPARE A MASTER PLAN?

The Michigan Planning Enabling Act of 2008 consolidated previously different legislation that divided Cities, Villages, Townships, and Counties. The Act also sets forth that the plan should be used to:

A master plan shall address land use and infrastructure issues and may project 20 years or more into the future. A master plan shall include maps, plats, charts, and descriptive, explanatory, and other related matter and shall show the planning commission's recommendations for the physical development of the planning jurisdiction.

AND

A land use plan that consists in part of a classification and allocation of land for agriculture, residences, commerce, industry, recreation, ways and grounds, public transportation facilities, public buildings, schools, soil conservation, forests, woodlots, open space, wildlife refuges, and other uses and purposes.

THE MASTER PLAN AND THE ZONING ORDINANCE

Zoning is the community's laws for controlling the classification and regulation of land use. The Zoning Ordinance places rules on different land uses for how buildings and other structures may be placed on the ground and what uses may occupy property.

Unlike the Zoning Ordinance, the Master Plan is a set of policies, not the law. While the Zoning Ordinance and Zoning Map regulate current and proposed land uses, the Master Plan through maps and policy statements, are intended to guide land use decision-making over two to three decades. The Master Plan is a community's "vision" while the zoning ordinance contains laws that govern the land uses, they are only a significant step towards attaining that vision, and the Master Plan. Michigan law requires that the zoning ordinance is based on an adopted plan. Therefore, the Master Plan provides the basis for making zoning decisions. Zoning decisions consistent with the plan are generally upheld in legal challenges, however, the entirety of the plan should be considered in those decisions, not merely "cherry picking" some language or maps while excluding others.

THE PLANNING PROCESS

Richmond Township initiated the Master Plan process by working with its planning consultant to prepare a profiles for different components of land use and mental scan. The Planning Commission reviewed its regional setting, development history, existing land use, natural features, and demographics. Problems, opportunities, and community assets were identified. Concurrent with the completion of the various profiles and recommendations/implementation steps, the Township held a public open house on the materials to gauge public feedback.

The next step in the process was for the Planning Commission to affirm its goals and objectives statements. Using the valuable input from the public hearing and the existing conditions profiles, a series of goals and objectives were formulated to guide the elements of the Master Plan.

The final task was to prepare the Land Use Plans and Thoroughfare Plan to guide future development, redevelopment, or lack of development. The final "Plan" chapters were prepared with references to the goals and objectives. In addition, action items for plan implementation were incorporated into the final document to chart a path to make the plan a reality.

It is imperative to point out that the Future Land Use Plan Map is intended to show generalized land use and is not intended to indicate precise size, shape or dimension. In addition, the recommendations of the Land Use Plan have a long-range planning horizon and do not necessarily imply that short-range rezoning or Zoning Ordinance amendment are appropriate- it is the Planning Commission and Township Board's obligations to determine if the Township is ready for such changes.

The final step in the planning process was to garner additional public input through a public hearing, which is required by the Planning Act, as well as communicating the plan update with neighboring communities and regional influences, in line with the coordination aspects of the law. Ultimately, the Planning Commission adopts the Master Plan while the Township Board receives the plan without necessarily taking an action of approval.

REGIONAL PROFILE

INTRODUCTION

The growth and development of a community can be influenced greatly on its relative position within the region where it is located. This regional location is important to understanding historical growth patterns and current conditions. Understanding the broader region's potential for growth and land use shifts helps individual communities anticipate their future land use needs.

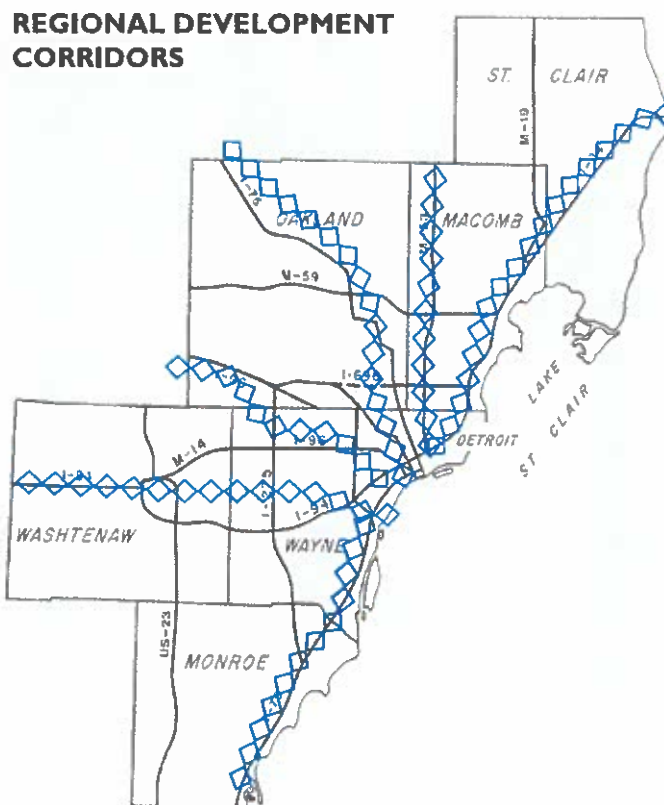
Statewide and regional policies or infrastructure investments can strongly shape the type of development and land uses that exist within a community in spite of the local responsibility for controlling and permitting development. These larger-scale decisions may be outside a community's direct input and control. For this reason, local land use planning should account for broader patterns and initiatives. This initial chapter of the Richmond Township Master Plan identifies some of the current trends and conditions across southeast Michigan and considers how they may impact future land uses within and directly adjacent to the Township. Outlining the regional setting provides the background information necessary to understand the dynamic nature of growth and change. Anticipating the effects of future regional policies helps formulate future local decisions.

It is important to understand southeast Michigan's regional form through principal growth corridors and how these corridors influence future growth patterns. The chapter will also synthesize relevant some other larger scale planning activities and policies that have some impact on Richmond Township's future planning activities.

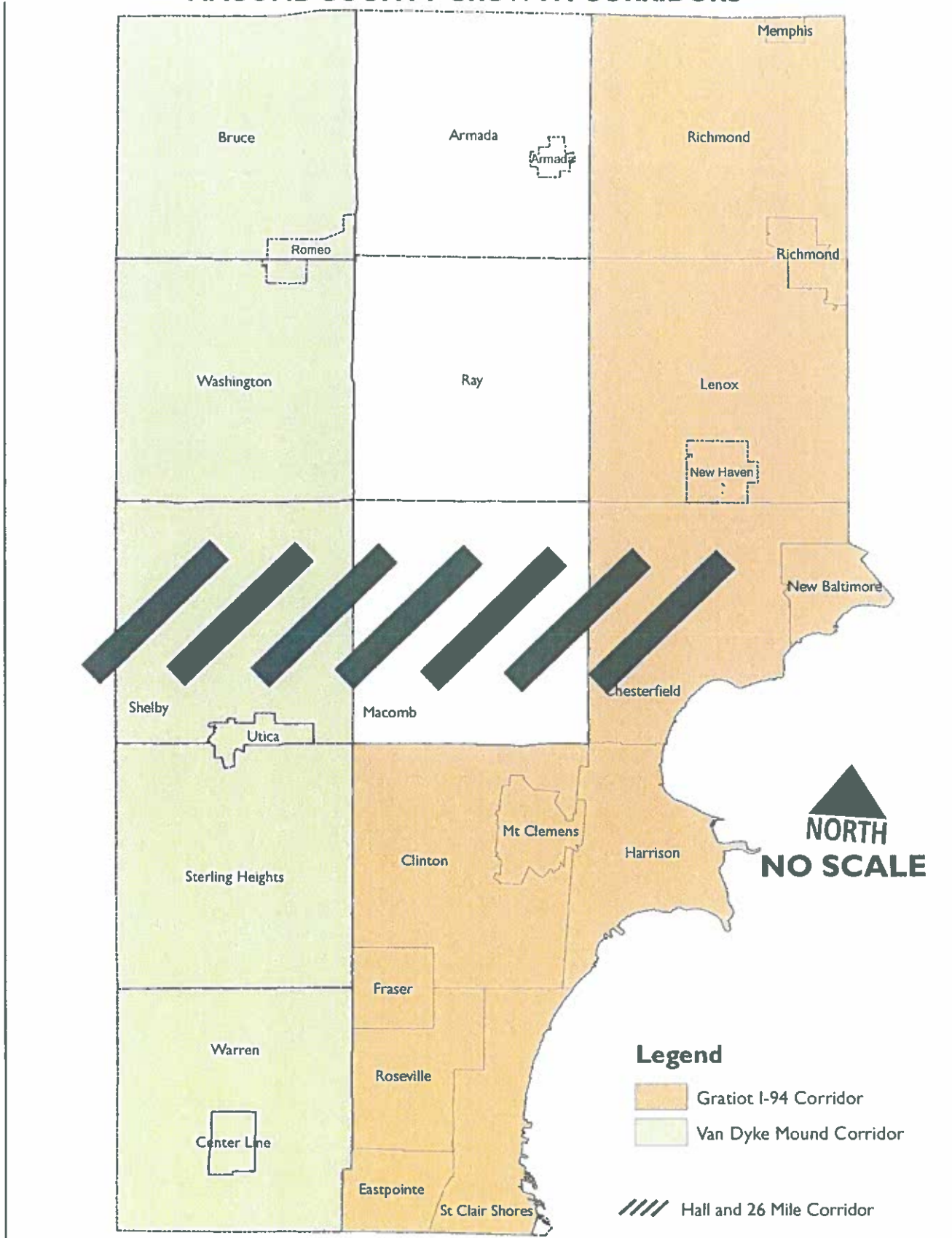
REGIONAL DEVELOPMENT CORRIDORS

The most significant growth corridors in Michigan are established around the major transportation corridors that radiate from central Detroit through surrounding communities in Wayne, Oakland, and Macomb Counties. Historically, between 1950 and now, most of the region's population and housing growth occurred in the path of the following corridors:

- Detroit to Mt. Clemens then Port Huron along I-94 and Gratiot Avenue (M-3);
- Detroit to Utica then Romeo along Van Dyke Avenue (M-53) and Mound Road;
- Detroit to Pontiac then Flint along I-75 and Woodward Avenue (M-1);
- Detroit to Livonia then Farmington Hills then Brighton and along to Lansing in I-96;
- Detroit to Ann Arbor along I-94 and Michigan Avenue (US 12); and
- Detroit to Monroe then Toledo, Ohio along I-75 and Fort Street (M-85).



MACOMB COUNTY GROWTH CORRIDORS



MACOMB COUNTY GROWTH CORRIDORS

Historic Macomb County Growth Trends

Population growth traditionally first occurred along the Lake St. Clair communities within Macomb County, which is consistent with traditional settlement patterns. Mt. Clemens, the Macomb County seat, also contributed to a predominant early development pattern along the eastern portion of the County. Most metropolitan areas across the United States experienced a drastic suburban shift following WWII and the dominance of the automobile. Existing suburban cities cemented their identities as nodes of development and economic activity. In Macomb County, the effects of this migration were first noticed around Mt. Clemens and the cities that bordered Detroit. A secondary acceleration of growth in Macomb County sped north along the Van Dyke Avenue (M-53) and Mound Road corridor in the western Macomb communities that border Oakland County.

Richmond Township Population and Household Growth

In 1970, Richmond Township's population was 1,719 according to the US Census. By 1980, the population had grown to 2,453 and by 1990 it had crept up to 2,258. However, in the decade between 1990 and 2000, the number of people in Richmond Township exploded nearly 35%, to 3,416. The Township's population growth has slowed since 2000, with the most recent SEMCOG estimate in 2013 stating the Township has 3,666 residents.

Slowing growth has not translated into diminished development pressures in the Township. Although the population only increased a few percent in between 2000 and now, housing units increased nearly 20%. This reflects the national trend of decreasing household size. In 1970, the Township's average household size was nearly four persons per household. Presently, the average household size in the Township is about three persons per household. The past 15 years had fewer people occupied more households, on average, in Richmond Township. Since 2010, SEMCOG indicates that there have only been five new homes built and only one more person residing in the Township. The Demographic Profile chapter of this Plan examines these local trends thoroughly.

RICHMOND TOWNSHIP, MICHIGAN

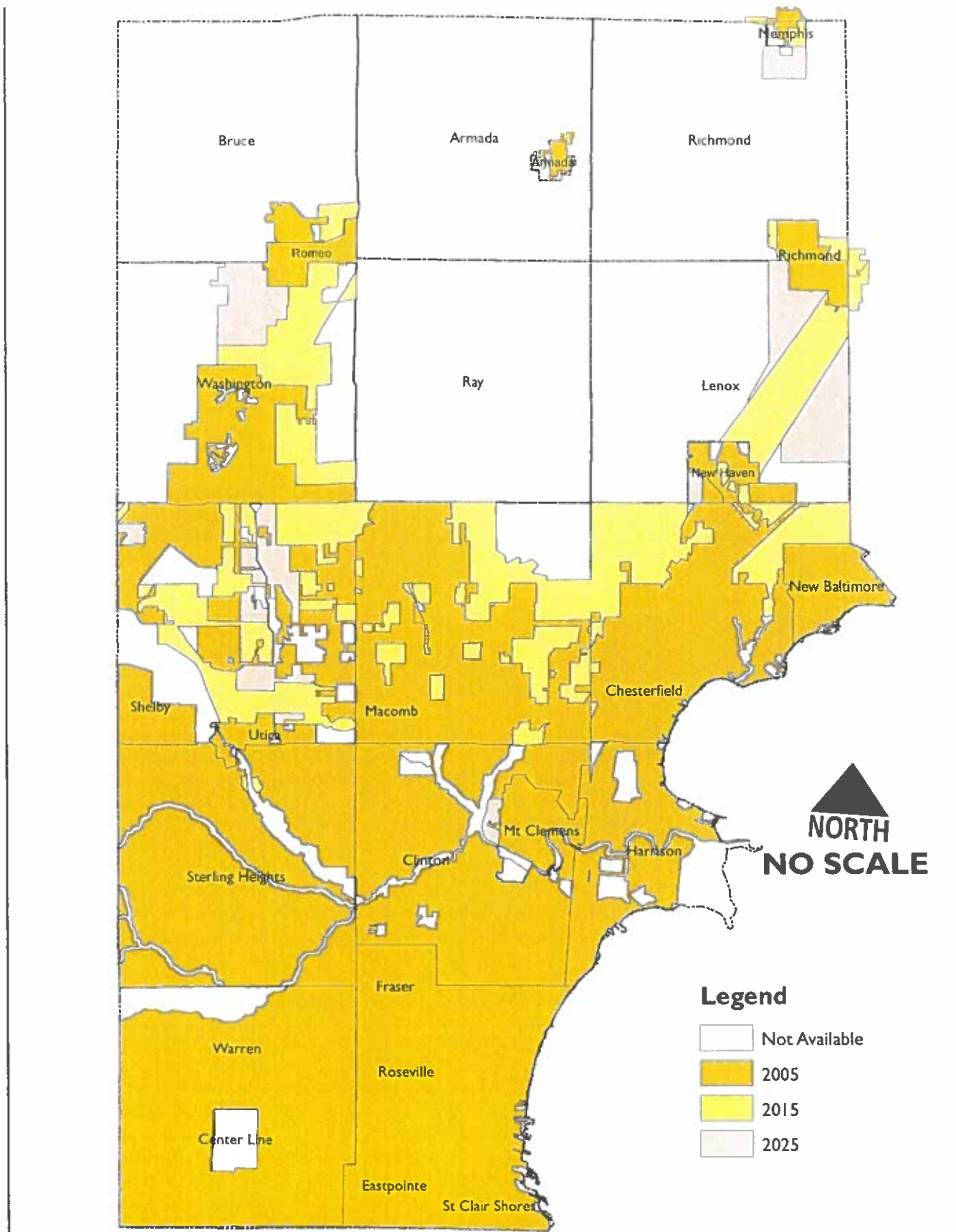
NORTH - SOUTH GROWTH CORRIDORS 2000-2010 HOUSING UNITS									
M-53/Van Dyke/Mound					I-94/Gratiot/M-3				
Community	Housing Units		Change		Community	Housing Units		Change	
	2000	2010	Number	% Change		2000	2010	Number	% Change
Bruce Township	2,188	2,477	289	13.2%	Richmond City	2,061	2,478	417	20.2%
Village of Romeo	1,605	1,659	54	3.4%	Richmond Township	1,060	1,269	209	19.7%
32 Mile Road to 38 Mile Road	3,793	4,136	343	9.0%	32 Mile Road to 38 Mile Road	3,121	3,747	626	20.1%
Washington Township	7,317	9,020	1,703	23.3%	Lenox Township	1,508	1,822	314	20.8%
					New Haven	1,138	1,695	557	48.9%
26 Mile Road to 32 Mile Road	7,317	9,020	1,703	23.3%	26 Mile Road to 32 Mile Road	2,646	3,517	871	32.9%
Shelby Township	25,265	30,291	5,026	19.9%	Chesterfield Township	13,967	17,755	3,788	27.1%
Utica	2,005	2,463	458	22.8%	New Baltimore	3,218	4,740	1,522	47.3%
M-59 to 26 Mile Road	27,270	32,754	5,484	20.1%	M-59 to 26 Mile Road	17,185	22,495	5,310	30.9%
Sterling Heights	47,547	52,190	4,643	9.8%	Fraser	6,178	6,448	270	4.4%
					Clinton Township	41,803	45,288	3,485	8.3%
					Mt. Clemens	7,546	7,582	36	0.5%
					Harrison Township	11,486	12,604	1,118	9.7%
14 Mile Road to M-59	47,547	52,190	4,643	9.8%	14 Mile Road to M-59	67,013	71,922	4,909	7.3%
Centerline	3,916	3,920	4	0.1%	Eastpointe	13,965	13,796	-169	-1.2%
Warren	57,248	57,938	690	1.2%	Roseville	20,519	21,260	741	3.6%
					St. Clair Shores	28,208	28,467	259	0.9%
8 Mile Road to 14 Mile Road	61,164	61,858	694	1.1%	8 Mile Road to 14 Mile Road	62,692	63,523	831	1.3%
Totals	147,091	159,958	12,867	8.7%	Totals	152,657	165,204	12,547	8.2%

The evolution of regional growth across the Detroit Metropolis is less influenced by the historic trend of growth radiating out from the Downtown Detroit central business district. The reason for this lack of inertia is the stunning loss of population in Detroit (from a peak of nearly 1.8 million to about 700,000 today) and the first ring of suburban communities. Population and land use changes internal to the region are now along the connections between the region's secondary economic centers and transportation arterials like I-275/M-5 in Wayne and Oakland Counties and Hall Road (M-59) east-west across the County from Chesterfield to Shelby Township.

M-59 GROWTH CORRIDOR 2000-2010 POPULATION AND HOUSING UNITS

Community	Population				Housing Units			
	2000	2010	Change	Percentage Change	2000	2010	Change	Percentage Change
Chesterfield Township	37,405	43,381	5,976	16.0%	13,967	17,755	3,788	27.1%
Macomb Township	50,478	79,580	29,102	57.7%	17,922	27,585	9,663	53.9%
Clinton Township	95,648	96,796	1,148	1.2%	41,803	45,288	3,485	8.3%
Sterling Heights	124,471	129,699	5,228	4.2%	47,547	52,190	4,643	9.8%
Utica	4,577	4,757	180	3.9%	2,005	2,463	458	22.8%
Shelby Township	65,159	73,804	8,645	13.3%	25,265	30,291	5,026	19.9%
Totals	377,738	428,017	50,279	13.3%	148,509	175,572	27,063	18.2%

MACOMB COUNTY SEWER AVAILABILITY (SEMCOG, 2005)



REGIONAL PLANNING INFLUENCES

The Southeast Michigan Council of Governments (SEMCOG)

SEMCOG is the regional planning agency, council of governments, and metropolitan planning organization (MPO) serving the seven county southeast Michigan region. SEMCOG was established in 1968 and focuses on inter-governmental cooperation on planning activities that are regional in scope. SEMCOG'S current principal planning activities are focused on transportation, community & economic development, air & water quality, housing, and other designated Federal and state programs. Many of SEMCOG's activities have a direct or indirect impact on Macomb County's northern townships.

SEMCOG Sewer Service Area Map

SEMCOG periodically revises a regional sewer service area map. The last update was in 2005. The map is a policy tool that is used to understand how sprawl affects Southeast Michigan by preventing the uncoordinated extension of public utilities. The map recognizes that urbanization is highly dependent on the availability of utilities and seeks to direct land use growth to areas where existing sewer lines and sewer treatment capacity are available. SEMCOG and the State of Michigan use this map to review funding eligibility for some types of projects and grants. The 2005 map indicates the areas that already offer sewer and areas that SEMCOG projects will offer sewer by 2015 and 2025.

The sewer service area map, shown on the previous page, indicates that there may be small areas of Richmond Township that may be serviced by municipal sewer and treatment from either Memphis in the distant future. According to this map, there are no immediate plans to provide sewer service in the Township. Also note, the Detroit Water and Sewer Department does not provide services to Richmond Township, Memphis, or Richmond.

SEMCOG's TRANSPORTATION PLAN

Southeast Michigan's transportation provides the physical linkages between regional centers and destinations internal and external to the region. SEMCOG plays an importation role in coordinating the regional transportation planning process for maintaining, expanding, or otherwise enhancing Southeast Michigan's transportation network.

SEMCOG's transportation planning process identifies the regional transportation system deficiencies and recommends solutions for addressing these problems that the region can afford based on projected funding and revenues. SEMCOG's current transportation plan "Creating Success with Our Transportation Assets" examines the region's needs through 2040. These needs are based on a regional forecast of population, employment, and travel demand across all 7 counties. The plan examines deficiencies across modes like public transportation, freight, non-motorized travel, etc. and topics like safety and asset conditions.

SEMCOG's 2040 plan, adopted in 2013, does not specifically cite any projects or improvements within Richmond Township. However, there are numerous categories with unassigned projects and policies like safety inspections, bridge repairs, road repaving and rehabilitation, public transportation vehicle replacement, etc which could have an impact in the Township.

RICHMOND TOWNSHIP, MICHIGAN

Macomb County Planning and Economic Development Department

The Macomb County Planning and Economic Development Department assists local communities in their own planning and land use goals, such as assisting a collection of northern Macomb communities with farmland and open space preservation. Other services offered by the County include digital mapping (GIS), economic development, subdivision review, aerial photography, Community Development Block Grant administration, and watershed planning.

Suburban Mobility Authority for Regional Transportation

SMART is the agency responsible for providing mass transportation services to Macomb, Oakland and Wayne Counties in the Metropolitan Detroit area. The main component of SMART's service to the broader region consists of a network of long, line haul bus routes. Other services provided by SMART include a connecting small bus service, which provides a more specialized type of service. This is particularly important for meeting the transportation needs of senior citizens and the handicapped. SMART does not extend into the northeastern section of the County and therefore is not regularly available to Township residents at this time.

Michigan Department of Transportation & Macomb County Department of Roads

Future land use patterns are impacted and influenced by improvements to the regional highway and roadway systems. Within Macomb County, the Michigan Department of Transportation the Macomb County Department of Roads exercise the greatest amount of control over the Township's significant transportation routes.

The Michigan Department of Transportation has does not currently have any significant projects contained in the Southeast Michigan Transportation Improvement Program for 2014-2017.

The Macomb County Department of Roads, within its budget for the current fiscal years 2014 does not proposes any significant improvements within the Township. The County does however allocate monies each year to "Pavement Preservation." This entails patchwork and other minor improvements, which me necessary across the northern tier of communities. Each year approximately \$300k is allocated for this purpose. Additionally, Macomb County Department of Roads budgets about \$1.1M per year for gravel road maintenance.

St. Clair County Metropolitan Planning Commission

The St. Clair County Metropolitan Planning Commission updated a County wide Master Plan, in 2009 which will likely have influence on Richmond Township along the north and east boundaries. This Master Plan is based largely on Urban Growth Areas, outlying Agricultural and Rural Preservation Areas and a large emphasis on environmental protection.

Riley and Columbus Townships as well as the northern half of the City of Memphis are included within this Master Plan. Columbus Township to the east is planned largely for Agricultural and Rural Conservation along with substantial Open Space Corridors in conjunction with the Belle River. Riley Township to the north is also planned nearly exclusively for Agricultural and Rural Preservation. The City of Memphis is obviously planned as one of the Urban and General Growth areas, being an established urban area.

The County Planning Commission further provides direct assistance and planning recommendations for development proposals and rezoning. In addition, the County now acts as a resource basis for the communities within the Township, largely through the County-wide GIS system.

ENVIRONMENTAL PROFILE

OVERVIEW OF ENVIRONMENTAL FACTORS

The natural features of a community are a huge component of its character and how people that live, work, and recreate in the Township perceive that natural character. Many communities are known for their particularly unique or prevalent natural features. It is essential to civic identity that the Township identifies these natural characteristics and keeps them intact as the community plans for future land uses and development.

This chapter provides a detailed explanation of Richmond Township's physical land features. The chapter concludes on aspects of the physical environment that are likely to influence future development patterns. These aspects include the identification of:

- Existing property lines;
- Soils;
- Residential capabilities;
- Agricultural capabilities;
- Topography;
- Potential Wetlands;
- Streams, bodies of water, and floodplains; and
- Significant woodlands..

GOALS TO CONSIDER FOR PRESERVING RICHMOND TOWNSHIP'S ENVIRONMENT

There are certain goals which we should keep in mind as we review some of the important parts of Richmond Township's natural environment. At the end of the environmental profile compilation, we can then consider specific strategies for implementing these goals based on the information we review.

- Provide mechanisms which will allow for agricultural, residential, commercial and industrial uses to coexist with natural environmental systems.
- Create greenways throughout the community which allow for the preservation of natural waterways along with the adjacent vegetation and wildlife, while still providing adequate drainage for farming.
- Develop a community where the natural environment systems work cohesively with farming, residential housing, as well as non-residential development.
- Develop a means of promoting the conservation or replacement of wetlands within the community, essentially creating a no net loss of wetlands policy for the Township.
- Ensure the long-term quantity and quality of ground water within the Township.

EXISTING PROPERTY LINES

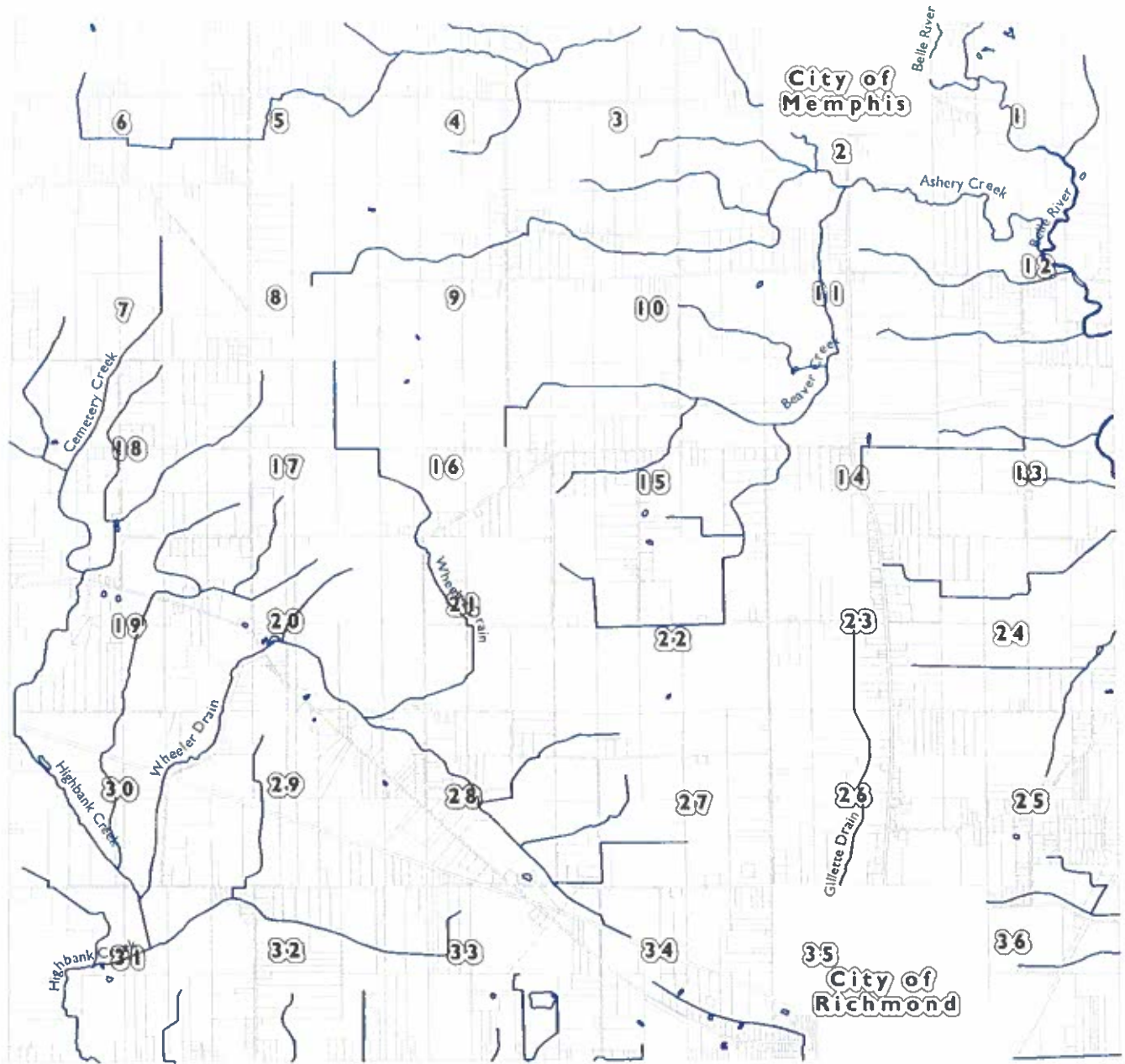
It is important to realize what the past growth patterns were and what the current trends or patterns of growth are when determining the future growth patterns for Richmond Township. The number of buildable lots, the frequent measure of potential housing growth in a community, can occur in different ways like the subdivision of land wither through platting or the establishment of single-family condominiums, or through "private" land divisions (commonly referred to as lot splits) as provided in Michigan's State Land Division Act. This is an important distinction since the planning process, except for regulating general lot standards, does not regulate land divisions. Land divisions provide for a less cohesive overall development pattern than that of a typical subdivision. Land divisions can also increase driveway frequency, decrease shared amenities, consume more land, and introduce problematic issues like private roads. These factors can all contribute to an excessive loss of open space, which directly and negatively impact's Richmond Township's rural character.

The proliferation of land divisions will slowly deteriorate the rural character currently embedded in Richmond Township's community fabric. In addition, past land divisions created lots that were excessively narrow and deep, also known as "bowling alley" lots. This type of land division left the Township with large amounts of inaccessible land in the interior of each Township section. The state Land Division Act now generally addresses this problem.

Richmond Township, since it does not provide municipal water and sewer, retains a large number of active farms and the majority of its land remains in large-lot configurations. The large lots will most likely face strong development pressure whether from additional lot splits, more dense subdivisions, or site condominium developments. This pressure is exactly why the Township needs well designed planning, zoning, and public policy. Attempting to guide any sort of local development requires strong and well reasoned policies and plans that provide for appropriate growth balanced with the preservation of farmlands, open spaces, and sensitive environmental areas.



PARCEL LINES



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Parcels

SOILS

Soil Characteristics are an important determinant of land use potential. Soils can help determine whether or not a land area is suitable for different kinds of intense forms of urban development, including housing, roads, and utilities. Soil types are particularly useful in identifying the agricultural suitability of land. The suitability of different soil classification can help determine how well on-site sewer or septic systems can function in locations not serviced by municipal sanitary sewer systems. The soils in Richmond Township fall into five (5) general soil associations. These different soils associations do vary in their ability to support various types of land uses.

There are a large number of individual soil types within the Township. These individual soils are grouped together into generalized classifications of soils that share characteristics called associations. A total of nine of these groupings, or associations, are located within Macomb County. Five of these associations are within Richmond Township.

Each association is described briefly below and shown in a couple of pages. A more detailed soils map is also provided.

Conover-Parkshill-Locke Association

This soils association occupies the area west of M-19 and north of Armada Ridge Road. The southwest and southeast corners of the Township also fall within this association. Land within this association consists of nearly level to gently sloping, somewhat poorly drained, and poorly drained soils.

This association is one of the best in the county for Agriculture. The soils in it are medium to high in fertility and respond readily to management. Nearly all of these areas have been cleared and are cultivated. Excessive wetness is the main limitation.

Excessive wetness and slow runoff are severe limitations to use of this association for residential and recreational areas. The excessive wetness and slow runoff cause difficulty in operating, installing, and maintaining septic systems. These limitations also are problematic for designing streets, underground utility lines, and building foundations because the nature of the land is not compacted or settled. Heavy equipment can only be used during dry periods. Highways break up readily because of frost heaves, poor drainage, and excessive wetness.

Woodland suitability for this soil is low, due to excessive wetness. The seedling mortality rate is high, nearly fifty (50%) percent. Pests and diseases are also quite frequent within these soils. The annual yield for hardwood is low, with the best suited trees being white ash, basswood, oak, and cottonwood.

Hoytville-Sims-Nappanee Blount Association

This is Richmond Township's other prominent soil association. This association can generally be found in the north-northeast corner and the south-southeast sections of the Township.

Poor drainage is among the most significant features of these soils. While these soils are well suited to farming, drainage remains a problem that needs to be overcome. Draining or tiling the land helps alleviate the overly damp conditions. Improvements may also help normal cultivation of crops appropriate for Macomb County.

Water collects in low areas during spring months and after heavy rains. The lack of suitable drainage outlets and the high clay content of the soils explain the drainage problem. These drainage problems offer restrictions for residential development. This excessive amount of water restricts the placement of septic fields and causes a substantial shrink-swell potential posing problems for foundations.

Most areas within this association have severe limitations as woodlands. Seedling mortality rates are high, but enough seedlings grow to allow for natural regeneration. Once again, Dutch Elm disease is common. Common trees within this association are white pine and spruce, red and silver maple, and Austrian pine.

Oakville-Boyer-Spinks Association

This association is made up of well-drained, nearly level to hilly soils. These soils are largely confined to a narrow band that follows Armada Ridge Road and M-19. The landscape is one of hilly areas, numerous narrow outwash plains, and small wet depressions. Most of this association has severe limitations for use as cropland. Many areas are too steep or too sandy and generally are droughty in mid-summer. The slopes, which are short and irregular, make contour farming and construction of terraces difficult.

Within the Boyer Association, the major concerns pertaining to farming are wind erosion and moisture retention. Most crops within the County are suitable for these lands. The crops that are drought resistant and early maturing do the best. Techniques, such as windbreaks, strip cropping, and minimum tillage, may be used to maximize yield.

Slope is the main limitation to use of this association as residential and recreational areas. The limitation is slight in the nearly level and gently sloping areas. It is severe in the steeper areas, where it is difficult to layout streets and utility lines and to construct houses. This is not an issue within Richmond Township, due to the flatness of the Township. In general Boyer soils are a potential source of sand and gravel and of good foundation material for houses, streets, and highways.

This soil association is one of the best associations within the Township for the growth of woodlands. The only real limitation is that the soil becomes droughty during extended dry spells. Seedling mortality is negligible, as well as erosion. Common trees found within the association are oak, walnut, and beech, with the best trees to plant being pines.

Wasepi-Au Gres Association

This soil association is very limited within the Township. Only this association characterizes the areas within the City and along the far southern central portion of the Township. These soils are somewhat poorly drained and the water table is seasonally high.

The Wasepi Soils are typically used to farm vegetable crops, corn, wheat, soybeans and hay. The largest obstacles to farming are overcoming low fertility and excessive wetness. The native vegetation is deciduous forest, which is characterized by the presence of white oak, elm, ash, and hickory trees.

The high water table and the effects on the functioning of septic fields limit the construction of homes. Wet basements are also a concern within this association. The sandy makeup of the soil can cause effluent to travel too quickly to water sources, thereby potentially contaminating groundwater supplies.

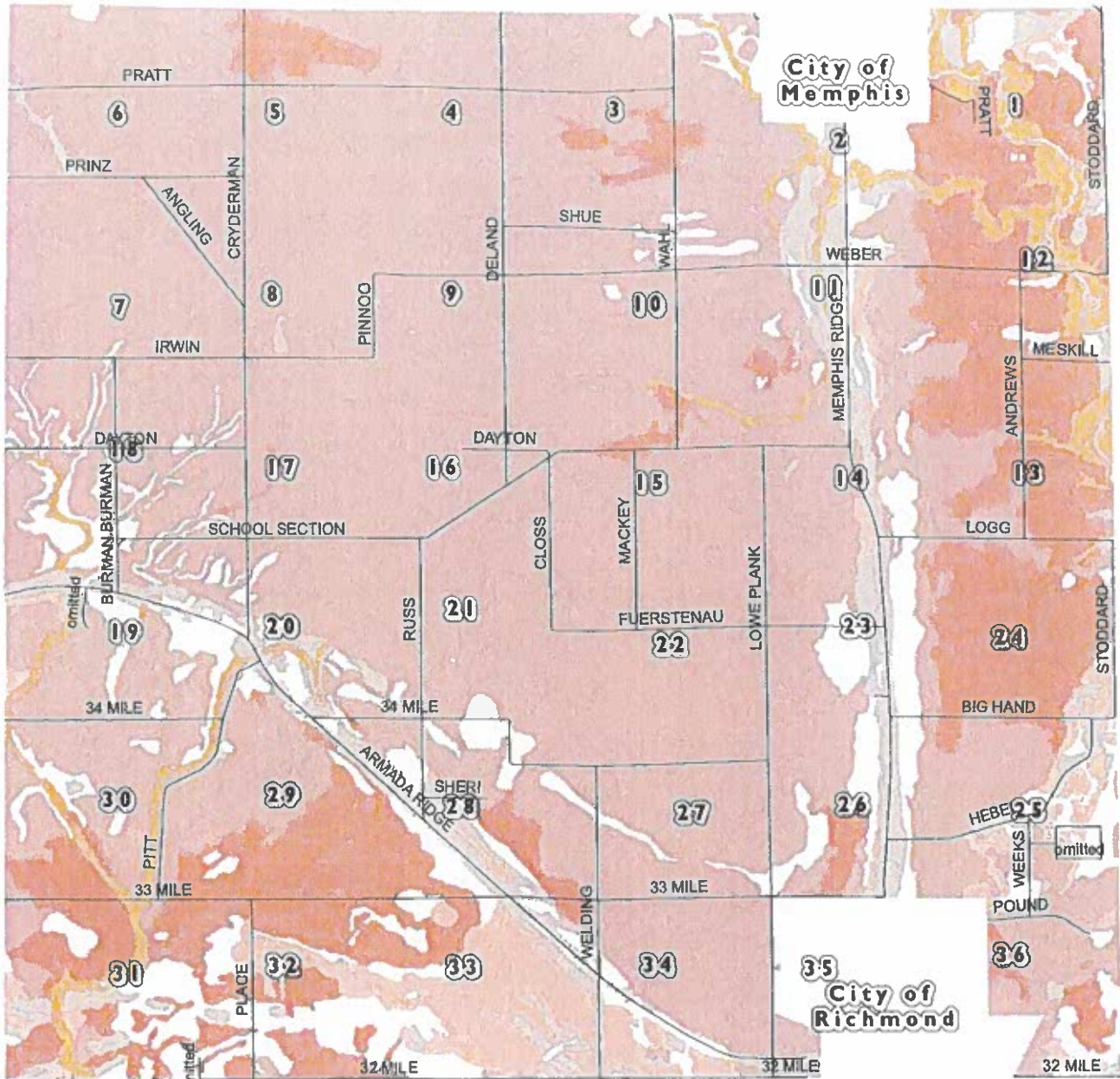
Cohoctah-Ceresco-Shoals-Sloan Association

These soils occur mainly along existing drainage courses. In Richmond Township, they are confined to land contiguous to the Belle River. The excessive wetness associated with these soils and periodic flooding offer severe constraints to both farming and various urban development features.

The use of these soils for farming is usually limited by frequent flooding. Farming is not practical, due to the fact that soils are usually cut into smaller tracts by streams and streambeds. These areas are best used as wildlife and intermittent pasture. The placement of homes is almost an impossibility, due to flooding and the continuous wet soil. Septic systems also pose a large obstacle, due to the high water table and excessive wetness.

Because of severe limitations, the use of this soil classification as woodland is questionable in nature. Due to flooding and extreme wetness, natural regeneration is not dependable. Soil erosion is normally not a significant problem; usually more soil is deposited from water flow than is lost to erosion. Trees commonly found within this association are cottonwoods, red and silver maples, and white ash.

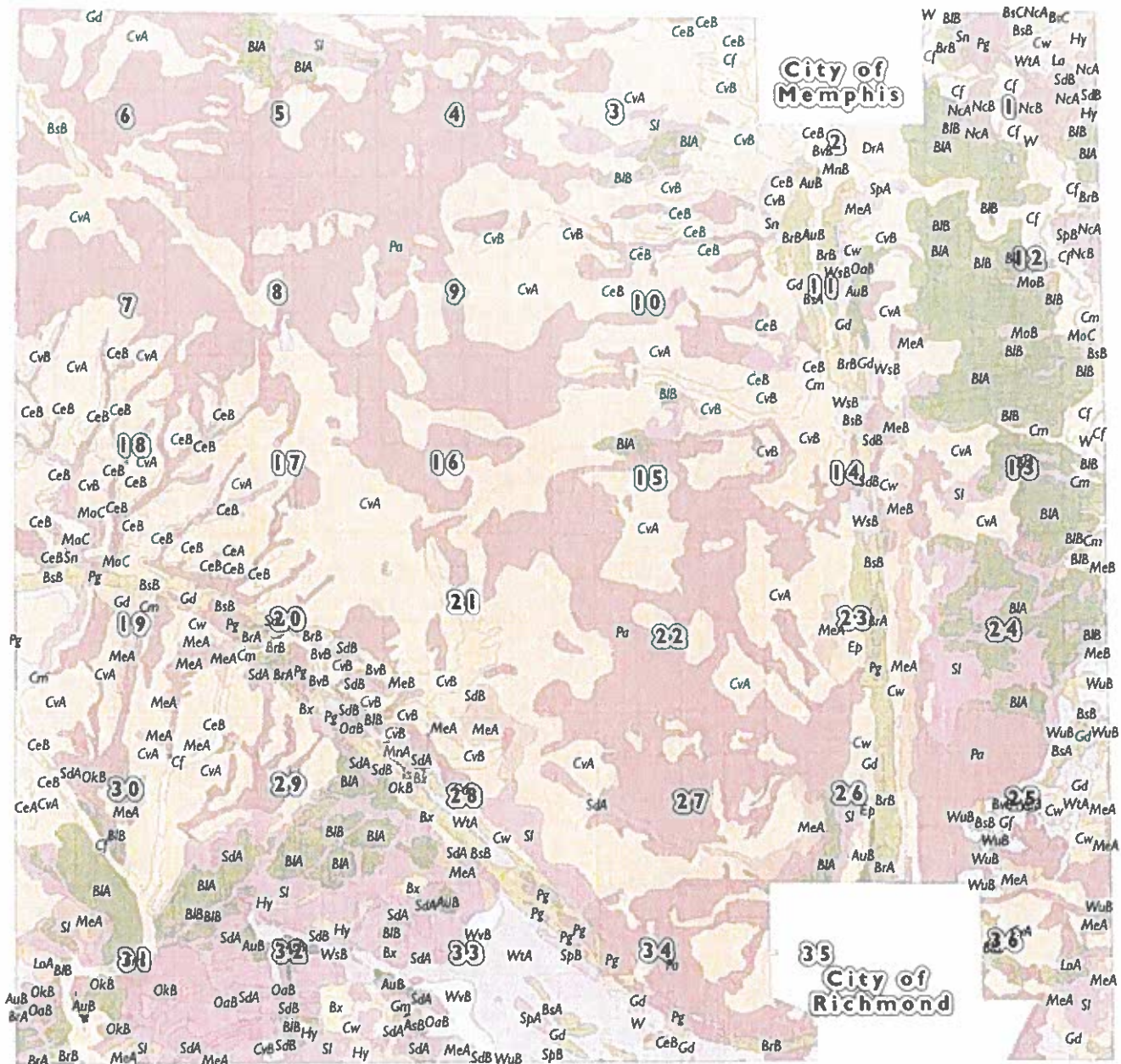
SOIL ASSOCIATIONS MAP



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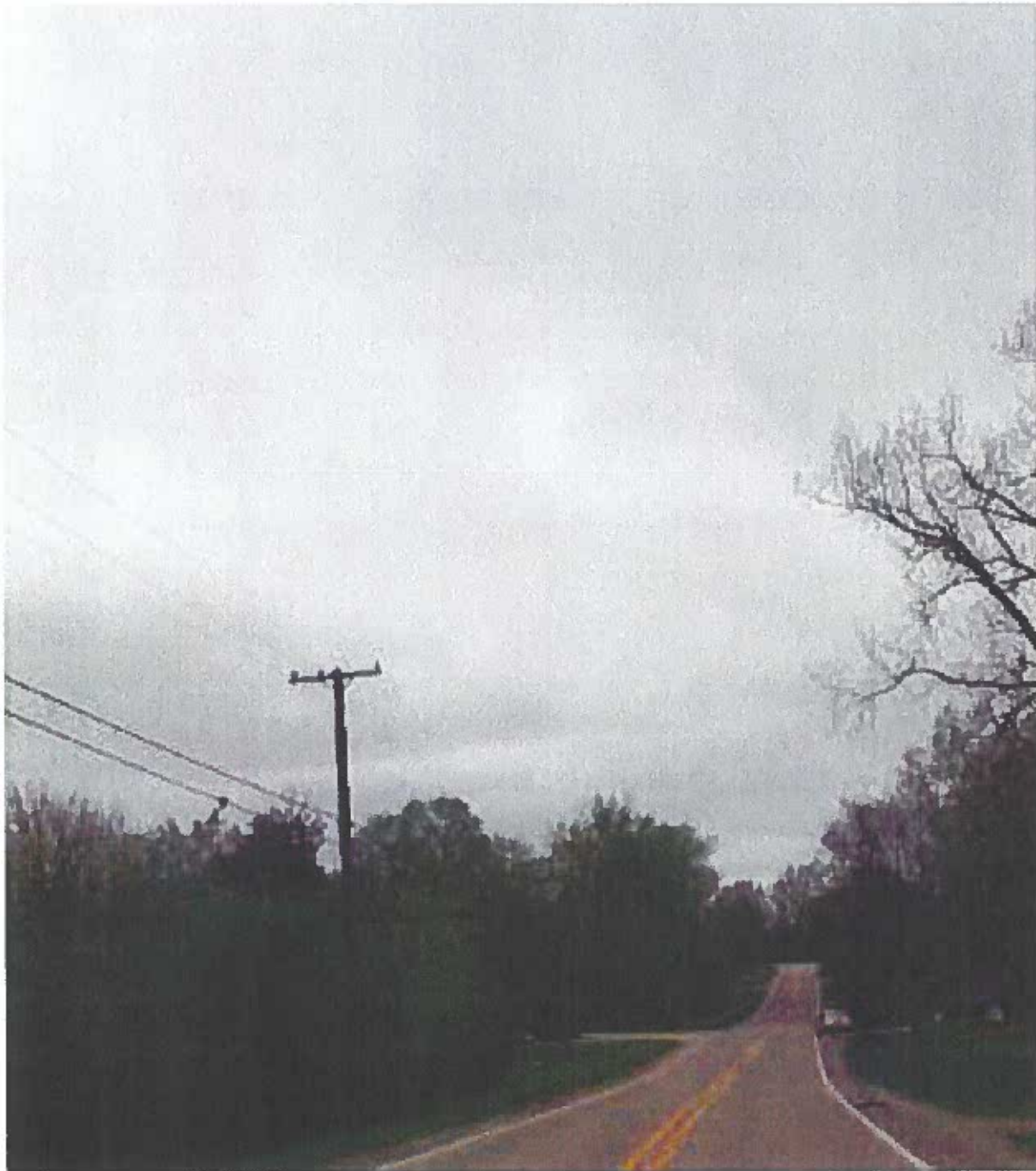
-  Au Gres; Wasepi
-  Blount; Hoytville; Nappanee; Sims
-  Boyer; Oakville; Spinks
-  Ceresco; Cohoctah; Sloan
-  Conover; Locke; Parkbill

DETAILED SOILS MAP

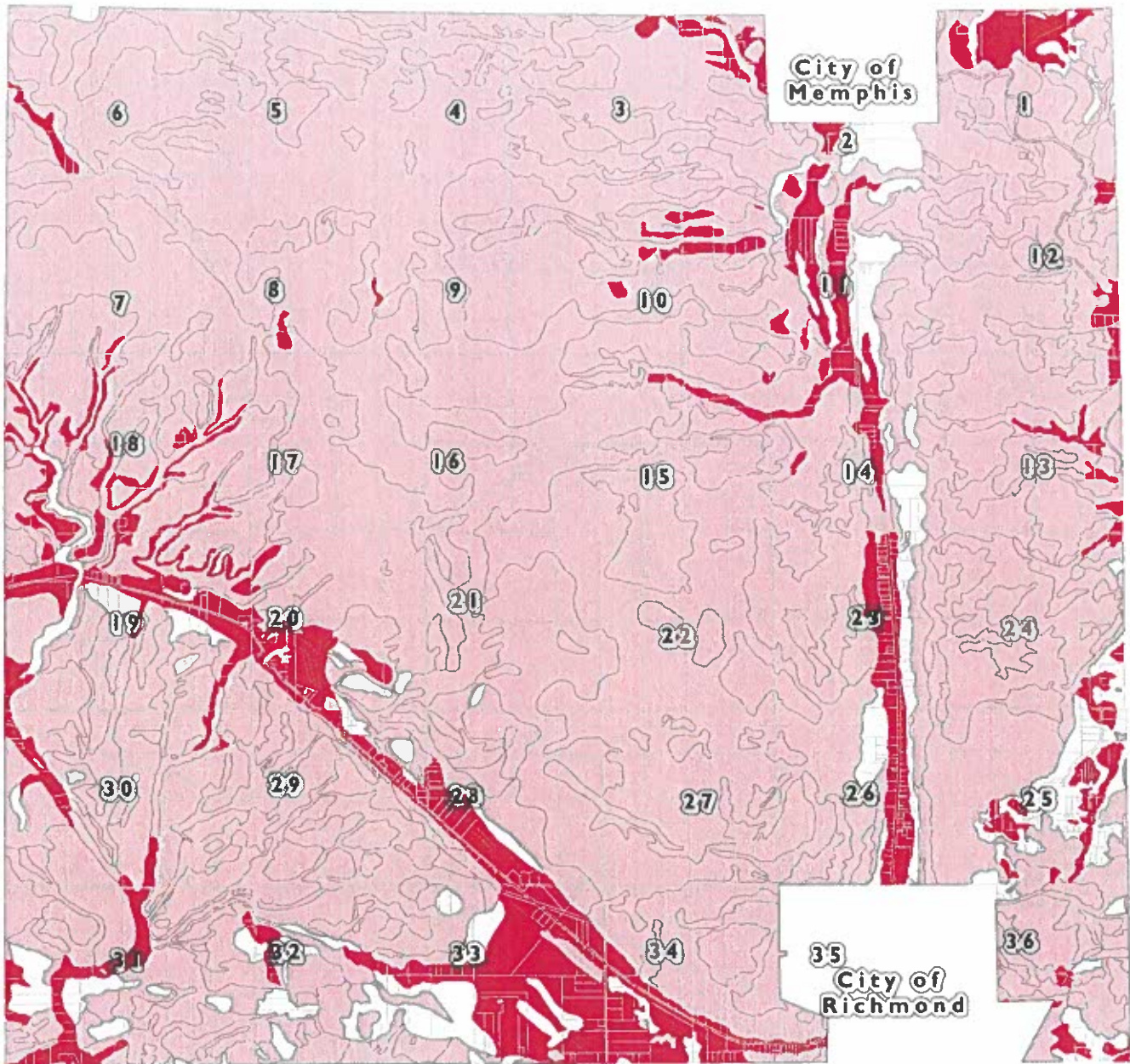


RESIDENTIAL CAPABILITIES

As shown on the Septic Limitations Map on the following page, virtually the entire Township has severe limitations for residential development with septic systems. This is based on the information provided in the Soil Survey of Macomb County published by the Soil Conservation Service (SCS). The only area based on this generalized mapping which is suitable for residential development is the land area directly adjacent to Armada Ridge Road and M-19. These two areas have been where the majority of residential construction has occurred. Based on the generalized mapping, it appears that the majority of the Township must utilize engineered septic systems.



SEPTIC LIMITATIONS



- Parcels
- Moderate/Slight Limitations
- Severe Septic Limitations



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AGRICULTURAL SUITABILITY

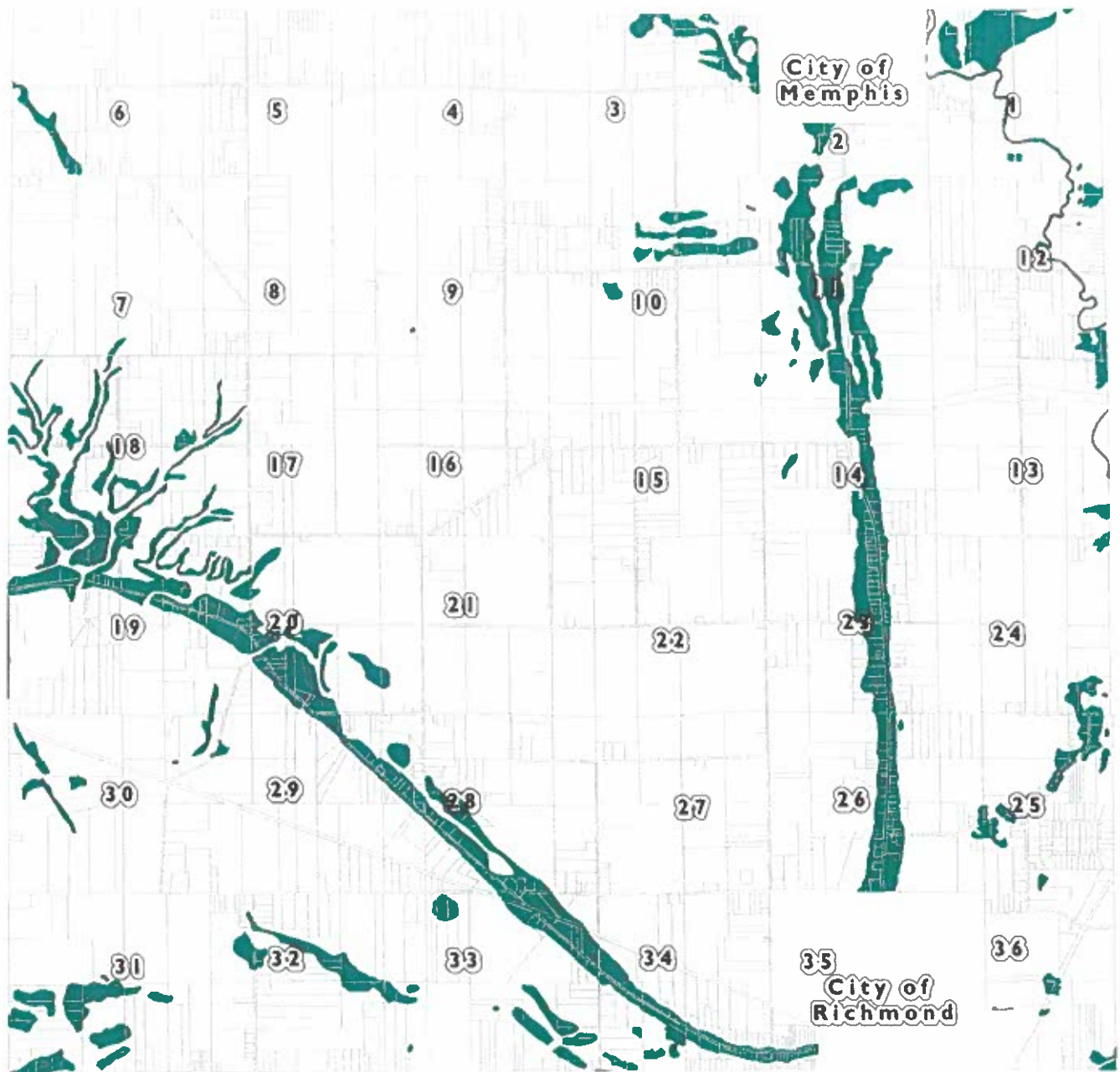
Much like septic suitability map noted above, the Soil Conservation Service also produces information for which generalized agricultural capabilities are determined. Based on this mapping, the majority of the Township is either suited or well suited for agricultural purposes. This is evident on the following page. The areas along Armada Ridge and Memphis Ridge are typically the areas, which are most suited. However several small areas along each of these roads as well as areas within Sections 31 and 32 are poorly suited for agricultural purposes based on the information from the SCS



TOPOGRAPHY

Richmond Township has a relatively flat land area. The lowest area in the Township is the southwest corner, while the highest area is in the northwest corner of the Township. The elevation difference between the two is about 120 feet. Very little area of the Township actually has slopes, which are deemed to be constraints for either farming or urban development (12% or more). Areas, which do have significant slopes, are largely confined to the land area surrounding the Belle River.

AGRICULTURAL LIMITATIONS



WETLANDS

Wetlands serve a number of important environmental functions that need to be considered during a community-wide planning process. Among other functions, wetlands affect water quality by trapping and storing the nutrients from upland runoff in plant tissue and serving as a settling basin for silt generated from upland erosion. This natural filtering function, however, can be seriously damaged by poor land use practices. Since every wetland has a unique tolerance for filtering runoff from the uplands surrounding it, development in these adjacent areas can create more nutrient and sediment inflow than the wetland is able to absorb. Moreover, development in and around the fringe of the wetland itself can destroy its ecological health and, thus, its filtering ability. Sediments and nutrients from upland development can overload and damage the natural system.

While wetlands operate as natural nutrient filters, they can easily be overloaded and, thus, destroyed. Through increased storm water runoff and nutrients from fertilizers and urban development, this entire process is accelerated as much as 100 times as fast as the natural process. Consequently, a wetland that may have served as an important nutrient filtering area for 1,000 years may only function that way for ten (10) years once it has been overloaded. Even more serious is the removal of wetlands. The removal of these natural features by dredging or filling will have an immediate impact on the water quality of streams and lakes below them in the watershed system. Preserved wetlands improve water quality, moderate floods, and stabilize water supplies, thereby providing for overall environmental health and stability.

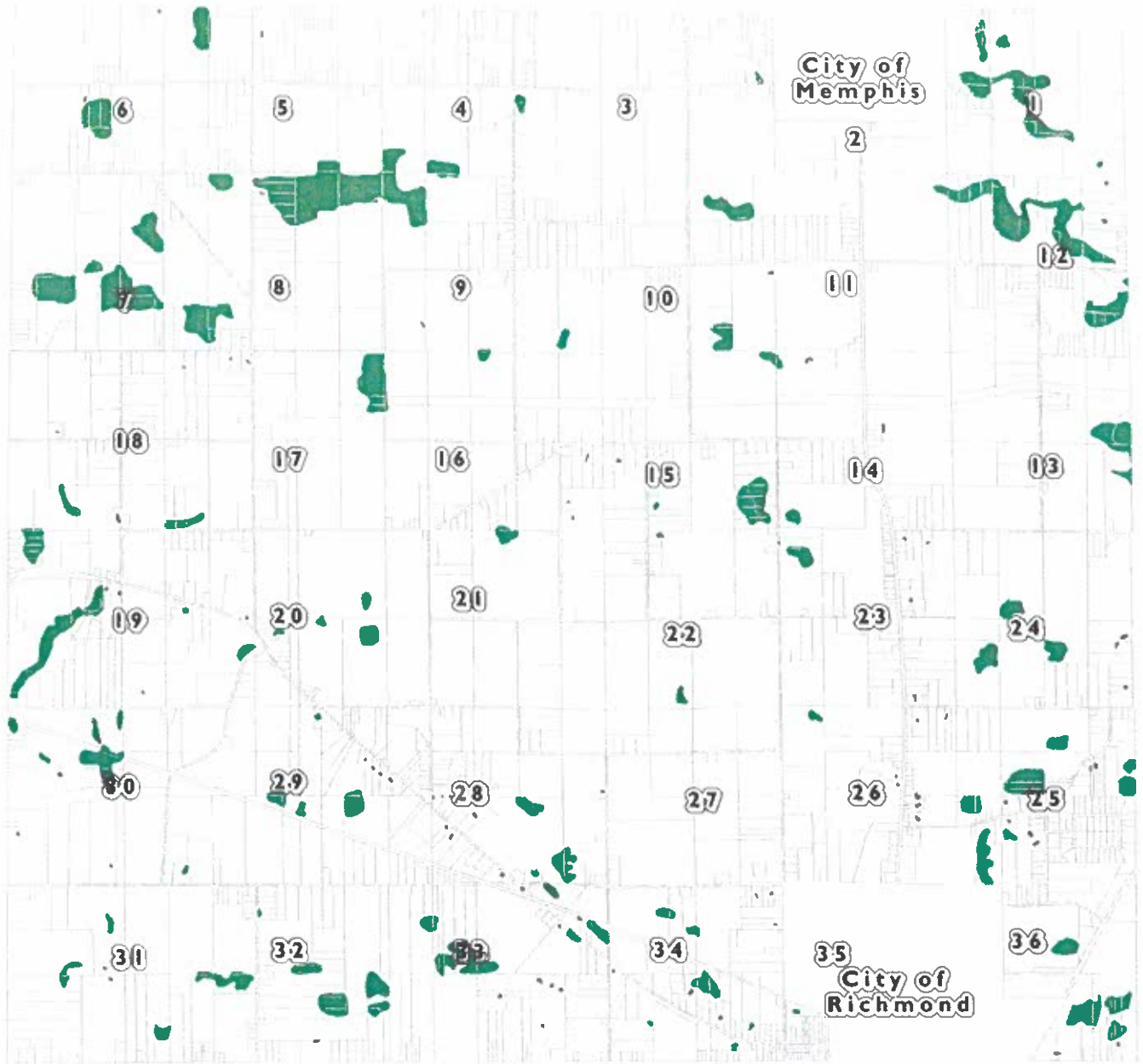
Development in and around wetlands is regulated by the Michigan Department of Natural Resources, pursuant to the provisions of the Goemaere-Anderson Wetlands Protection Act. This legislation generally regulates the development of wetlands over five (5) acres in size, or which are contiguous to the Great Lakes or to a river, stream, pond or inland lake. Permits are required by this legislation for the following activities:

1. Depositing or placing fill material in a wetland;
2. Dredging or removing soil from a wetland;
3. Constructing, operating or maintaining any use or development in a wetland; and
4. Draining surface water from a wetland. State law does provide procedures where these activities may be permitted, depending on whether or not certain criteria are met.

The Federal Government and State of Michigan have identified potential wetlands from aerial and infrared photography. These identifications in most cases note areas that could be potential wetlands. Surveys, studies, and walk thru's by a professional are the only way to define a wetland and this is the responsibility of the developer and the State of Michigan. Many potential wetlands are identified in Richmond Township, as shown on the following page.

Two predominant categories of wetlands are found in the Township. The first includes shrub/emergent aquatic bed wetlands. The most predominate wetland areas lie adjacent to the Belle River corridor. Further, significant wetland areas are located near the northwest corner of the Township. Other wetlands coincide with the wooded areas throughout the remainder of the Township. They are most commonly referred to as lowland hardwood wetlands. The former are found along drainage courses, with the latter found along both streams and in interior portions of the community. As noted above, identification of these wetlands is based on aerial photography interpretation. Actual on-site inspection of these areas may result in wetlands of substantially different sizes and configurations. They are not regulated wetlands until the State or Federal authorities have surveyed, studied or declared them as regulated.

WETLANDS



WATERSHEDS

As water flows across the land it gathers into any number of different sized channels, drains or waterways that are all interlaced together like branches of a tree. The sizes of the channels or drainage ways are also likened to a tree, the further from the base or roots, the smaller the branches or drainage ways. The tips of a tree have very small branches that connect to larger branches, which connect to main limbs that ultimately connect with the trunk and run to the base. The branches make up the overall drainage network. The land area feeding into these branches or drainage network makes up the actual watershed.

Modern land development often alters or impacts the natural flow and configuration of these drainage ways. The most common alteration to a "branch" of the watershed area is to both straighten and deepen the watercourse or to simply remove it in lieu of storm sewers. These alterations can have potentially serious environmental consequences. These include increased flooding, loss of aquatic habitat, reduced water supplies during low flow periods and lowered water quality. Aquatic animal habitat is provided within the rivers and streams, while land animal habitat is typically abundant within the floodplains and vegetation, which is found adjacent to these systems. Environmental preservation occurs by the cleansing of water, which runs off of roadways, parking lots, and even residential yards. The system of drains allows particulates, chemicals and other non-desirable sediments to filter out of the water as the runoff travels through the hierarchy of waterways. The more cleansing of the runoff water, which takes place along the route, the cleaner the water, will be as it enters the Great Lakes, and supporting waterways.

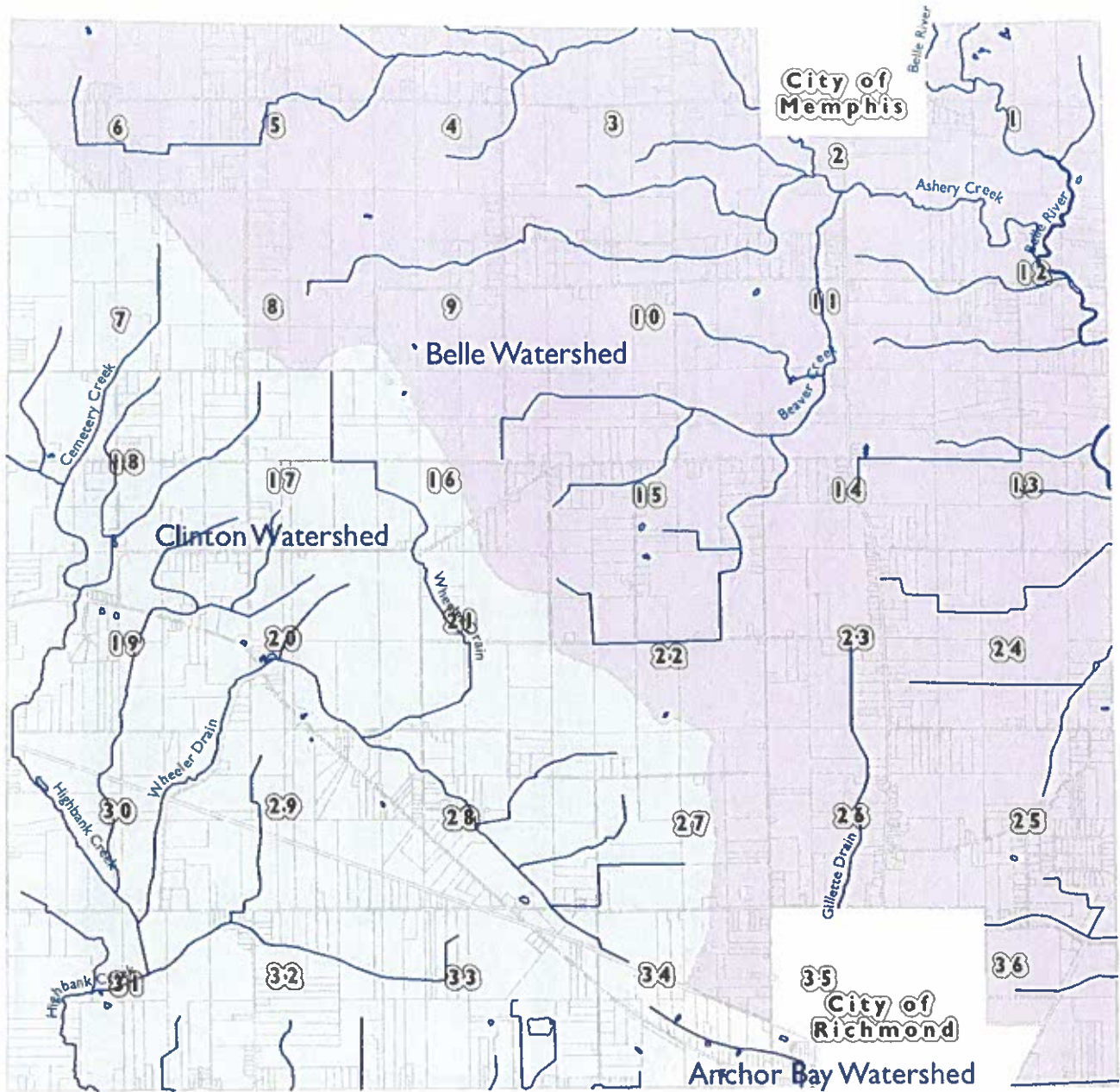
Two significant watersheds divide the Township, the first being the Clinton River Watershed, the second being the Belle River Watershed. The Clinton River Watershed traverses most of the Townships within Macomb County. This watershed ultimately empties into the Clinton River in Mount Clemens. The Belle River however, runs through the northeastern half of the Township providing a significant and sensitive environmental habitat especially along the far northeastern boundary. The Belle River continues to run to the east once it exits the Township, through St. Clair County, to the mouth of the Belle River and St. Clair River located in East China Township.

FLOODPLAINS

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.

The Federal Emergency Management Agency (FEMA) has not officially mapped the Township; therefore there is no official floodplain map for planning or insurance purposes. However, mapping soil types that are consistent with floodplain areas indicates several potential floodplain regions in the Township. These floodplains are found along the Belle River, Ashery Creek, Highbank Creek and Wheeler Drain.

WATERSHEDS



- Parcels
- Anchor Bay Watershed
- Belle Watershed
- Clinton Watershed



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WOODLANDS

Large wooded areas also serve significant environmental functions that need to be recognized and acknowledged. A wooded area can be of great value to a watershed area. The canopy of trees aid in breaking the force of precipitation, thereby decreasing erosion. Erosion is further inhibited by the fibrous root system of the understory plants, as well as the layer of leaf or needle. Woodlands can also reduce the volume of storm water runoff. Clear-cut lands can produce excessive runoff unless other vegetation replaces the cut trees with comparable water retaining capacity. With no soil and vegetation to moderate runoff from precipitation, flooding may result, in addition to a loss of precipitation ordinarily retained and recharged into groundwater reserves by the woodland. The map on the right indicates woodlands as stands of trees that CPM staff identified from 2010 aerial orthoimagery.

Woodlands improve air quality and afford protection from wind and erosion. Leaves and branches moderate the strength of winds and, when moistened with dew or rainwater, reduce suspended particles in the air, which are later washed off with rainwater. The protection from wind erosion is particularly important in terms of farming. Tree lines or tree stands protect the large vast open fields during non-growing seasons.

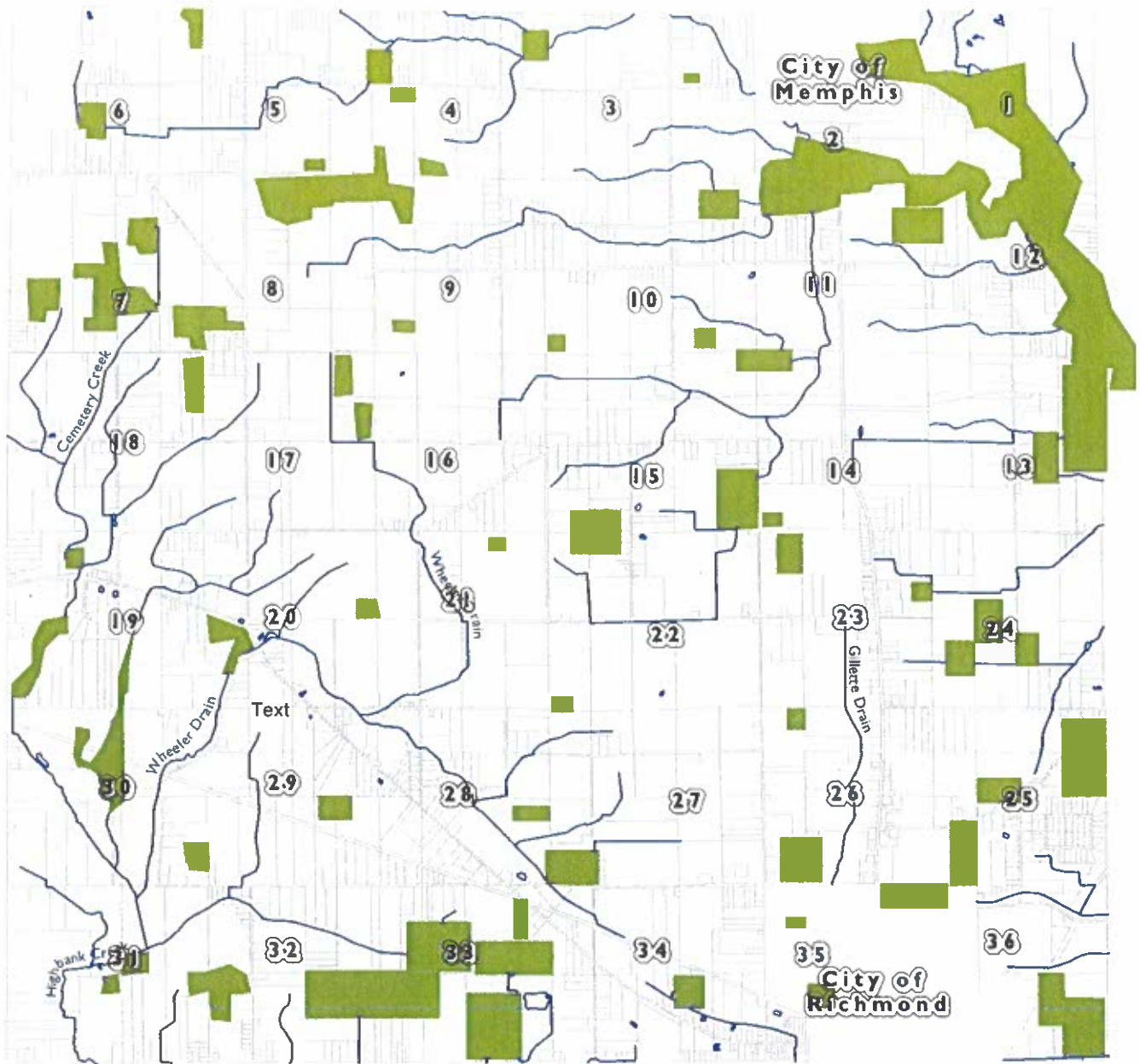
Plants also serve to moderate the effect of chemical pollutants in the air by absorbing some ozone, carbon dioxide, and sulfur dioxide, through a process called carbon sequestration. A dense stand of trees can significantly cut noise from adjacent factories or highways by six to eight decibels per 100 feet of forest. Moreover, the moderating effects of forests on temperature and wind can significantly cut the sound-carrying capacity of the atmosphere.

The resilience of woodlands creates a microclimate around the tree stand itself, woodland qualities which moderate and buffer temperature, precipitation, runoff, wind and noise are features of this microclimate effect. The benefits of this microclimate effect to surrounding urban and suburban areas can be significant. An urban area devoid of vegetation is the exact opposite of the forest microclimate. It increases the range of temperature fluctuations much like the climatic extremes of a desert.

The significance of woodlands is given added weight by the less quantifiable benefits that they provide to the public. Not only are woodlands important buffers, they also add aesthetic values and provide attractive sites for recreational activities such as hiking, camping, and other passive recreational pursuits. Continued stability of good real estate values is a secondary benefit offered by woodlands. Since people choose to live in and around woodlands, providing for woodland protection and management in developments will help maintain favorable real estate values.

The majority of the woodlands within the Township coincide with the mapped wetlands within the Township. The largest concentrations of woodlands can be found in three main areas of the Township. These are the Belle River Corridor, Section 32 and 33, as well as Sections 7 and 8. Again, these areas represent some of the largest mapped wetlands areas in the Township. With the trees being located within the wetlands areas, the preservation of such becomes much more crucial. Not only are the trees being preserved, but the trees in conjunction with larger environmental systems would also be preserved. As a Master Plan implementation, the Township should consider the writing and adoption of a woodlands or tree ordinance which would seek to preserve, regulate and restore woodlands, wood lots or specie trees.

WOODLANDS



Woodlands

Parcels



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CONCLUSIONS AND PLANNING IMPLICATIONS FROM THE ENVIRONMENTAL PROFILE

The Township's established land use pattern and those physical features occurring in Richmond Township represent the context within which past development took place and where future development will occur. Collectively, these physical characteristics offer both opportunities and constraints that need to be considered when fashioning a strategy for the Township's long-term residential growth and long term principal objective for farmland preservation. The same physical features that attract residents to the Township also pose important constraints that must be considered.

Portions of the Township that contain environmentally sensitive features will not be able to support the same density of development that may be appropriate elsewhere, nor should they. As residential development continues to encroach upon prime agricultural farmland, that farmland is not only lost but conflicts arise. A balance, therefore, needs to be achieved between the need to preserve and manage the farmlands as well as the sensitive natural areas and the desire of property owners to use their land for development purposes. Policies developed to address this concern will provide the basis for determining the direction of future growth for Richmond Township.

SPECIFIC MASTER PLAN IMPLEMENTATION STRATEGIES DERIVED FROM THE ENVIRONMENTAL PROFILE:

- Develop open space subdivision regulations that provide for the preservation of natural resources, open spaces and farmland.
- Work with the Macomb County Public Works Commissioner to protect natural County Drains by using innovative preservation techniques versus typical channelization and clear cutting.
- Develop woodlands ordinances that mandate the preservation of trees and woodlands but also allow for development to occur that respects woodland protection.
- Develop Ordinance requirements that require a minimum preservation easement or buffer along all streams, creeks, and drains.
- Develop Ordinance requirements that regulate the amount of building (if any) that can occur within a designated floodplain.
- Engage the Federal Emergency Management Agency (FEMA) so the community's floodplains will be accurately identified and mapped.
- Recognize the potential recreational benefits of protecting natural corridors and encourage the mapping of these areas as a part of the Master Plan.
- Identify potential wetland areas throughout the community using MIRIS and Department of Interior Wetlands Maps and incorporate these areas into potential approval conditions.
- Work with watershed protection groups to monitor the current conditions of the two main watershed basins in the Township.
- Develop regulations in coordination with the Township Engineer and site plan review process that regulates the quantity and quality of storm water runoff leaving a site and entering a drain.
- Inventory areas along each tributary of the Clinton and Belle Rivers that are point and non-point sources of pollution.
- Work with adjoining communities to create cooperative efforts and planning documents to ensure the long-term viability and preservation of the Township's watersheds and drains.
- Work with the farming community, residential community and non-residential community to educate each on materials, practices, and methods, concerning spraying, fertilizing, storage of materials, etc. that are less harmful to the natural environment. Understand and regulate uses, which may have a detrimental impact on the quality and quantity of ground water within the Township.

DEMOGRAPHIC AND HOUSING PROFILE

INTRODUCTION

The character of a community's population is one of the key ingredients given 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 and services. Future land use composition and public utility needs are also related to population growth trends and demographic characteristics.

An exploration of the following topics are necessary to more fully understand the planning implications of Richmond Township's population and other demographics:

- Population Change Over Time
- Age Characteristics
- Household Characteristics
- Population Projections

The selected Township and County data are provided for an understanding of the relationship of the Township to other adjacent municipalities and the larger geographical areas of which Richmond Township is a part.

POPULATION CHANGE

To more fully appreciate and understand the Township's population characteristics and trends, demographics need to be considered in relation to broader influences at the regional and national levels. These broader trends provide the backdrop or context within which the dynamics of population change occur locally.

The following table looks at the United States, Michigan, Southeast Michigan, Macomb County, and Richmond Township population growth between 1970 through now.

Nationally, in 1970 the population exceeded two hundred million for the first time. In the subsequent three decades, the United States experienced continued population growth to 226 million in 1980, 248 million in 1990 and 281 million in 2000. The 9.8 percent growth rate experienced from 1980 to 1990 was the smallest growth rate since the depression. From 1990 to 2000, the United States experienced a growth rate of over 13 percent. This growth rate slowed to 9 percent for the decade between 2000 and 2010.

Comparative Population Growth, 1970 - July 2012

	1970	1980	1990	2000	2010	July 2012
United States	203,235,298	226,504,825	248,709,873	281,421,906	308,747,716	313,914,040
Michigan	8,881,826	9,238,634	9,295,297	9,938,444	9,883,701	9,883,360
Macomb County	625,390	694,600	717,400	788,149	840,978	847,383
Richmond Township	1,719	2,453	2,528	3,416	3,665	3,679

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. After 1970, Michigan's population grew by 4 percent. The following decade the state grew by 0.6 percent, or 56,662 people, a trend that looked much like the nation's population growth. If we fast forward to the most recent period we can compare, 2000 to 2012, the US population grew about 11%, Michigan's lost about 1/2%, Macomb County grew almost 6%, and Richmond Township grew almost 7%. Most recently, the rate of growth has slowed to a trickle in Macomb County and Richmond, still ahead of Michigan's overall population loss, but behind the country's steady population increases.

SEMCOG provides population estimates for communities in Southeast Michigan through 2040. Population projections for the Township and the County through 2040 are in the following table:

SEMCOG Richmond Township and Macomb County Population Estimates 2010-2040

	2010	2015	2020	2025	2030	2035	2040	Change 2010-2040	
								Number	%
Richmond Township	3,665	3,734	3,642	3,587	3,540	3,497	3,405	-260	-7.1%
Macomb County	840,978	855,374	863,378	872,740	884,865	896,423	905,390	64,412	7.7%

SEMCOG anticipates that the Township will experience a slight decline over the next 26 years while the County will experience minimal growth. The Township's sharpest population drop is anticipated in 2035-2040, likely as the "baby boomers" reach the end of their life spans. Overall, there are not conclusions we can derive from the population change that imply a significant need for more or intensified land uses within the Township. Ultimately, we have to look for clues about future needs within the individual age cohorts through their 'life cycle categories.'

LIFE CYCLE CATEGORY

A more meaningful picture of the Township population's age distribution is possible when age 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 senior and youth age population (divided into school and non-school age). The percent of the Township's population that falls into each of these categories is shown in the following table. Available information for 2000 and 2010 is shown, along with projections through 2040.

Senior and Youth Population Census

Senior and Youth Population	2000 Census	2010 Census	% Change 2000-2010	SEMCOG 2040	% Change 2000-2040
65 and Over	383	424	10.7%	795	87.5%
Under 18	958	898	-6.3%	702	-21.8%
5 to 17	746	735	-1.5%	568	-22.7
Under 5	212	136	-1.4%	134	-17.8

The pre-school and school-age categories, for example, offer useful indicators of future school enrollment trends and the adequacy of existing facilities to meet these needs. In 1970, the Township's population was made up of approximately 37 percent school aged children. This number has been significantly reduced as of 2000, to approximately 24 percent. As the number of younger persons fell, the total number of older family formation and middle-aged residents rose. According to the SEMCOG estimates, the school-age population will fall to just under 17% in 2040.

Collectively, the community remains comprised of school aged children and persons within the family formation category. The large number of residents within the family formation and the growing number of residents in the middle-aged category shows that these are the largest consumers of goods and will likely be for the near future. These people are also the largest segment of property owners. These percentages correspond relatively closely with the percentages for the County, with the exception that school aged children within the Township are slightly higher. Based on SEMCOG's population projections, the elderly population of the Township will be the fastest growing age cohort by 2040, comprising over 23% of the total population.

HOUSEHOLDS

The U.S. Census Bureau has two categories that it uses to describe living arrangements: households and families. A household is one person or a group of persons occupying a housing unit. The number of households and occupied housing units are, therefore, identical. Families, on the other hand, consist of two or more persons, related to each other, living in a household.

Household characteristics, in general, and the rate of new household growth have become increasingly important indicators of demographic change within a community. Changes in the number of households and their composition are recognized as a more valid measure of community growth and vitality than absolute changes in the number of persons. Several reasons account for this view.

At the local level, households generate property tax revenues regardless of how many people are living within the household. Households also generate a demand for durable goods, including cars and appliances, as well as utilities (electricity, gas, and telephone/data services) which serve to stimulate local and regional economic growth. Local governmental services are impacted by household growth trends, especially the need for public utilities (water and sewage disposal), police and fire services, among others. The number of households also influences traffic levels and the need for future transportation system improvements.

Richmond Township experienced virtually no growth in the number of new households between 1970 and 1980. Since 1980, the Township has seen a steady increase in the number being occupied. From 1980 to 1990, the Township saw an increase of 18 percent in total households, from 641 households to 756. However from 1990 to 2000 the Township saw an increase of nearly 43 percent. From 2000 to 2010, the Township still saw a growth in households of 18.5%. However, in spite of some population growth, SEMCOG is predicting a relatively slight increase in number households of about five (5%) percent between the end of 2013 and 2040.

HOUSEHOLD SIZE

Accompanying these increases in household growth was a decline in the size of the average household. At the national level, household size has declined steadily since 1950, when it stood at a level of 3.37 persons per household. By 1980, it had declined to 2.75 persons per household. This decline continued into 1990 where the average household size shrank to 2.70 persons per household. By 2010, America's average household size had decreased to 2.59.

Consistent with the broader national and regional trends, the overall average household size in Richmond Township has declined over the last several decades. In 1970, the average household size was 3.70 persons per household. In 1980, the total number of persons per household actually increased from 3.70 to 3.82 persons per household. The total number of persons per household began to shrink after 1980, with 3.32 persons per household in 1990. In the year 2000, the total shrank again to 3.14 persons per household. In 2010, the average household size was still declining to 2.94 persons. SEMCOG estimated the Township's household size in December of 2013 at 2.87 and predicts it will fall to 2.52 by 2040.

Several factors are responsible for the decline in the size of the household. This includes birth rate patterns, the distribution of the population on the age spectrum, and life style changes. The first of these factors is referred to as the baby boom echo.

America experienced a well-documented population growth period following the Second World War commonly known as the baby boom. Children born during this period reached the child bearing years and are starting their own families, creating the same number of persons that occurred earlier due to significant declines in the birth rate. Women, today, are having fewer children than the preceding generation. Fewer children mean smaller families and reduced household sizes as we documented above.

The increasing number of single-person households has also contributed to this trend. Improved medical care has resulted in an increasing number of persons over the age of 65, many of whom are widows or widowers creating single-person households. Young persons have also shown a tendency to marry later and delay having children until later in their lives. Another consequence of the delay of child bearing is a corresponding decision to have fewer children. The increasing divorce rate also increased the number of new households and contributed to the decline in the overall household size.

HOUSING UNITS & OCCUPANCY

Since 1990 to 2010, Richmond Township saw a relatively steady number of building permits granted per year. The number of permits granted by the Township has ranged from a low of twenty two (22) in 1990, to a high of fifty-four (54) in 1998. The total number of residential permits granted each year has fallen since 1998; 38 and 32 permits in 1999 and 2000 respectively. There were 221 additional housing units constructed between 2000 and 2010. However, since 2010, there were 5 units constructed while 4 were demolished, for a net gain of 1 unit.

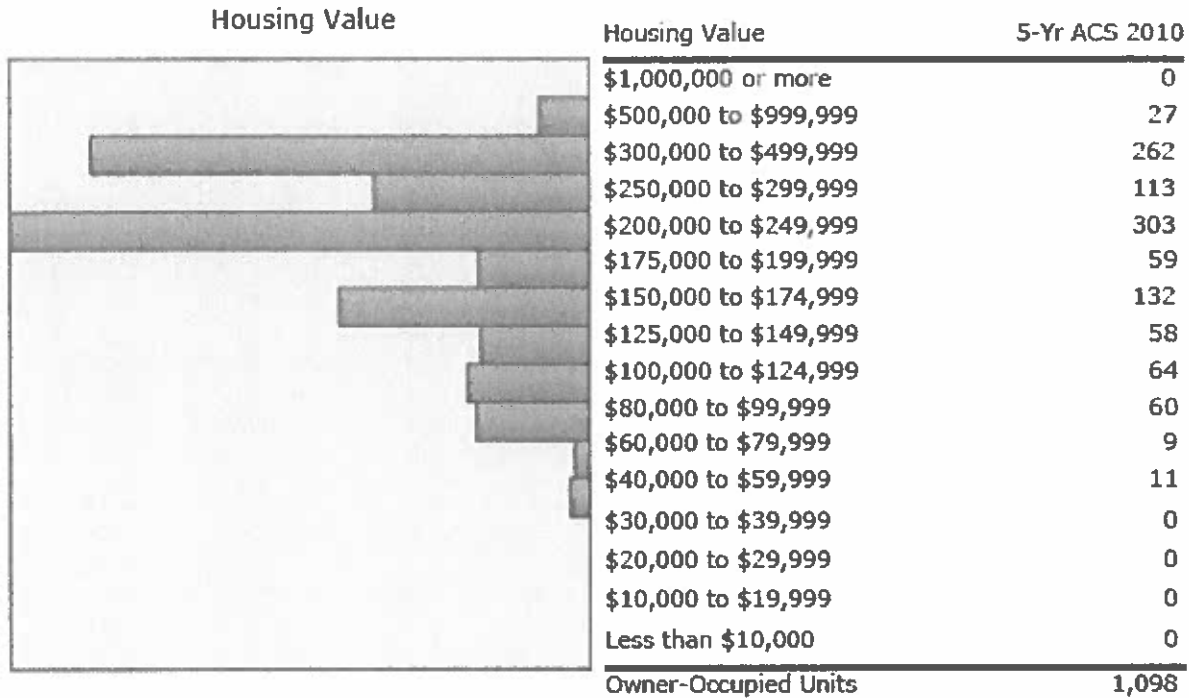
Home ownership is generally a common indicator of community stability. Home purchases often represent the single largest investment that a family will make and usually signifies a long term commitment to community. In the year 2000, the Township had a total of 1,060 dwelling units. Of these 1,060 dwelling units, 1,020 of them were occupied, leaving a total of 40 dwelling units as unoccupied. Of the total occupied dwelling units (1,020), a total of 948 housing units were owner occupied. The remaining 72 were renter occupied. Owner occupied units accounted for nearly 93% of the total number of occupied units.

When we move forward to 2010, the Township has a total of 1269 dwelling units. 1,209 of those units are occupied and 60 are not. 1,119 of the occupied units are owner occupied and 90 are rentals. Owner occupied units account for 93% of the occupied units in the Township, the same ratio as in 2000. The Township's vacancy rate is 5%, still very strong even over the past few years of a difficult economy.

HOUSING VALUE

The value of housing units is another valuable measure of the quality of a community's housing supply. Richmond Township's 1990 median, owner occupied housing value was \$89,600. This is above the median for the entire County, which was \$76,800. The majority of housing units within the Township fell between the \$50,000 and \$99,999 median housing value. The 2010 median housing value was \$225,700, representing an almost 9% reduction from the 2000 median housing value. Macomb County housing values fell almost 12% for that same period, so Richmond Township home values were more stable than the County as a whole.

Richmond Township Housing Values



Source: SEMCOG

SPECIFIC MASTER PLAN IMPLEMENTATION STRATEGIES DERIVED FROM THE DEMOGRAPHIC PROFILE:

- The fastest growing segment of Richmond Township's population is the elderly. Future land use planning should consider how changes in land use will impact seniors in addition to the broader public.
- The zoning ordinance should consider universal mobility when it addresses the physical development of non-single-family residential sites.
- School aged children still account for a significant portion of the Township's population. Family oriented uses such as active and passive recreation opportunities should be included in the future land use plan.
- Quality elderly specific housing may be a consideration so that the elderly may age in place in the Township. A significant segment of housing in Richmond Township is valued over \$200,000, an amount that could be a barrier for remaining in the community for residents that should transition to independent or assisted living communities.
- Richmond Township remains a desirable place to live with a stable housing market. The Township should feel confident continuing many of its past practices in future land use planning.

COMMUNITY FACILITIES PROFILE

INTRODUCTION

Community facilities are an important part of a municipality's overall development and are important to consider while preparing a 20-year Master Plan. Community facilities considered in this report include utilities, parks, schools, public safety, libraries, and other municipal buildings.

All of these different types of facilities are important to the Township's operation. They all also have an impact on the community's future land use pattern and are important to the operation of a community. These facilities 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. This is particularly true for those communities where development is dispersed over a large geographic setting, as compared to the more compact physical form of many older cities. Some types of community facilities, particularly schools and parks, have acreage requirements that need to be considered during the Master Plan process. It is desirable to allocate land for these facilities as a community grows so that neighborhoods are not left deficient in community facilities. Considering these needs as part of the community's total development offers a practical basis for a community to address these needs during the budgetary process.

This stage of the Master Planning process provides the Township with an opportunity to coordinate land use and utility service area planning. The potential for extending public utilities is a powerful growth management tool available to the Township. Decisions regarding the location of service areas and the timing of utility extensions is extremely important because the Township does not own or operate public water and sanitary sewer. The availability of water and sewer are the principal principal indicators for the allocation of different types and intensities of future land uses in the community. In Richmond Township, areas planned for growth inside the areas adjacent to the Cities of Richmond and Memphis may ultimately fall within some sort of shared jurisdictional agreement with those other municipalities.

Decisions regarding utility extensions have the ability to influence development patterns. Local utility extension policies, therefore, need to account for land use intensity and distribution patterns reflected on the Future Land Use Plan Map. This Master Plan emphasizes the need for the coordination of land use and utility planning to avoid conflicting development patterns and the untimely and costly extension of utilities. The Township does not have its own sewer or water infrastructure and none are planned within the 20-year timeframe of this plan. An underpinning of the Township's Master Land Use Plan is based on the premise that the adjacent cities will not extend sewer and water facilities into the Township unless such an extension is logically within the designated Urban Growth Areas. The Township recognizes that farmland preservation and the extension of sewer and water facilities are not compatible. However, the Township does recognize that a limited and planned utility extension can provide for an area of appropriate development for anticipated future populations.

The Richmond Township Master Plan designates the area directly to the north and east of the City of Richmond for an area of potential utility expansion. This area is designated an Urban Growth Area because of its proximity to existing sewer and water infrastructure within the City of Richmond. It is designated within the Urban Growth Area Boundary because of the City's defined wellhead protection area. Because of this designation this area cannot be developed with intensive land uses without public sewer and water. It is the Township's policy not to extend any sewer or water infrastructure beyond the limits of the Urban Growth Area Boundary designated on the Future Land Use Plan Map.

Further, the Master Plan designates the area to the south and east of the City of Memphis as a potential Urban Growth Area. Again this area is dependant on the provision of sewer and water provided from the City of Memphis.

On-site package and treatment plants may be an economically viable alternative. With this, the Township must address the possibility of such systems being proposed. In coordination with the Urban Growth Area and the Farmland Preservation Areas, the Township does not plan for these systems to be constructed outside of the Urban Growth Area.

The development of the defined Urban Growth Area is dependent on the construction and availability of sewer and water infrastructure from adjacent communities. If such infrastructure is not available, then on site systems which are in harmony with the natural environment and provide no negative impacts to residents within, adjacent to, or within the Township or City as a whole may be carefully scrutinized alternatives.

URBAN GROWTH AREAS

The Urban Growth Area or urban development area generally refers to portions of the Township set aside for a number of purposes- these may include provisions for services, siting of future dense development, and protection of environmentally sensitive or resource-rich lands.

Goals relating to the Establishment of an Urban Growth Area

- To prohibit development that requires or encourages the urbanization of lands not designated for urban use in the Master Plan.
- To prevent unmanageable growth by defining urban growth areas and providing farmland, open space and low-density rural development at the perimeter of the urban areas.
- To preserve the most valuable resource that the Township has which is its rich farmland.
- To promote the proper and efficient delivery and use of urban services through a compact urban development. These services include water, sewer, police, fire, EMS, storm drains, roadways, etc.

Creating an Urban Growth Area

In defining an urban growth area; a number of factors are considered. The Urban Growth Area requires service, coordination, review and implementation of a number of different factors and functions to work. The following factors must be coordinated to establish and maintain a proper Urban Growth Area boundary:

- The natural suitability of parcels to accommodate development;
- Availability of public water service;
- Availability of public sewer service;
- Availability of police, fire and EMS;
- Available capacities of streets and sidewalks;
- Proximity to cultural centers like libraries, community centers, municipal buildings; and
- Availability of drainage and storm water retention.

Once the above data is collected we determine appropriate levels of service as well as the feasibility of the expansion of each. The policies and plans for extending such services should be finalized and what levels of service the Township can commit. Finally, a timetable for any such expansion should be clearly defined. It seems unlikely that there is a need for expansion, particularly residential development, into the Urban Growth Areas within the time line of this 2035 Master Plan because the projected population growth for the Township would not support that kind of development.

WELLHEAD PROTECTION

The purpose of the Wellhead Protection Area is to protect public well water supply systems from potential sources of contamination. Identifying the area that contributes ground water to public water supply system wells, identifying sources of contamination within the area, and developing methods of cooperatively managing the area and minimize the threat to the public water supply provides protection.

Wellhead Protection Areas are defined as “ .the surface and subsurface area surrounding a water well or well field, supplying a public water system, through which contaminants are reasonably likely to move toward and reach such water well or well field. As discussed earlier, these areas must be limited from intense growth without the provision of public utilities and/or other environmentally safe mechanisms.

In developing the Wellhead Protection Area Management Program, the Michigan Department of Environmental Quality established these program objectives:

- To have appropriate land use planning and management mechanisms in place to prevent contamination of the public water supply system;
- To generate support and direct appropriate attention, inspections, and regulatory activities to the Well Head Protection Area for management by local, county, state and federal government agencies;
- To identify and minimize or eliminate land use activities which pose significant threats to groundwater;
- To identify and utilize available local resources, including volunteer and staff resources, to address needs for wellhead protection area management;
- To motivate landowners within the wellhead protection area to take steps to reduce threats to ground water;
- To educate residents, business and industry on the importance of wellhead protection and the need for them to their part to protect the public water supply system; and
- Evaluate ways to direct new growth or redevelopment that supports wellhead protection. Sewer and water extensions, roads, and other infrastructure should be considered in the planning process.

The Township recognizes both the City of Richmond's and the City of Memphis' Wellhead Protection Areas and participated in the development and adoption of the Wellhead Protection Plan for the City of Richmond. In doing so, the Township should adopt the necessary implementation tools necessary to promote the objectives noted above. These tools range from site plan submission criteria to simple public education targeted to those residents within the Wellhead Protection Area.

PARKS & RECREATION

The Master Plan anticipates that the Township will experience slight population growth with the majority of population increases found within the “bookend” age cohorts of children and seniors. As this growth continues, the Township will face an increasing demand to provide targeted public services, particularly park sites and programming opportunities in order to have options for healthy activity for all residents.

Recreation Inventory

The Township currently has a developed park site adjacent to the Township Hall, located at the intersection of Memphis Ridge Road and School Section Road. At this time, the park site includes a soccer field on about 10.4 acres of land. On this same site, the former Township Hall is designated a community senior citizen center for the community. This site is centrally located and easily accessible via Memphis Ridge Road (M-19).

Recreation Needs

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. An analysis of future recreation needs should include a consideration of land necessary to accommodate new park sites, as well as the types of facilities needed at these parks.

Recreation planning standards, published by the National Recreation and Park Association, recommend that local communities provide a core system of parks offering between 6.25 and 10.5 acres of developed open space per each 1,000 persons. Applying these standards to Richmond Township's 2000 population of 3,416 persons yields a current estimated demand of between 21 and 36 acres. SEMCOG estimates that the Township's 2040 population will be 3,406, so we recommend that the Township develop conservatively within that range, given limited growth potential.

As the Township continues to evolve there will be a need to provide recreation sites and programming. It makes fiscal sense to partner with adjacent communities, like Richmond and Memphis, to best combine resources and achieve an economy of scale with offerings. The Township should also focus on senior activities because that age cohort will have the greatest growth over the this Master Plan's horizon. The Township is undertaking a recreation planning initiative concurrently with the development of this Master Plan.

Open Space Preservation

One of the consequences of land development is the loss of natural open space. The development process changes the physical character of land in ways that are misunderstood or unappreciated until it is too late. The loss of farmland, forested land or other natural features is exacerbated with development. Recognizing these important physical properties and integrating them into future development can improve the community's overall environmental quality, enhance the visual character of the constructed environment, and provide recreation opportunities.

The Township's most prominent natural amenity is its farmland. Typically communities that promote agricultural areas and minimize the residential development do not require large amounts of public recreation area. Recreational opportunities are met in neighborhood backyards rather than in centralized improved park settings. If the Township preserves large acreage parcels and reduces the residential development, the need for developed parks remains what it does today.

RAILS TO TRAILS

Within the Township, there are approximately four (4) miles of abandoned railroad right of way that extends from approximately 34 Mile Road and Omo Road to Lowe Plank Road and Armada Ridge Road. The Grand Trunk Western Railroad Company once owned this rail bed. However, the right of way was abandoned and sold in the late 1990's and early 2000's. The County, working through local communities, developed this former rail line to the county wide and inter-county Macomb Orchard Trail. This multimodal path and linear park includes The City of Richmond, Richmond Township, Armada Township, the Village of Armada, Bruce Township, the Village of Romeo, Washington Township and Shelby Township. The Macomb Orchard Trail is shown on the following page.

Multimodal paths of this nature generally carry two-way traffic and have an improved width of 8-12 feet, typically of asphalt. However, The Macomb Orchard Trail is somewhat unique because a long portion of it is compacted limestone. This feature attracts large number of equestrian users. When designing these bike paths, one of the most important features is at-grade road crossings. In Richmond Township, the Trail has six (6) different road crossings. These crossings include; Omo Road, Pitt Road, 33 Mile Road, Armada Ridge Road, Welding Road, and Lowe Plank Road, which are some of the most highly, traveled roadways in the Township.

SCHOOLS

While the Township has no control over school operations, functions or school needs, the location of schools impact the community's Future Land Use Plan. Schools should be thought of during the Master Planning process for coordination purposes. Three different public school systems divide Richmond Township. These include the Memphis, Armada, and Richmond School Districts.

Generally categorized, the western third of the Township is within the Armada School District, the northern one-third of the Township (including the City of Memphis) is within the Memphis School District, and the remaining third of the Township, including the City of Richmond is within the Richmond School District. Currently, no school buildings are constructed within the boundaries of the Township. For planning purposes, as the need arises for the Richmond School District to construct a school within the Township, the Township desires the placement of that school within or near the Urban Growth Area.

This area is planned for the largest concentration of potential students due to increased housing densities and would therefore be the logical placement for a school facility. This location would provide reduced transportation costs due to the relative proximity of the facility to students and would also be within the area planned for municipal services that are typically requested for a public school facility. The same planning stance would apply to the Memphis School District, with the exception that the northern urban area would be the location of any such school facility. If the Armada School District deemed a school facility appropriate within Richmond Township, the facility should be planned in a manner that would not detract from the Township's rural character. Public sewer or water infrastructure be available to such a facility. Further the location of such facility should be within proximity to either Armada Ridge Road or 32 Mile Road for transportation efficiency.

If and when school facilities are developed within the Township, the Township should work with the District to develop a mutual use agreement so Township and recreation programming can use buildings and recreational facilities when they are not in use by the School District.

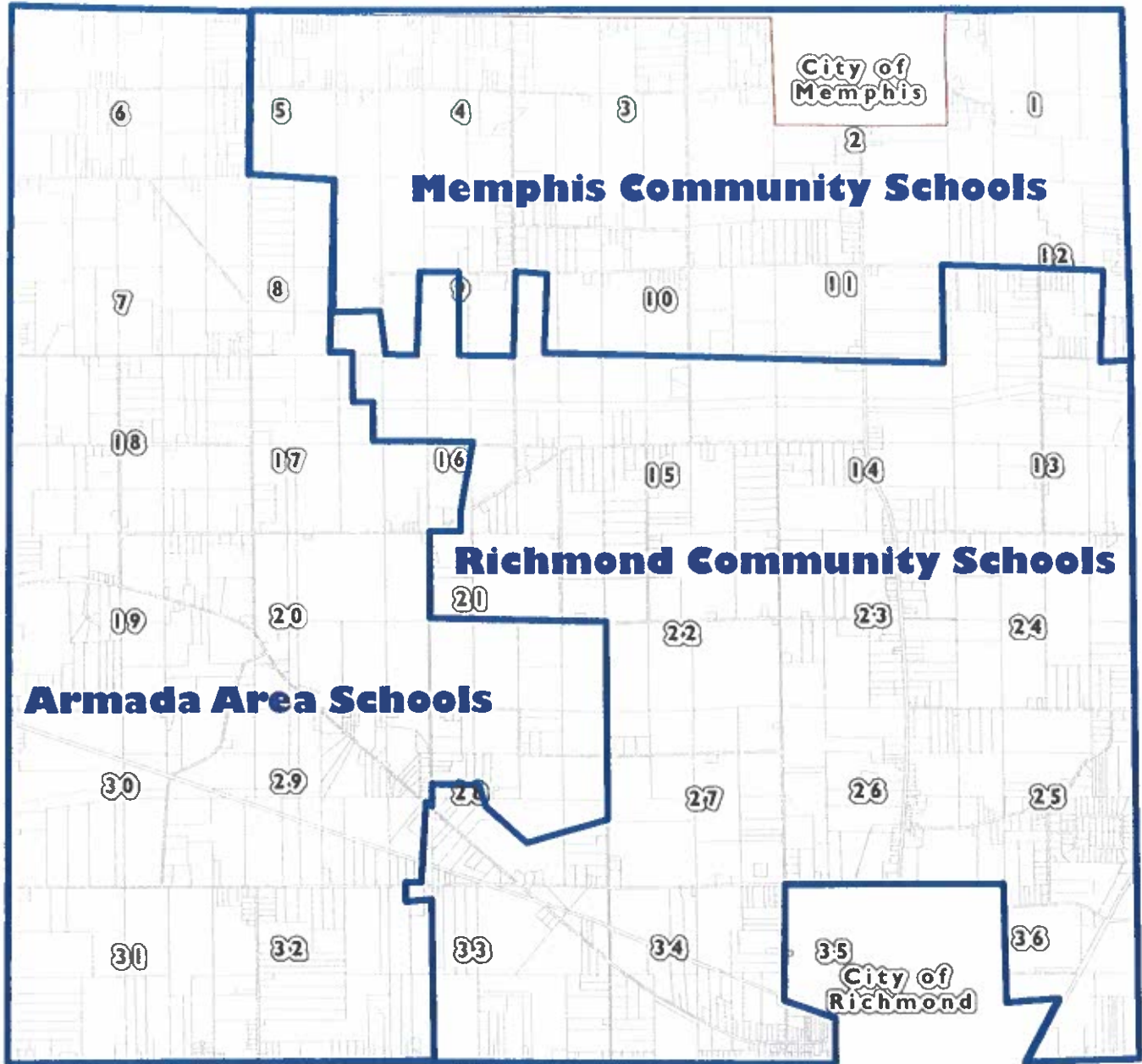
LAW ENFORCEMENT

Richmond Township does not provide community-wide police services. The Macomb County Sheriff and the Michigan State Police provide law enforcement. The State Police have offices in the City of Richmond to the southeast. Given the slow growth anticipated, there is little need to consider expanded police services.

LIBRARIES

Libraries are sometimes given a lower priority in municipal development. However, libraries, together with recreation programs, form an integral element in the character and reputation of desirable communities. Libraries today provide a diverse range of services that touch a broad spectrum of the community, including children and adults as well as business and industry. Within Richmond Township, a library or branch should be located within the Civic Center complex.

SCHOOL DISTRICTS



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FIRE DEPARTMENTS

Richmond Township does not have its own fire department, rather it is served by fire departments from adjacent communities, as the map on the following page indicates. Given the rate of growth forecast for the Township over the life of this plan, there is no need to alter these arrangements for services.

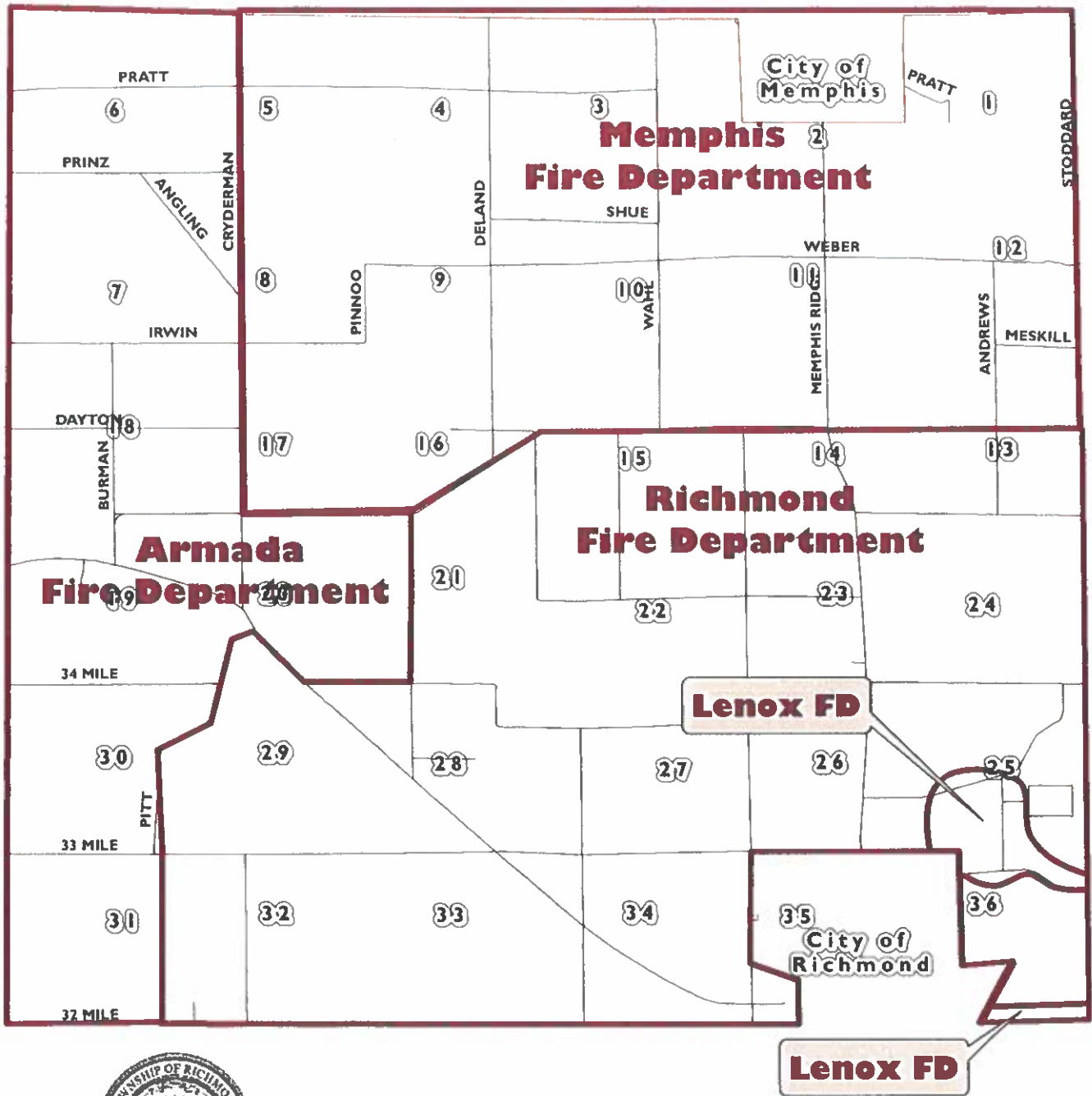
EMERGENCY MEDICAL SERVICES

The Richmond-Lenox E.M.S. Ambulance Authority was organized by the Townships of Lenox and Richmond. The organization was established in a nonprofit capacity to provide the citizens of the two townships with an efficient and complete emergency medical service. This service has been extended to include surrounding communities through contractual agreement. The Authority is governed by a board composed of elected members from the Townships of Lenox and Richmond

SPECIFIC MASTER PLAN IMPLEMENTATION STRATEGIES DERIVED FROM THE COMMUNITY FACILITIES PROFILE:

- Any potential utility extensions must be timed to coincide with growth and must be done in a manner consistent with the overall Master Plan, including but not limited to, the Future Land Use Plan map.
- Premature utility extensions outside designated Urban Growth Areas, into the more rural portions of the Township shall be avoided, especially where such extensions may compromise the low-density development pattern provided by the Master Plan.
- The Township should also consider cooperative agreements with other communities or agencies, where appropriate. Schools, libraries, and recreation services can be provided on a larger geographic basis. Certain economies of scale and saving can be realized with these larger service areas. Services that could not be efficiently or cost-effectively provided by a community acting alone, may be provided by several communities working together at a more reasonable cost.

FIRE DEPARTMENTS



Lenox FD Served Addresses:

- 36615 Pound Road
- 71020 Weeks Road
- 36581 Pound Road
- 70977 Weeks Road
- 70967 Weeks Road
- 36671 Pound Road
- 36727 Pound Road
- 36569 Pound Road
- 36600 Pound Road
- 37925 Pound Road
- 37422 Pound Road
- 37600 Pound Road
- 36707 Pound Road
- 37455 32 Mile Road
- 37525 32 Mile Road



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AGRICULTURAL AND OPEN SPACE AREAS PLAN

INTRODUCTION

Richmond Township's agricultural heritage strongly influences land use patterns. Even today the majority of land within the Township is actively farmed.

The Township, within this Plan as well as previous Master Plans, recognizes the long-term preservation of farmland as its main goal. The Township must continue to engage established techniques to ensure that the goal of farmland preservation, as well as setting aside open spaces, is implemented. Fortunately, outside regional influences and growth pressures have subsided to an extent and may not have as much of an impact on the feasibility of keeping land in these less "intense" use categories. The Agricultural Areas Plan as well as the Residential Areas Plan must should work together to provide a balance for residential growth and farmland & open space preservation.

ISSUES WITH FARMLAND PRESERVATION

Preserving the character of rural townships through minimizing the disruption of agriculture and planning. Richmond Township is no exception. At the northern end of Macomb County, which remains poised to be one of the fastest growing counties in Michigan, Richmond Township provides one of the last truly rural townships within the County. In addition, the Township is home to some of the most productive farmland in the State. The loss of such productive farmland would have a substantial impact on the State's overall farming economy, not to mention the one of the largest employment segments in the Township itself.

Economic Issues

Richmond Township, truly a rural township, has very few land uses outside of agriculture and residential. This includes very limited amounts of commercial or industrial land uses. This limited amount of commercial and industrial land uses means that the Township has both little need to provide extensive urban public services to property owners and an equally small tax base with which to fund those services.

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 what conventional residential development requires. Specifically, research shows that for each dollar in taxes collected from a farm, the farm only requires \$0.34 to \$0.75 in services from the community.

In contrast, residential developments require on average \$1.04 to \$1.54 in services for each tax dollar collected. The planning impacts are two-fold; first, the more farmland that Richmond Township can preserve, thereby reducing dollars of services required, translates into a reduced need for further industrial and commercial properties. Limitations on commercial and industrial properties is consistent with the Township's goals and objectives. Second, a number of economic benefits can be realized by preserving farmland as well as open space including a stable and predictable business environment, a viable local food supply, and economic diversity.

Environmental Issues

The Township, based on the State of Michigan Planning Enabling Act, has the right and responsibility to plan for stewardship of its natural resources. The Township's main natural resource is its fertile soils. The protection of these fertile soils is paramount in their retention and improvement. This section describes some of the soil conditions and farmland attributes that provides insight as to which farming areas are critical for preservation.

Further, another part of the natural resources include the natural views and vistas typically associated with farmland and a rural atmosphere. Open space preservation in the Township should focus on rural character and the area's heritage. Planning for the long-term existence of farmland and scenic open spaces is important for the civic identity of future generations.

Taxation

Michigan Tax law requires that properties should 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. These farm areas have their values increased by the pressuring real estate market, potentially increasing the property taxes they must pay annually. The cost of these taxes are magnified because farm operations take up a lot of space and also by the significantly lower profit per acre return generated by a typical farm.

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 the relatively recent Generally Accepted Agricultural Management Practices (GAAMPS). These two State enacted tools provide protection for farmers from nuisance claims of adjacent or nearby residents.

Homeowners not familiar with rural settings often do not realize the how the farming industry's equipment, schedules and associated practices can affect them. These unrealized issues have resulted in conflicts, complaints, vandalism, or even court actions between neighbors. However, under the Right to Farm Act and GAAMPs 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 potentially noxious industrial uses. This furthers the idea that agriculture is an industry and a thread in the fabric of the community, not merely a land use. Likewise residents should be afforded protection from farm uses

if they are intrusive and noxious, just as they are protected from industrial uses and vice versa.

FARMS AND FARM ACREAGE

In spite of the regional downturn in growth, development will continue to move northward through Macomb County. This centripetal force away from the Detroit urban core has established a typical trend in farmland conversion for decades. The rural character and open spaces that the outlying communities of the region provide attracts new residents that want to move away from the "hustle and bustle" of the communities closer to the city. This generates the need for housing development in the rural areas of the County.

The in-migration of new residents creates conflicts with existing farms, drives up land prices, increases traffic and the loss of farmland increases exponentially. The continuous, growing pressure on the farmer has diminished, however they still must have the sensitivity to change processes or develop other means to abate conflicts with those new residents.

As it becomes harder for the farmer to farm and land prices continue to rise from demand, pressure for selling the farm and moving further away from development, or even leaving the agriculture industry altogether, intensifies and becomes more likely. This cycle continues until the area becomes suburbanized and the farmland is lost permanently to residential development.

In 1992, Macomb County had a total of 70,306 acres of land being farmed. As of 1997, there were 68,829 acres being farmed. This equals a decrease of two percent over the five-year period. SEMCOG estimated in 2008 there was 71,528 acres of farmland. This shows that there is a stable approximately 23% of the County remaining in agricultural production.

In Richmond Township, that same SEMCOG 2008 estimate of land use indicated that 16,256 acres of land, about 68% of the Township, was in agricultural production. If we examine the most up-to-date land cover survey from SEMCOG, in 2010, we find that of the Township's 24,024 acres 696 acres are impervious surfaces like buildings, roads, driveways, and parking lots (2.9%), 4,183 acres are woody vegetation like trees and woodlands (17.4%), 18,867 consists of open spaces like agricultural fields, grasslands, yards, etc (78.5%), 84 acres are bare or unplanted, (<1%), and 195 acres are bodies of water or drains (<1%). If we consider that there have been few building permits issues since 2008, then we can reasonably assume there is little change for the Township-wide land cover analysis.

AGRICULTURAL USE AREAS FOR 2035 FUTURE LAND USE PLAN

The majority of the Township's future land use plan map is designated as primary or secondary agriculture. The Township originally designated these areas as part of the 2002 Master Plan. That effort to establish those areas or blocks of farmland, which are best suited for continued agricultural purposes; the certain information was combined to map out "Prime Agricultural areas" This information included currently farmed Class I and Class II soils, soils that are conducive to producing over 100 bushels of corn per acre per year; and farmland that is enrolled in P .A. 116.

These elements combined provide a basis for that area in which agricultural preservation should occur. These blocks were developed in conjunction with PA 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 Michigan Department of Agriculture in applying for funding to Purchase Development Rights (PDR). Further these areas are conceived as a basis for a Transfer of Development Rights (TDR) program. The farmland areas will be the donor zones and the recipient zones would likely be areas planned for urban residential because of their support for higher density development.

As shown on the future land use map, , a large majority of the land area west of M-19 and north of Armada Ridge Roads meet all criteria established for the "Primary Agricultural". This area contains approximately 14,250 acres of land. This area establishes the blocks or tracts of farmland that are essential to preserve. Further, smaller areas to the east of M-19 (between Weber Road and the City of Richmond) and to the south of Armada Ridge Road also met the criteria. However, these "Secondary Agricultural" areas are more likely to be exposed to development pressure sooner than the lands designated Primary Agriculture.

Preserving these areas principally for agriculture production may help the community 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 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;
- Establishes agricultural lands as a resource for the production of food for people today and in the future; and
- Preserves existing wildlife habitat.

METHODS OF FARMLAND PRESERVATION

The following tools and techniques provide the ability to help achieve sustainable agricultural preservation areas. It is particularly likely that a combination of these tools should be used to deter farmland conversion. The use of multiple tools also creates a balanced approach that is fair for the individual landowners within the designated agricultural preservation area but is powerful enough to allow the long-term existence of farming within Richmond Township.

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Urban Growth Areas

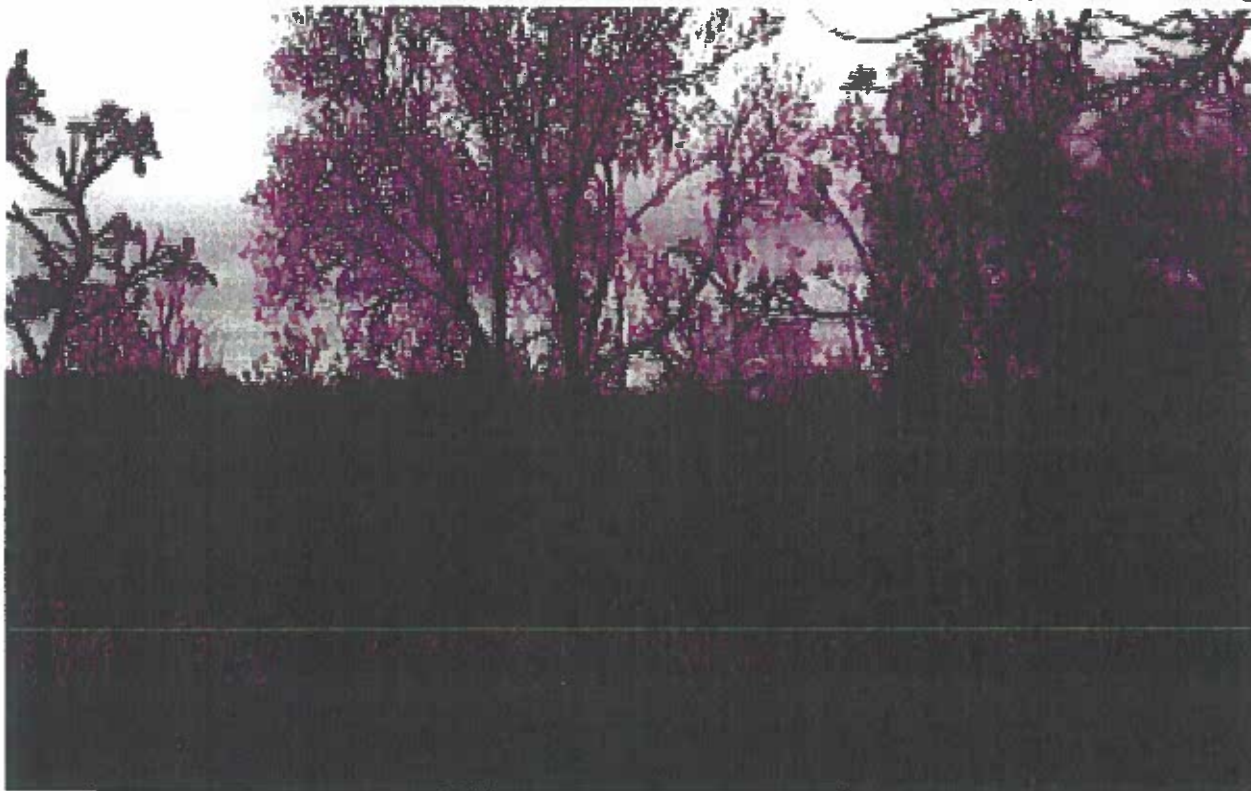
A major portion of the farmland preservation area will rely on the implementation of an urban growth area. An Urban Growth Area designates areas in the Township for water and sewer extensions from the City of Richmond and potentially the City of Memphis. The Urban Growth Areas are best suited for higher intensity and higher impact developments that come with public sewer and water.

Urban Growth Areas will 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 then only as a last resort would a private, on site system 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 about how the proposal impacts the natural environment, well and wellhead protection, and stream preservation have been addressed to the satisfaction of the Township. Specifically, standards addressing private, on site systems should be contained in the Township's ordinances.

The utilization of these Urban Growth Areas for more intense development will allow the remainder of the Township to avoid development impacts and will not require the costly extension of public services and infrastructure or the extension and improvement of roadways into the outlying rural areas within the community. In layman's terms, the Urban Growth Areas are the Townships single most effective tool in combating the uncoordinated extension of services, also known as SPRAWL.

Purchase of Development Rights

The State of Michigan recently passed P.A. 262, which provides for the PDR through the Township in conjunction with the Michigan Department of Agriculture. This farmland preservation option allows the municipality to purchase the development rights of the property while the landowner retains specific rights for cultivating and preserving the land. This preservation option leaves farms as farmland or open space (should the farm be retired) in perpetuity. Public Act 262, provides matching



Framework for Transfer of Development Rights

One of the techniques with a potentially huge impact for farmland preservation within a community is a transfer of development rights (TDR). The TDR as previously described, allows growth to be accommodated in a managed fashion, in more urban areas of the Township, while still protecting vital outlying farmland areas.

The Primary and Secondary Agricultural Areas provide one half of a transfer of development rights equation. These areas provide the sending area, or the area from which development rights are transferred. The other half of the transfer, the area where development rights are transferred to, would be the Urban Growth Area. These "receiving" areas are intended to be serviced by sewer, water, and other urban services over the next 20+ years and could more easily absorb development than the outlying undeveloped areas. Both the outlying farmland areas and the area contained within the Urban Growth Area need to work together for TDR to effectively send and receive.

If the Township proceeds with the development of a TDR ordinance, it is important that the size and potential overall development density of the Urban Growth Area be carefully considered in relation to the sending area. In the case of Richmond Township, the sending area is approximately four times the area of the receiving area. 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 preserved area.

In the Richmond Township area, it appears that the Transfer of Development Rights could be limited, however, the change in Township demographics over the next generation could yield additional opportunities for density with senior housing. The Urban Growth Areas in and near the Cities of Memphis and Richmond are limited in size and scale. Public water, sewer, other urban services and developable residential land are somewhat limited. Richmond Township may investigate other Urban Growth Areas in Macomb County to meet the potential demand for the TDR. It is more likely that the Purchase of Development Rights is an immediate method of agricultural and open space preservation and then TDR developing over a longer term.



RESIDENTIAL USE AREAS PLAN

INTRODUCTION

Richmond Township, when verifying its community vision, goals, and implementation measures, identified farmland preservation as the most significant priority. An ancillary goal is then to preserve and protect the open space and rural character of the Township. Growth pressures from communities to the south, which follow the Gratiot Avenue or M-19 growth corridor had slowed over the past few years. Those pressures are returning to challenge the rural atmosphere of the Township with typical suburban residential development. The Township, through its Master Plan and Zoning Ordinance must develop the tools to preserve the context of the broader community while still allowing for managed residential growth to occur. The following section provides the general guidelines for residential development that will support the Township's efforts.

RESIDENTIAL USE AREAS FOR THE 2035 FUTURE LAND USE PLAN

The Master Plan reserves specific portions of the Township's total land area for residential purposes. The Master Plan further identifies specific areas of the Township that are suitable for different types of housing, including extremely low density detached single-family units, higher density single family units, suburban density residential units and manufactured housing communities.

The purpose in planning areas of varying residential densities by location within the Township is two-fold: first, such delineation of future desired density patterns gives the Township a geographic guideline to avoid haphazard development; and second, future density patterns within defined planning areas provide the basis for determining the various community facility needs of the area's residents.

The Residential Use Areas Plan is focused on four future land use areas, The sewer expansion areas designated by SEMCOG that correspond to the Urban Growth Areas limit potential expansions for the duration of this Master Plan (through 2035). Residential uses outside of these Urban Growth Areas will need to be on parcels large enough to support on site septic systems, private wells, etc. The Township encourages maintaining agriculture in any of the Future Land Use designations except in the Urban Growth Areas. Further, innovative development concepts, such as open space subdivisions that help maintain the existing rural character of the Township are also encouraged in any areas converted to residential purposes.

The Primary Agricultural Area is planned first and foremost as farmland; however, the Township does recognize the need for farmers to potentially split off some land for economic gain, therefore an extremely low density of single family homes may be permitted.

The Secondary Agricultural Areas are likely to remain farmland, however, should residential development pressures encourage farmland conversion, large lots (more than 10 acres) should be reduce conflicts with nearby agriculture operations. Public sewer and water facilities are not available to these designated areas before 2035.

The residential areas located along M-19/Memphis Ridge and Armada Ridge Roads, are anticipated to be developed with smaller rural lots due to their location upon sand ridges that accommodate residential septic systems much easily than other soil types found within the Township.

The Urban Growth Areas, located adjacent to the Cities of Richmond and Memphis, should be developed with a denser suburban residential development pattern that recognizes the availability of public water and sewer service before 2035 and existing development patterns.

The Residential Use Areas Plan identifies areas of the Township that are best suited for different forms of housing based on the Master Plan's vision and existing development patterns. The Plan also distinguishes between different categories of residential development based on density and dwelling unit type. Relevant planning policies are offered for different forms of residential development included in the Plan.

As outlined, the Township is divided into different residential areas with different planned densities. These differences in residential types and densities are based largely the potential for adequate sewer and water infrastructure, whether such is public, private or on-site, adequacy of the roadway system, proximity to retail and commercial opportunities as well as proximity to potential employment centers.

Decisions regarding potential utility extensions have the ability to influence development patterns. Therefore, utility extension policies need to take the land use intensity and distribution patterns reflected on the Land Use Plan Map into account. The Master Plan emphasizes the need for coordination of land use and utility planning to avoid conflicting development patterns and the untimely and costly extension of utilities and services. It is reasonable to consider that the densities supported by the City of Richmond are appropriate within the Urban Growth Areas. Remember that these areas are where the City of Richmond could extend water and sewer over the next 20 years..

Primary Agricultural Areas -

The Primary Agricultural Area designation is truly an agricultural only district. This designation allows for farmhouses as well as a minimal number of additional homes for each individual farm. These homes most likely would be used for either family members of the individual farm owners or as supplemental income to the farm owners. Sewer and water extensions into this area are not desirable and shall not be provided within the time frame of this Plan. Limitation of public utility extensions is an effective method of maintaining lower densities. Without sewer and water, larger lots are needed to accommodate individual wells and on-site wastewater disposal systems.

Since extremely low densities are planned for this area and agricultural uses generate very limited traffic, the Thoroughfare Plan of the Master Plan indicates that the majority of the roadways in these areas of the Township should remain as local roads. The densities established for this area have a direct relationship with the need for improved and widened roadways and vice versa.

Finally, the total reduction in the number of residences in this planning area will reduce the potential conflict that is typically created by the conversion of some farmland to residential uses located adjacent to operating farmland.

- A minimum lot size of 5 acres would be permitted for each parcel divided off of the main farm tract.
- A sliding number of splits would be available to the farmer depending on the size of the farm tract.
- Any number of the allowable splits or divisions would be permitted to be transferred to a Township designated receiving area if the Township enacts a Transfer of Development Rights program.

Secondary Agricultural Area

These areas of the Township should be preserved as farmland but individual dwellings are permissible at low densities. These low densities minimize conflicts between sustained farm operations and individual residences. Sewer and water extensions into this area are not desirable and shall not be provided within the time frame of this Plan. Limiting utility extensions is an effective method of maintaining lower densities. The soils within these areas may not be suitable for extensive use of septic systems, based on the Township's Environmental Profile. Larger lots are necessary to assure that failed septic systems do not adversely impact neighboring residential lots or pollute water resources.

Further, these residential areas are not planned to be directly serviced by major roadways. The Thoroughfare Plan Section of the Master Plan indicates that the majority of the roadways in these areas of the Township should remain as local roads, with the intention that these roads carry a limited amount of traffic, providing connections to the Township's collector roadways.

- A density consistent with one dwelling unit per two acres would be permissible in these areas of the Township.
- Any number of the allowable splits or divisions would be permitted to be transferred to a Township designated receiving area should the Township enact a Transfer of Development Rights program.

Low Density Residential Areas

The Township recognizes the past and current development of single-family homes along Armada Ridge Road and Memphis Ridge Road (M-19). These two areas of the Township have sandy soils suitable for septic systems. The soils maps provided earlier in this document indicates that the majority of the soils along Memphis Ridge and Armada Ridge Roads are of a sandy variety. Typically these soils allow the on-site septic systems on relatively small parcels, no less than one (1) acre in size.

Homes along either one of these roads is have access to the transportation infrastructure that will accommodate travel within and out of the Township. Generous frontage requirements and driveway placement standards will be necessary to manage the number of curb cuts created by individual home sites along the Ridge Roads.



Urban Growth Areas

The Township has designated the areas adjacent to the Cities of Richmond and Memphis as Urban Growth Areas. The in these areas are increase to no more than 4 dwelling units per acre. The Manufactured Housing Community area may have a higher density, up to 8 dwelling units per acre.

The actual development density within this area will depend on the availability of municipal services available from the City of Richmond or the City of Memphis. If municipal services cannot be extended to the site and on-site wastewater treatment plants are to be constructed, such plants shall obtain all proper permits from the Federal, State, County and Local governments. The Township shall continue to support to the City of Richmond's Wellhead Protection Area.

Further, due to the extensive road network around the City of Richmond, including the availability of access to M-19, traffic generated by the higher density residential development can be accommodated. The location of this urban area at the extreme southern end of the Township also provides travelers direct access out of the Township to the more developed southern communities without having to travel throughout the Township, increasing traffic on local roadways. The City of Memphis also has adequate automobile access via M-19, which allows for the movement of traffic either directly north to the City of Memphis or directly to the south to the City of Richmond and the more developed southern communities.

As part of the overall concept of Transfer of Development Rights, the Township has dedicated these urban growth areas as potential receiving areas for the outlying transfer ares that are the Primary and Secondary Agricultural Areas described above.

Manufactured Housing Community

Areas designated for this manufactured housing communities within the Township, should be well suited for development intensities (4 to 8 units per acre) that are consistent with manufactured home parks or multiple family developments. The Township recognizes that services, infrastructure and environmental systems within the Township itself are not designed to accommodate such large and intense developments; therefore much consideration is needed in locating such uses. The following criteria were used in determining the proper location of the manufactured housing community.

- Public or municipal water and sewage facilities; capable of serving the proposed development or on-site water and sewer disposal that is clearly desirable for all residents, environmentally safe and assures healthy living conditions both on site and within the surrounding area that could be adversely impacted. Any private system must be within proximity to a public system that has the capacity and ability to serve the higher density development should such private system fail.
- Direct access to a major thoroughfares with an existing or proposed 120' foot right-of-way. Such roadway must be shown on the adopted Richmond Township Master Plan.
- A detention and/or storm drainage system capable of serving the total project area with no adverse impacts to surrounding lands.
- Proximity and ability to provide adequate public safety and emergency services.

Areas should be within close proximity to public services, community facilities, sufficient commercial areas, as well as major transportation routes that are necessities (or accommodating large groupings of residents). The designated area is on M-19 and is directly accessible to the City of Memphis and provides good road access to the City of Richmond. Developments, which would require community type or private septic systems, are encouraged to be located adjacent to drainage ways that provide an acceptable means of handling outflow, such as Ashley Creek.

RESIDENTIAL AREAS IMPLEMENTATION TECHNIQUES

Through the use of several implementation techniques, the Township can greatly increase its chances of achieving its goal of preserving the existing rural character.

Urban Growth Areas

This planning tool establishes the limits within the Township for which public infrastructure is planned to be extended. This limit on extensions typically provides a "soft line" or "edge" of where more intense developments, which typically require public sewer and water or, some type of approved community system can be built.

The benefits realized from urban growth boundaries are as follows:

Compact urban form - this comes as a result of a more coordinated plan for land uses in relation to infrastructure and roadways. These types of decisions are typically more beneficial if coordinated with other adjacent communities, which is proposed with the City of Richmond. Further, Urban Growth Areas discourage sprawling, or leapfrogging development. Without planning, future extensions of public infrastructure, development often occurs hap-hazardously and place a greater burden on public services. Developments are usually scattered throughout the more rural areas where land is inexpensive and then once the development is constructed, the infrastructure is brought to the site as a reactive measure.

The extension of infrastructure across vacant land substantially increases the cost of providing such services since there are not as many users. These areas provide for a logical extension of the urban growth pattern outward from each city, including potential road networks, utility extensions, and residential neighborhoods.

The Township recognizes and has projected that development of higher density housing will or should occur in the Urban Growth Areas designated in the Master Plan. However, Richmond Township does not presently have public services needed for this density and may not have such available within the twenty year projection of this Master Plan. As a result, all future medium or high density residential development must provide or have:

- Public or municipal water and sewage facilities capable of serving the proposed development or on-site water and sewer disposal that is clearly desirable for all residents, environmentally safe and assures healthy living conditions both on-site and within the surrounding area that could be adversely impacted. Any private system must be within proximity to a public system that has the capacity and ability to serve the higher density development should such private system fail.
- Direct access to a major thoroughfare with an existing or proposed 120' feet of right-of-way. Such roadway must be shown on the thoroughfare plan included in the adopted Richmond Township Master Plan.
- A storm drainage system capable of serving the total project area with no adverse impacts to surrounding lands.
- Proximity and ability to provide adequate public safety and emergency services.

Lower Density Zoning

The Township has preserved rural character somewhat successfully by requiring large-area lots. This large lot size requirement creates a substantially lower overall density of homes, which provides much more green space per housing unit, hence the more rural atmosphere. With minimal growth pressures, this technique works very well. As the growth pressure from the south has intensified, the presence of homes lining the roadways has become more and more visible.

The development of home sites on lots ranging from five to ten acres in size has several unintended consequences that are not necessarily negative, but do impact how the community feels. Development on large lots usually results in home sites lining major road frontages. This arrangement increases the number of curb cuts from driveways. This increase in curb cuts lowers the carrying capacity of the major roadway. From a traffic safety standpoint, this development pattern increases the possibility of crashes because of increased turning movements in and out of the driveways, especially within the northwest section of the Township.

The combination of lower density zoning and open space zoning enhances the effectiveness of both techniques. The lower density zoning allows for greater open space preservation due to the ability of substantially reducing lot sizes, while still allowing for developments that are economically viable. With a minimum lot size of five acres, typically open space preservation of 50 percent, 60 percent, or even 70 percent is possible.

Maximum Lot Size

The definition of maximum lot sizes when used in conjunction with lower density zoning can provide the Township with another tool to preserve farmland. The maximum lot size will allow for the farmer to split off property in times of economic need but rather than requiring large lots be split off, that results in the premature retirement of prime farmland, this technique allows smaller lots to be split, reducing the amount of farmland being lost. Maximum lot sizes should be large enough to allow for the placement of a home, accessory structure, septic field and reserve field at a minimum.

Open Space Zoning Concept

The theory of open space zoning is to preserve agriculture, natural features or open space by concentrating the residential land uses in an area best suited for residential home placement in exchange for the perpetual preservation of open space on the remaining parcel. The residential area is established as a small neighborhood, rather than individual homes side-by-side that front along each country road. Open space ordinances can establish buffer areas along all exterior roadways, minimum percentage of open space preservation, and means of protecting environmentally sensitive lands or farmland.

The preserved open space areas may be rented or leased to an area farmer, or maintained and insured as perpetual open space by the association. The farm or the open space is assured through a conservation easement, deed restriction, land dedication, etc. This concept creates a situation where both public and private interests benefit. The following provides the goals, policies and design philosophy of the open space development process.

Goals of an Open Space Zoning Concept

- Maintain the rural character.
- Achieve a balance between farming, open space and residential growth.
- Preserve open space.
- Preserve natural resources.
- Preserve agriculture and farming.

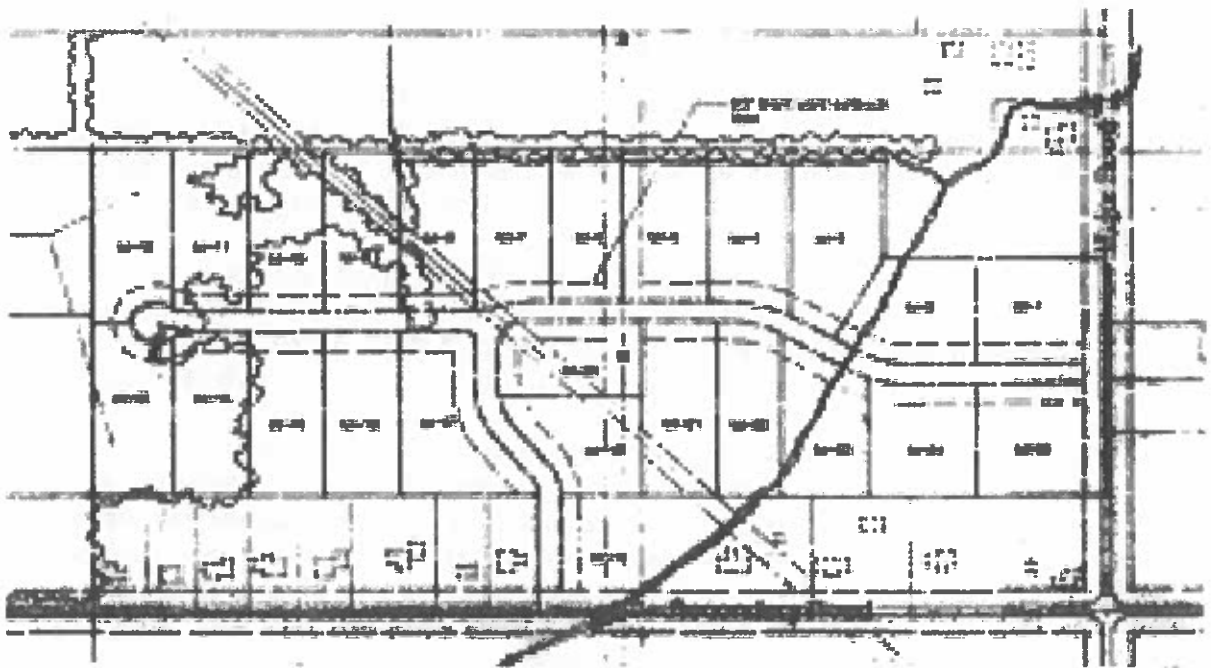
Policies Set to Achieve These Goals

- Offer a viable alternative to conventional residential development.
- Natural resources and the environment are predominant factors and desired assets.
- Residential development shall be set back from the primary roads.
- The development rights for the open space or farming are owned by all parties through Master Deed or deed restrictions or are a perpetual conservation easement.
- There shall not be an increase in density that results from an Open Space Plan.
- Interior or service roadways should be designed to accommodate the actual demand created in that development.

The following design concepts distinguish results of conventional zoning standards from an open space development zoning process:

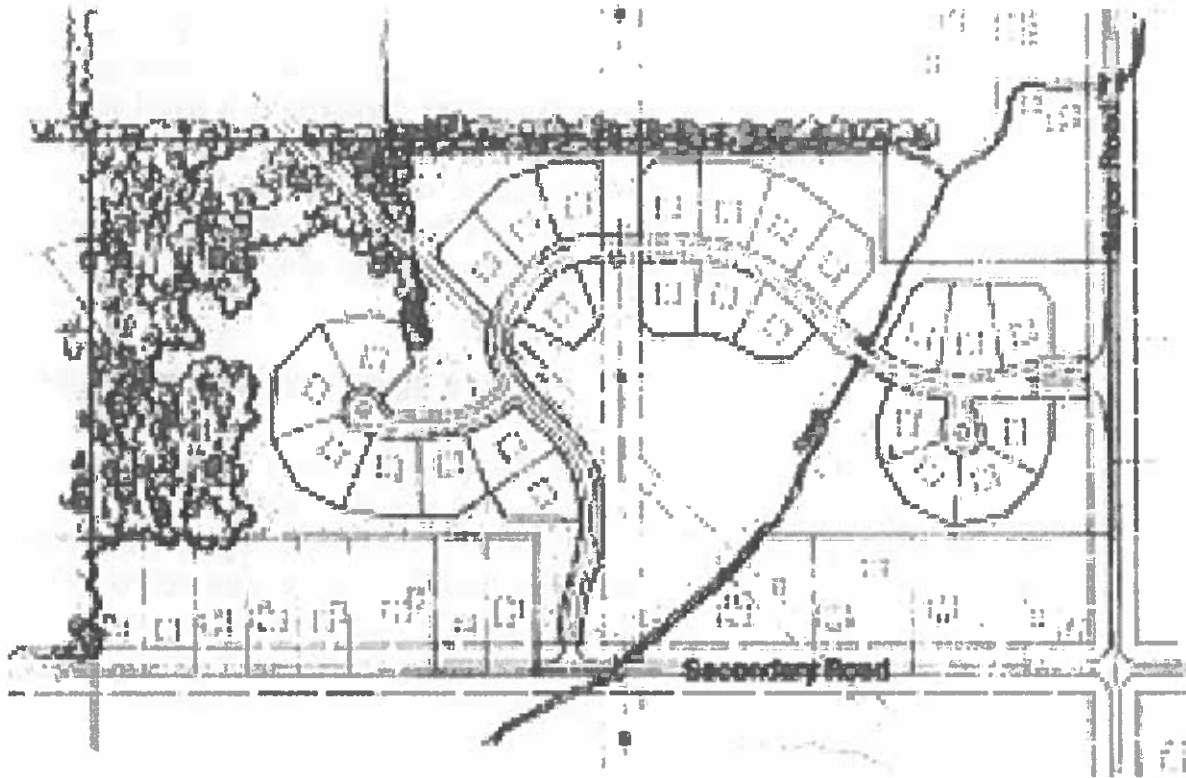
Conventional Residential Development

Conventional residential developments utilize the entire area of a parent parcel for either lots, roads, drainage, or other improvements. The complete coverage of a parcel with these improvements typically leads to the removal of all natural features such as trees, wetlands, drains, etc. and replaces them with individual lawn areas, drastically increasing the likelihood of poor stormwater management including runoff and contamination.



Open Space Development

Open space developments provide an alternative means of developing a particular parcel. This option allows the reconfiguration of lot lines into a more efficient configuration, allowing the preservation of natural features where feasible. The same number of lots is realized as conventional platting but allows for the retention of natural features which helps minimize runoff and contamination because it is handled on site.



COMMERCIAL & INDUSTRIAL AREAS PLAN

INTRODUCTION

Understanding the characteristics of a community's economy is important in the comprehensive planning process. The amount of land being used for economic generation purpose, their distributions within the community, and the characteristics of these uses have broad impacts on the future of the community. Customarily, these uses provide a source of jobs for local residents and a substantial portion of a community's overall tax base used to finance community facilities and services.

The purpose of studying Richmond Township's economy is to understand how the Township's economic characteristics relate to northeastern Macomb County. We reviewed U.S. Census data, as well as other sources, to provide a perspective of Richmond Township's economy and its role in community planning. Two components of the Township's economy are considered: commercial and industrial.

The first section of this Commercial & Industrial Areas Plan examines the Township's retail commercial land use characteristics. We need to consider what the future commercial land use demands might need along with existing unmet retail needs based on households and spending patterns. This discussion factors in the Township's relationship to available retail destinations in adjacent communities.

The second section considers the characteristics of the Township's existing industrial base, as well as the prospects for future industrial development. This examination occurs within the context of larger regional industrial growth patterns.

EXISTING COMMERCIAL AREAS

Within the Township, the existing commercial land uses are sporadically dispersed throughout the community. Most of these uses have evolved out of existing non-conforming uses or are uses which have been in the community for a substantial period of time. The Township does not have an established commercial land use area. The Township relies on the City of Richmond, the City of Memphis and the developed Townships to the south for its commercial needs. Several commercial land uses exist along M-19 north of the City of Richmond as well as along 32 Mile Road east of the City of Richmond. These uses are generally individual businesses performing one specific use such as auto repair, doctor's office or ambulance service.

DETERMINATION OF TRADE AREA

The trade area for convenience goods is generally limited to the residential areas surrounding the commercial area, except when 'elongated' on highways in rural areas. People will generally not travel a significant distance for groceries, home sundries, and other convenience goods that are purchased frequently. In a low density community such as Richmond Township, the trade area may extend three or four miles, most likely to either downtown Richmond, the City of Memphis or the Village or Armada. With these three urban centers within proximity of residents of the Township, the need for further commercial nodes is reduced. There is not a market demand for additional services or retail that cannot be met by the existing retail centers in the Cities of Richmond, Memphis or Armada.

COMMERCIAL AREA DESIGNATIONS

The Master Plan designates very little area of the Township for commercial areas. As noted above, local retail needs are well satisfied by commercial developments within the City of Richmond and the outlying Townships to the south. These areas are well within a short drive for the majority of current residents as well as the majority of planned residents. A small commercial node remains planned at the intersection of 33 Mile Road and M-19. This area in the future could house additional convenience-type commercial uses. A second small commercial area remains planned at the intersection of Lowe Plank and 32 Mile Road as indicated in the community's past Master Plans.

INDUSTRIAL AREAS

Land reserved for industrial purposes provides important economic potential for the community. Industrial development is a source of solid technical employment as well as a boon for the greater community's tax base. This part of the Future Land Use Plan and associated Map looks at the characteristics of industrial land uses in more detail. Part of this approach is examining existing industrial development and zoning patterns, particularly within northeastern Macomb County.

EXISTING INDUSTRIAL AREAS

The Township currently contains an erratic industrial land use pattern. There is not an established or significant concentration of industrial uses. There are several existing industrial land uses along 32 Mile Road east of the City of Richmond. There is another small area of industrial uses on Lowe Plank Road near where the railroad tracks were. There are other individual industrial uses sprinkled across the Township in no established pattern.

FUTURE INDUSTRIAL LAND USE DESIGNATIONS

Prime industrial lands have access to major transportation corridors like expressways, arterial streets, and railroads. These accommodate higher volumes of traffic and the trucks and trains that carry materials in and value added products out. Industrial land uses should be placed in a manner where any nuisance factors they generate are mitigated by site design or proximity to adjacent non-industrial uses. The physical relationship between industrial and less intensive use areas like homes and apartments should be carefully planned with conflicts avoided however possible, particularly through special approval use zoning controls. The mitigation of compatibility issues is the basis for zoning laws.

Areas planned for future industrial purposes are located to capitalize on the presence of a regional corridor along the southern boundary of the community as well as the I-94 corridor adjacent to the Township. The Master Plan encourages industrial uses that do not detract from the overall rural residential and agricultural character of the community. The Plan also minimizes and mitigates any potential compatibility problems that appear wherever industrial and non-industrial zoning districts share a common boundary. Where these situations exist, careful attention should be directed to site plan and special approval use review to mitigate any potential nuisances through careful building placement, appropriate setbacks, and buffering and screening. The industrial district standards and site plan review requirements of the Zoning Ordinance should be periodically reviewed.

Land allocated for industrial purposes on the Future Land Use Plan Map includes the Township's 32 Mile Road frontage from the City of Richmond east to the Township, then to County Line, then to the railroad line, and then to Pound Road to the north. These areas were chosen for their prime location to access the Gratiot Avenue Corridor and I-94, as well as the Grand Trunk Western Railroad line. These routes provide convenient access for trucking and limit the impacts on the adjacent land use patterns of the Township and City.

The land area directly surrounding the crossing of Lowe Plank Road and the abandoned Grand Trunk Western Railroad line remains planned for appropriate industrial land use. The Master Plan designation reflects the existing land use and zoning patterns in the area. However, this area does not offer sufficient truck access for intensive industrial uses.

The industrial land use designation is intended to principally accommodate assembly operations, warehousing and similar activities. While some more intense industrial uses may be appropriate within these industrially designated areas, their locations should be more carefully regulated through special approval uses. For example, trucking operations or industrial activities with outdoor storage or processing characteristics should be located on interior sites or sufficiently screened from 32 Mile Road.

Another design challenge facing the Township to realize the full development potential of the land allocated for industrial purposes on the Master Plan Illustration involves access. If the current development pattern continues, the 32 Mile Road frontage should be developed first, limiting access opportunities to interior acreage. This practice will diminish the potential opportunities reflected in the Master Plan. To overcome this potential problem and an interior road system into the landlocked acreage to open this area for development. A planned industrial subdivision is the preferred development option for this industrial acreage. As Burke Road and Stoddard Road are developed, this will also alleviate the potential "land locking" of valuable industrial land.

THOROUGHFARE PLAN

INTRODUCTION

The preparation of a Thoroughfare Plan has several practical applications that have important consequences for the community's development pattern. Through the identification of future right-of-way locations and standards, the Township establishes the system of streets and roads that will provide access to future development. Furthermore, the cost of acquiring future road rights-of-way can be significantly reduced if the necessary reservation is accomplished well in advance of future road construction. By establishing right-of-way locations and standards through the Master Plan process, the community is provided with a basis for requesting right-of-way reservations during the site planning and land development process. Designating right-of-way widths also helps a community establish consistent setback requirements, which is accomplished through the administration of a Zoning Ordinance. This minimizes the potential of having to acquire homes or businesses when road widening becomes necessary. Orderly development and a desirable environment can only be achieved if full consideration is given to the relationship between the type and intensity of land uses and the need for proper access and the resulting traffic generation movements. Improved planning of the thoroughfare system will likely result in a better development pattern and, consequently, a much improved environment and efficient use of land.

CLASSIFICATION OF ROADS

In an effort to provide a more efficient and effective roadway system within Richmond Township, the overall roadway system, consisting of varying degrees of major or through roads and local roads must be reviewed. These roads must work as a cohesive system to provide an efficient network. Within Richmond Township, there are three road classifications. These categories are major or secondary thoroughfares, collector roads, and local roads.

Major Thoroughfare

This class of streets or roads brings traffic to and from the expressway and serves the major movements of traffic within or through the community. The length of the typical trip on this system should exceed one mile.

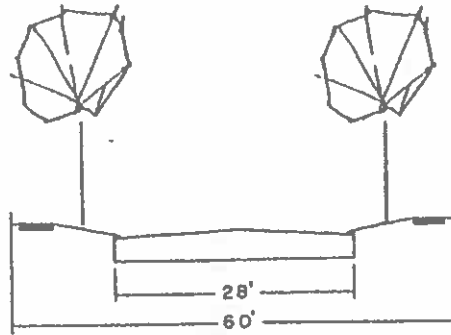
Collector

Collectors serve internal traffic movements within a limited area of the community, such as a subdivision, or higher density residential or commercial or industrial area, and connects this area with the major thoroughfare system. Collectors do not handle long through-trips and are not, of necessity, continuous for any great length.

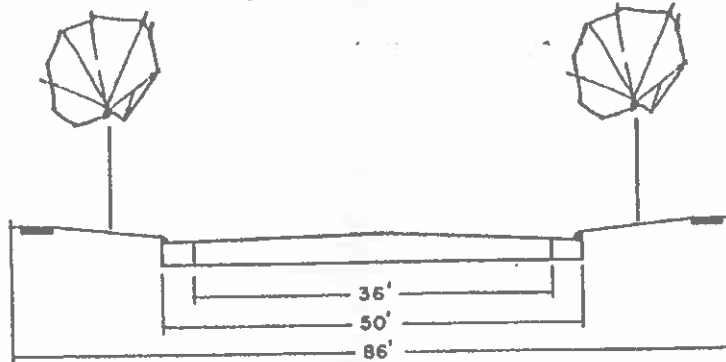
Local

The sole function of local roads or streets is to provide access to adjacent land. These roads or streets make up a large percentage of the total road mileage of the township, but carry a small proportion of the vehicle miles of travel. Local roads will also service the agricultural areas.

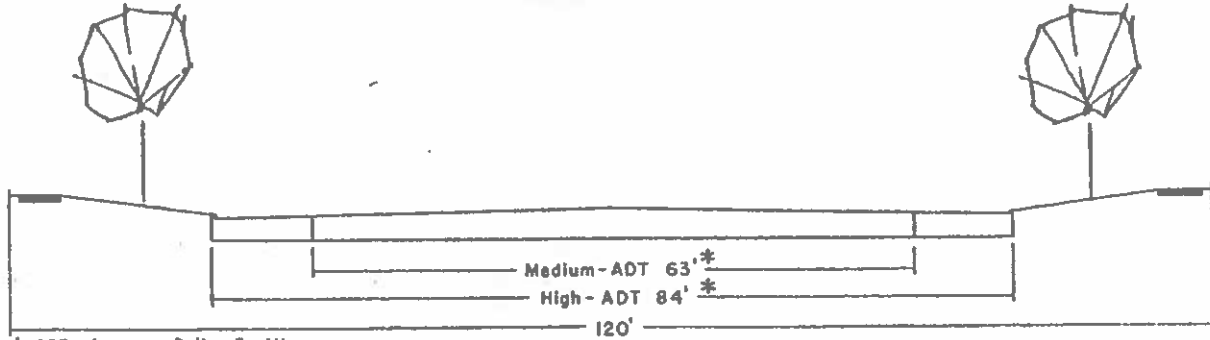
Standards for road development vary by the type of road and the level of government that has jurisdiction over the development and maintenance of the road. In Macomb County, the Michigan Department of Transportation (MOOT) and the Macomb County Department of Roads share this responsibility. The former has jurisdiction over M-19. All remaining roads in the Township fall under the control of the County. Example road cross-sections for planning purposes are on the following page.



LOCAL SUBDIVISION

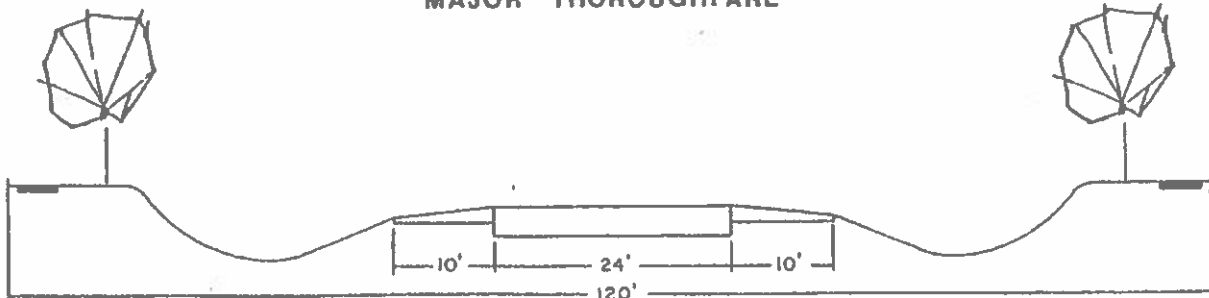


COLLECTOR



* ADT Average Daily Traffic.

MAJOR THOROUGHFARE



Initial Stage

MAJOR THOROUGHFARE

EXISTING THOROUGHFARE SYSTEM

State Highways

M-19 (Memphis Ridge Road) is the only State Trunkline in Richmond Township. This highway extends from Gratiot in Lenox Township in a northerly direction passing through Emmett and Yale to the northern end of St. Clair County. Traffic volumes along M-19 in Richmond Township were 8,761 when most recently counted in 2009. The largest volumes occur just north of the City of Richmond and the lowest volumes occur just to the south of the City of Memphis. The decreasing traffic volumes as one travels northward indicates this route is used as a main trunkline for commuters from the north to the south and vice versa.

County Roads

The Road Commission of Macomb County divides Richmond Township's roads into two categories: primary and local. Each of these roads is further distinguished from one another based on surface treatment (paved or unpaved).

Within Richmond Township, the following roads are paved primary roadways: Bordman Road, School Section Road, Armada Ridge Road and 32 Mile Road. Local paved roads include parts of Omo Road and parts of Stoddard Road. All other County roads within the Township are designated as local gravel roads. M-19 or Memphis Ridge is a paved State road. In 2012, the Macomb County Department of Roads updated its Subdivision Specifications. This publication provided the planning and engineering standards for all current and future roadways in the County. This document also established the specific road dedications in terms of rights-of-way for all roads including those in Richmond Township.

Traffic Volumes

Based on data collected from the Southeast Michigan Council of Governments and the Road Commission of Macomb County, M-19 is the most widely utilized roadway in the Township. Other roadways that are heavily used include 32 Mile Road, Armada Ridge Road, Omo Road, Division Road, Wales Ridge Road, and Bordman Road. These other roads receive significant amounts of traffic, as shown on the following page.

RECENT TRAFFIC COUNTS FROM SEMCOG

Average Daily Traffic	Count Year	Road	From Road	To Road
8761	2009	Memphis Ridge	0.1 Mile North Of 33 Mile Road	0.1 Mile North Of 33 Mile Road
1738	2009	Bordman	Braidwood	Wales Ridge
1156	2010	Stoddard	Dolan	Bordman
1154	2009	Wales Ridge	Bordman	Alpine
1064	2010	Omo	Armada Ridge	Dayton
554	2010	Omo	Dayton	Irwin
491	2009	Low Plank	Armada Ridge	33 Mile
461	2010	Omo	34 Mile	Armada Ridge
289	2010	Cryderman	Dayton	Irwin
255	2009	Hebel	Memphis Ridge (M-19)	Weeks
248	2009	Place	32 Mile/Division	33 Mile
239	2010	Deland	Dayton	Weber
208	2010	Stoddard	Dolan	Meskill
197	2009	Welding	33 Mile	34 Mile
188	2009	Weeks	Pound	Hebel
187	2009	33 Mile	Omo	Pitt
186	2010	Fuerstenau	Low Plank	Memphis Ridge (M-19)
179	2009	33 Mile	Place	Armada Ridge
169	2009	33 Mile	Pitt	Place
169	2009	Russ	Armada Ridge	34 Mile
165	2010	Wahl	School Section	Weber
159	2009	Low Plank	34 Mile	Fuerstenau
116	2010	Dayton	Omo	Burman
114	2010	Irwin	Omo	Burman
104	2010	Closs	Fuerstenau	School Section
101	2009	34 Mile	Omo	Pitt
95	2009	34 Mile	Armada Ridge	Russ
94	2010	Pitt	34 Mile	Armada Ridge
93	2010	Russ	34 Mile	School Section
93	2009	Pitt	33 Mile	34 Mile
70	2010	Mackey	Fuerstenau	School Section
53	2010	Stoddard	Big Hand	Logg
44	2010	Meskill	Andrews	End Of Road
40	2010	Fuerstenau	Closs	Mackey

THOROUGHFARE PLAN DEVELOPMENT

The Thoroughfare Plan considers the Master Plan's goals and objectives along with the inventory information, concepts, and standards. Major proposed improvements needed to support the land use and community facility elements of the Plan are identified below.

Traffic Planning Principles

Certain general principles have been recognized by planners and traffic engineers as conducive to sound transportation planning for communities. These principles may be summarized as follows: There must be coordination between the Thoroughfare Plan and existing and proposed land usage in order to achieve a transportation system that efficiently services the land use patterns. The existing road system must form the basis for long-range transportation planning, with modifications in the system made, where necessary, to accommodate future needs.

Existing and anticipated traffic volumes must be considered and provisions made to accommodate the increased traffic and changing trip movements generated by population growth.

- There must be correlation between the Thoroughfare Plan and residential areas so that the Plan will provide for adequate service to the neighborhoods but, wherever feasible, not bisect them with heavily traveled route.
- Modern design standards must be utilized in planning width of right-of-way and pavement and other development characteristics of the roads.
- The Plan must consider the proposals of road planning agencies throughout the region in order to achieve a complete and functional road system.

THOROUGHFARE PLAN DESIGNATIONS

While the Township recognizes that roadways within the Township fall largely under the jurisdiction of the Macomb County Department of Roads, with the exception of M-19, the Township does not wish to promote the planned expansions of such roadways in areas that are projected as farmlands or agricultural for the next 20 years. As noted above the County has planned the majority of the roads to have an ultimate right-of-way of 120 feet, which has a build out of 3-5 lanes. The Township believes with the extremely low densities planned for the majority of the Township, local roadways will provide sufficient roadway capacity.

Local roadways will have to be shared between residential and non-residential automobile traffic as well as farm machinery. Larger roads designed to carry significant traffic would make the sharing of roadways an impossibility. Roads designed to carry local, lower speed traffic are more appropriate for sharing the roadway for large farm machines.

Major Thoroughfares

Within the Township's Master Plan there are six designated Major Thoroughfares. As stated earlier, these roads are designed to move traffic through the area in an uninterrupted efficient manner. Further these roads provide connections between Richmond Township and the surrounding communities and Townships. These roads include 32 Mile Road, Armada Ridge Road, School Section Road, Bordman Road, Omo Road and M-19 or Memphis Ridge Road. These six roadways provide main access routes for both north/south travel and east/west travel. These roads are also currently the most traveled roadways in the Township. Rights-of-way of 120 feet need be reserved for these roads. The Master Plan proposes the development of Stoddard Road from 32 Mile Road or Division Street within the City of Richmond to Pound Road. This roadway with a proposed right-of-way of 120 feet would service the planned industrial corridor and provide another access from Pound Road to 32 Mile Road.

Local Roads

In a majority of the Township, the Master Plan envisions extremely low densities. These low-density areas include the areas north of Armada Ridge and west of M-19, south of Armada Ridge, west of Welding Road and east of M-19, between Big Hand and Weber. With farmlands, low densities and minimal traffic generation, the need for large, extensive roads is unnecessary and undesirable. With the availability of a purchase of development rights mechanism and the potential of a transfer of development rights mechanism in the near future, traffic generating subdivisions will either be eliminated or relocated to areas of the Township more suited for accommodating traffic. Roads, which were not named above, have been classified as local roadways.

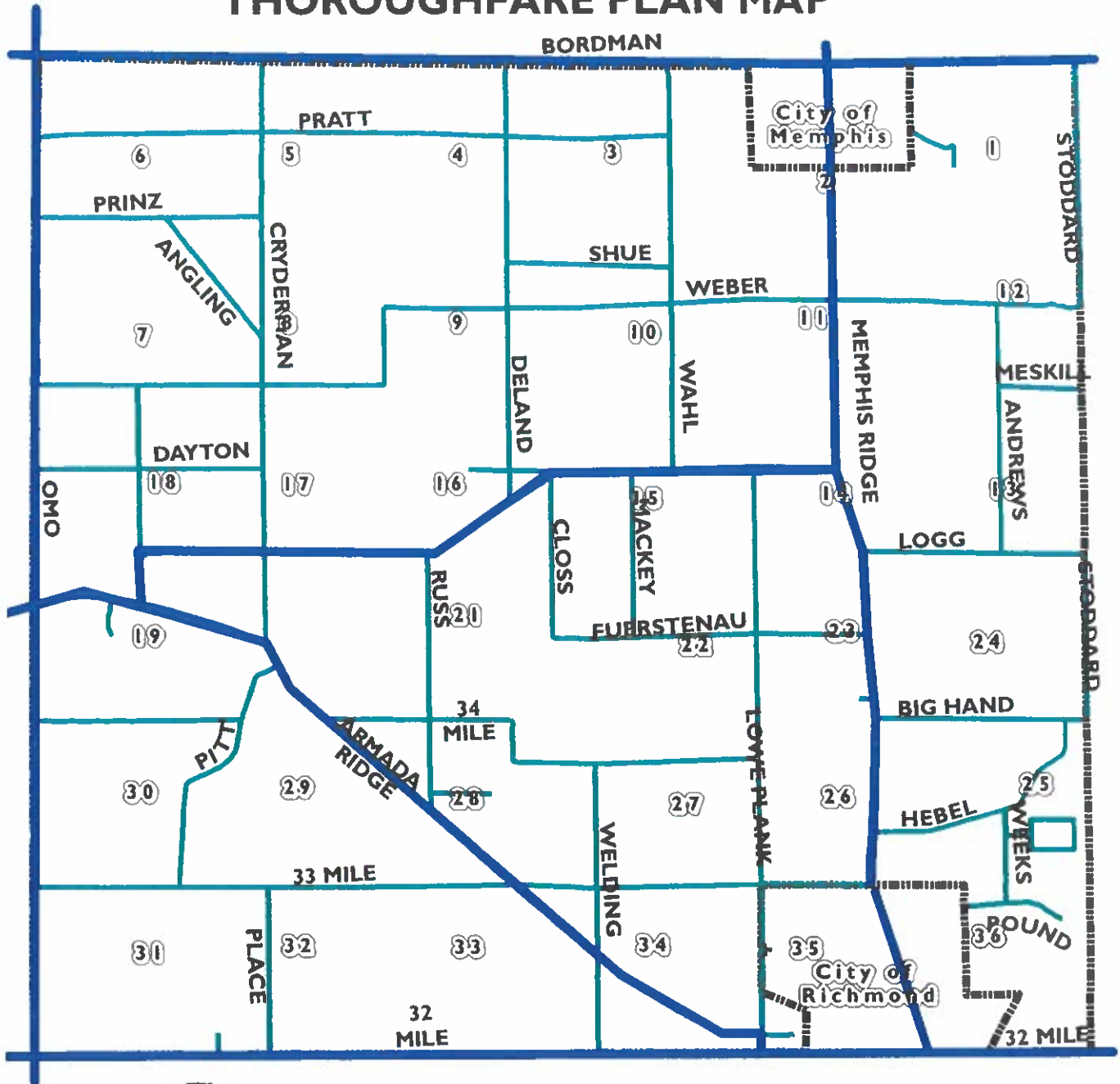
Local streets should not only move traffic safely and efficiently, but also consider the needs of residents for a quiet, pleasant and convenient neighborhood environment. Frequently encountered residential street design problems include over-design, lack of order, and lack of residential character. Residential streets should be designed to support neighborhood activities that consider:

- The width of the street should be based on the volume of traffic anticipated. The design should consider whether on-street parking is needed and whether curbing or shoulders are desirable.
- All streets or roads should be designed and constructed to meet accepted engineering standards to safely control traffic.
- The arrangement of streets should encourage short, quiet residential streets that create recognizable neighborhoods and discourage through-traffic.

To accommodate the multiple functions of all streets, design standards for these roads should consider the following objectives:

- Promote the safety and convenience of vehicular traffic;
- Protect the safety of neighborhood residents;
- Minimize long-term maintenance and repair costs;
- Protect the residential environment by limiting traffic volumes, traffic speed, noise and exhaust fumes;
- Encourage efficient land use patterns;
- Optimize construction costs; and
- Limit the quantity of impervious surface in order to minimize runoff and improve stormwater quality.

THOROUGHFARE PLAN MAP



MAJOR THOROUGHFARES
LOCAL ROADS



VISION, GOALS, AND IMPLEMENTATION TOOLS

The community vision guides the Township's future policies and decisions. A community's vision is a unique combination of many different components.

Goals are typically broad statements about the quality and character of a certain segment of a community that are not easily measured. Goals should be translated into specific and measurable objectives and policies that can be prioritized and pursued. Implementation tools must also be developed that advance the the goals and construct the broader vision.

One means of developing these visions, goals, and selecting is to reflect on what makes the community what it is today. The Richmond Township Planning Commission reviewed the goals from the 2002 Master Plan and confirmed that they still apply to the Township now and for the next generation of residents:

- Sustainable agricultural economy of the Township;
- Strength of the Richmond School District;
- Large expanse of open farmed and fallow land;
- Overall appearance and tidiness of the community;
- "Pride in ownership" of each landowner;
- Quality of the residential housing market;
- Overall community attitude and small town environment shown through civic pride;
- Historic architecture present throughout the community;
- Quality of public services currently provided in the Township;
- Convenient location of the community in relation the broader southeast Michigan region, including Detroit and Port Huron; and
- Unique interaction and cooperation between the City of Richmond and the Township.

The Commission took the opportunity to review these concepts from the past Master Plan. This affirmation of the goals and implementation tools. The goals and implementation tools were placed into significant categories that include: Farmland Preservation, Residential, Commercial, Industrial, Natural Resources, Parks & Recreation, Infrastructure & Roadways, and Growth Management.

FARMLAND PRESERVATION

Goals

- Encourage farming and agribusiness as a sustainable part of the Township's economy.
- Recognize that agriculture is a viable and essential industry within Richmond Township.
- Protect and maintain the rural character of Richmond Township.
- Promote the protection and continued operation of the numerous centennial farms located within the community.

Implementation Tools

- Encourage controlled growth that does not cause conversion of agriculture land to .
- Use the farmland mapping and information provided within the Master Plan to establish the areas of the Township in which long-term farmland operations are viable.
- Re-examine current Zoning Ordinance Districts that permit housing to encroach upon farming to determine if an agricultural only district is essential.
- Promote the use of tools like Michigan's Farmland Preservation Program and the purchase of development rights to discourage the conversion of farmland to other active uses.
- Develop Zoning Ordinance revisions which reflect that some agricultural land uses are industrial land uses and only permit like intense agricultural uses as well as necessary ancillary uses.
- Encourage means in which farmers can sell their crops to those residents within the community as well as those within adjacent communities in a manner which is consistent with rural farming.
- Explore the idea of creating Township adopted Agricultural Practices that further protect the farmers within the community while still afforded protection to area residents and the environment.
- Adopt and promote the General Accepted Agricultural Management Practices that the State Department of Agriculture has adopted.
- Develop a Purchase of Development Rights Ordinance that meets the standards set forth by the State.

RESIDENTIAL

Goals

- Maintain very low-density housing in areas of the Township where farmland and open space preservation are designated and desired.
- Promote residential development that allows for the managed growth of the Township while providing open space and natural resource preservation.
- Allow only residential housing that does occur does not encroach into or adversely impact environmentally sensitive and/or valuable areas of the Township.
- Encourage a high percentage of home ownership and a mixture of quality housing types.
- The Township recognizes and has projected that development of higher density housing will or should occur in the Urban Growth Areas designated in the Master Plan. However, Richmond Township does not presently have public services needed for this density and may not have such available in the term of this Master Plan. As a result, all future medium or high density residential development must provide or have:
 - Public or municipal water and sewage facilities capable of serving the proposed development or on-site water and sewer disposal that is clearly desirable for all residents, environmentally safe and assures healthy living conditions both on-site and within the surrounding area that could be adversely impacted. Any private system must be within proximity to a public system that has the capacity and ability to serve the higher density development should such private system fail.
 - Direct access to a major thoroughfare with an existing or proposed 120 feet of right-of-way. Such roadway must be shown on the adopted Richmond Township Master Plan.
 - A detention and/or storm drainage system capable of serving the total project area with no adverse impacts to surrounding lands.
 - Proximity and ability to provide adequate public safety and emergency services.

Implementation Tools

- Revisit Zoning District requirements for areas where farmland preservation is planned. Residential densities of one unit per five or more acres may be appropriate.
- Require open space and natural resource preservation as a part of any subdivision or condominium process. The subdivision and condominium regulations should be revised to reflect such requirements. Consider Clustering and density bonus options for future amendments to the condominium.
- Require that environmental amenities are shown on subdivision plats and condominium site plans. Require assurances from developers and condominium associations that environmental amenities will be properly maintained.
- Use natural resource mapping within the Township's ongoing planning activities to identify areas of the Township that are environmentally sensitive.
- Create Zoning Ordinance provisions that protect environmentally sensitive areas of the Township by designating wetlands and woodlands overlay districts.
- Require that residential dwellings are constructed of quality, durable and aesthetically pleasing materials and designs.
- Develop the Armada and Memphis Ridge areas of the Township for residential uses with septic systems and well water on lots that are at least 3 acres.

COMMERCIAL

Goals

- Recognize that the majority of commercial uses needed by Township residents are provided within the activity centers located to the south and north of the Township as well as further to the west. Further that other urbanized shopping areas are provided for along Gratiot Avenue further to the south.
- Plan for commercial uses only where there is projected sufficient support population, or where there will be adequate draw from the highway or the trade area.

Implementation Tools

- Limit the amount of land Planned and Zoned for commercial purposes within the Township.
- Maintain a policy with which the Township recognizes that commercial facilities are provided for in other adjacent communities within close proximity.
- If commercial areas are deemed to be necessary, ensure that the location of such is not detrimental to the preservation of desired open spaces and agricultural lands. This should be done through carefully considering the Master Plan as part of the rezoning process.
- Allow for the development of farm related commercial activities in appropriate areas. These activities may include farm implement sales and repair, farm produce sales, agricultural by-product sales.
- Commercial and office developments will be of the highest aesthetic quality to match the current housing quality the Township is receiving.
- Discourage marginal commercial development locations that create haphazard and uncoordinated land use patterns, also known as sprawl.
- Place commercial uses at locations of easy access where ingress and egress will not impede traffic flow.

INDUSTRIAL

Goals

- Attract industrial areas that add value to the community without negatively impacting the quality of life for Township residents.
- Recognize true agricultural uses as bona fide industrial operations and afford them the same opportunities and protections.

Implementation Tools

- Industrial developments situated in park-like settings that afford a more palatable transition with adjoining uses.
- Limit traditional industrial uses to those developed areas where public water, sewer and major thoroughfares are available.
- Utilize existing located industrial sites as the base for industrial expansion.
- Concentrate industrial areas and buffer them from residences, agriculture, and open spaces

NATURAL RESOURCES

Goals

- Provide mechanisms which will allow for agricultural, residential, commercial and industrial uses to coexist with natural environmental systems.
- Link greenways throughout the community which allow for the preservation of natural waterways along with the adjacent vegetation and wildlife, while still providing adequate drainage for farming.
- Develop a community where the natural environment systems work cohesively with farming, residential housing, as well as non-residential development.
- Develop a means of promoting the conservation or replacement of wetlands within the community, essentially creating a no net loss of wetlands policy for the Township.
- Ensure the long-term quantity and quality of ground water within the Township.
- Restrict excavations, mining, drilling, or hydraulic fracturing.

Implementation Tools

- Develop open space subdivision regulations that provide for the preservation of natural resources, open spaces, and farmland.
- Work with the Macomb County Public Works Commissioner to manage natural County Drains by using innovative preservation techniques versus typical channelization and clear cutting.
- Develop a woodlands overlay ordinance that mandates the preservation of trees and woodlands but also allow for development to occur that respects woodland protection.
- Develop Ordinance requirements that require a minimum preservation easement or buffer along all wetlands, streams, creeks, and drains.
- Develop Ordinance requirements that regulates how development occurs within designated floodplains.
- Become a member of the Flood Emergency Management Agency (FEMA) Flood Insurance Program so the community's floodplains will be accurately identified and mapped.
- Recognize the potential recreational benefits of protecting natural corridors and designate these vital linkages within the Master Plan.
- Identify potential wetland areas throughout the community using MIRIS and other available resources and incorporate these areas into required preservation easements when development occurs.
- Work with watershed protection groups to monitor the current conditions and educate Township residents on the importance of the two main watershed basins in the Township.
- Develop regulations in coordination with the Township Engineer for a site plan review process that regulates the quantity and quality of storm water runoff leaving a site and entering a drainageway.
- Inventory areas along each tributary of the Clinton and Belle Rivers that are point and non-point sources of pollution.
- Work with adjoining communities to create cooperative efforts and planning documents to ensure the long-term viability and preservation of the Township's watersheds and drainageways.
- Work with the entire community to educate it on materials, practices, and methods, concerning spraying, fertilizing, storage of materials, etc. that are less harmful to the natural environment.
- Understand and regulate uses, which may have a detrimental impact on the quality and quantity of ground water within the Township.

PARKS AND RECREATION

Goals

- Continue the development of park facilities at the Township Hall or Civic Center site since it is a focal point of the community.

Implementation Tools

- Understand that while maintaining a rural community, with predominately larger lot sizes, the need for parks and recreational facilities is reduced.
- Continue to farm the Township's 80 acre parcel along Fuerstenau. However, should the need for a parks facility arise which cannot be accommodated otherwise, this parcel also being centrally located could be utilized.
- Utilize the existing natural features and setting of the Belle River corridor for future recreational facilities.
- Compliment the development of the North Macomb Orchard Trail (abandoned Grand Trunk Western Railroad).
- Township and other governmental and institutional developments (schools, libraries, etc.) should strive to provide a model in terms of architecture, layout, landscaping, etc. for private sector developments.

INFRASTRUCTURE & ROADWAYS

Goals

- Design the road system so that it meets the needs of a rural community.
- Encourage large lots and on-site disposal systems where sewer extensions are not foreseeable within the planning period.

Implementation Tools

- Leverage Richmond Township's close proximity to major arterials servicing southeast Michigan.
- Understand that within a farming community, automobiles and tractors must share the roadways.
- Coordinate efforts with the Road Commission of Macomb County to provide better maintenance to all roads in the Township.
- Understand the relationship between overall land use density and roadway capacity.
- Recognize that gravel roadways are an integral part of the overall rural character of the Township.
- Obtain right-of-way dedications and reservations consistent with rural design standards and needs.
- Correct hazardous and unsafe areas by planning for improved street alignments where possible.
- Maintain the policy that sewer and water services will only be in areas of the Township that are covered by the existing 425 agreements or the Urban Growth Areas.
- Encourage the placement of public utilities major transmission facilities in utility and transportation corridors that run along section lines wherever possible.
- Work closely with the City of Richmond and Memphis where sewer and water facilities exist in order to make the most economic use of their existing treatment facilities.
- Do not allow sewer and water facilities to intrude upon preserved open spaces, sensitive natural features or prime agricultural lands.

GROWTH MANAGEMENT

Goals

- Develop a workable means to provide town and country living to residents within the Township.
- Provide higher density single family as well as multiple-family residential land uses adjacent to the City of Richmond and the City of Memphis in anticipation that development patterns will mirror those in the cities.

Implementation Tools

- Work with the surrounding municipalities to provide services to the areas directly adjacent to the City boundaries that will accommodate the Township's desired growth patterns over the next twenty years.
- Establish the framework from which a Transfer of Development Rights and Purchase of Development Rights can occur.
- Minimize the visual impact of any type of development within the areas outside of Growth Areas.
- Re-evaluate the growth patterns within the Growth Areas as well the outer "country" areas at least every five years to determine if adjustments must be made in the services or densities being provided.
- Realize the Township residents have access to three different urban areas: City of Richmond, City of Memphis and Village or Armada, that provides many of the shopping areas and other necessary professional services needed by the residents.
- Maintain the policy that sewer and water services will only be available in areas of the Township that are covered by 425 agreements or located within the proposed Urban Growth Areas.

DEFINING THE TOWNSHIP'S FUTURE LAND PLAN

The next steps in the Master Planning process is a thorough discussion of each of the land use building blocks that comprise the Future Land Use Plan. We take the regional, environmental, and demographic profiles, consider them against the overall vision, goals, and implementation tools from the 2002 Master Plan that the Township Planning Commission reviewed, and then we develop the components of the Future Land Use Plan map and associated policy statements for each generalized land use based off of our previous discussion.

These generalized land uses are based on their principal intent, although there are necessary exceptions that crossover as long as they are similar in intensity and fit into the appropriate context with their surroundings. Let us also be clear, although the term urban may be found in this 2035 Master Plan, the meaning should be read as synonymous with lower density sub-urban development. Height and bulk restrictions of buildings and intensity of development should reflect the community's natural and agricultural heritage.

Primary Agricultural, Secondary Agricultural, and Resource Conservation

Richmond Township has traditionally been an agricultural community and still is to this day. This tradition is evident with the significant amount of the land within the Township that is still farmed. Further, the Township within this Plan, as well as past Master Plans, states the long-term preservation of farmland (active and inactive) as its main goal. The Township will promote the same techniques as before to set aside land. These practices remain viable and the community benefits from diminishing outside regional influences and pressures so it can consider never before seen changes in growth dynamics of population and land use trends. Ultimately, the Agricultural and Resource Conservation Areas are balanced with the Township's need to provide housing. Note that commercial activities consistent with the community's character should be encouraged in agricultural designated areas.

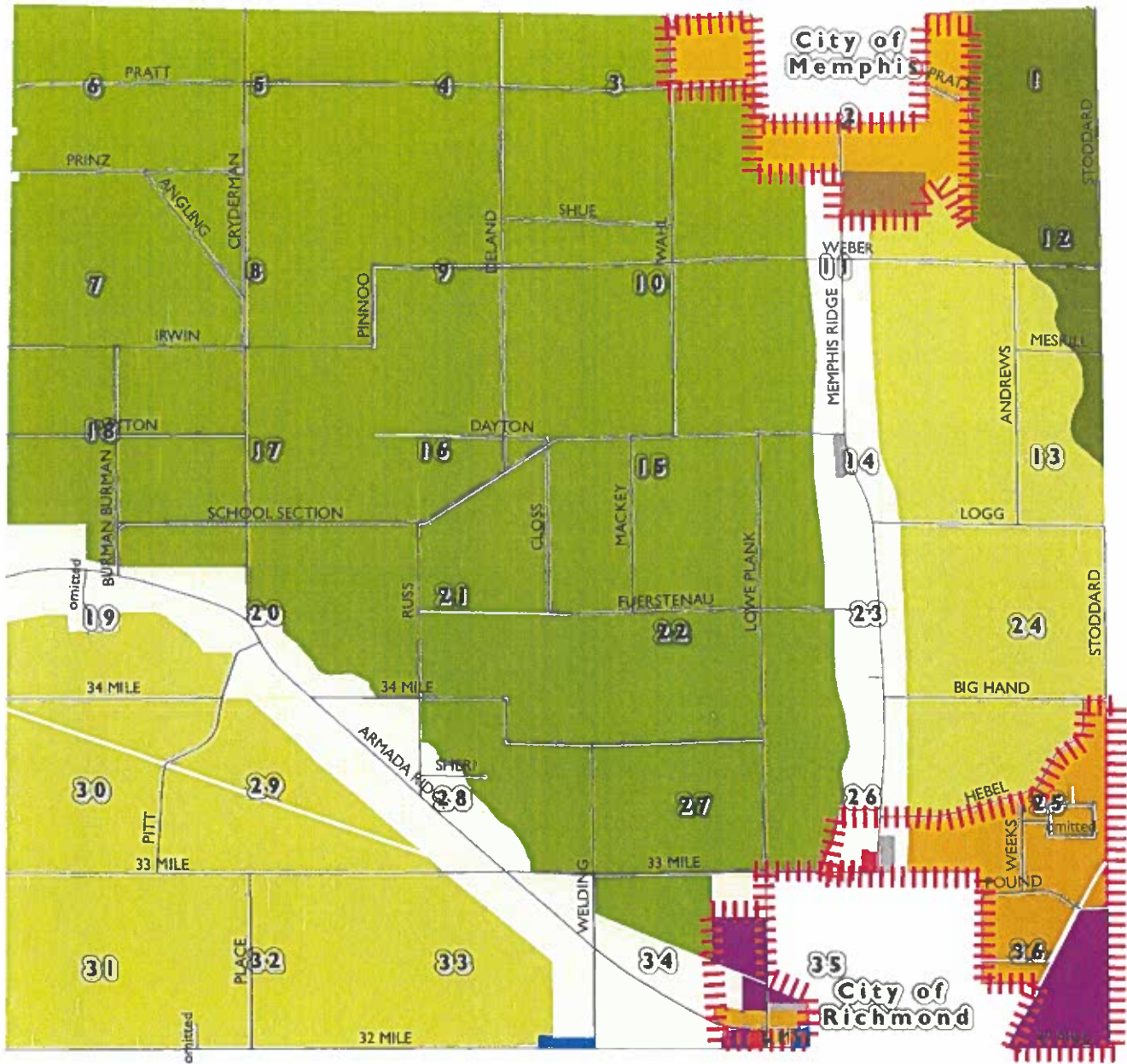
Low Density Residential, Suburban Residential, and Manufactured Housing

These residential development areas are central to the Townships housing and population. They are adjacent to transportation and utility infrastructures that support them appropriately. The projections within this plan show that there is ample capacity for future demands within the residential planned areas. Suburban Residential and Manufactured Housing are situated in Urban Growth Areas.

Office & Local Commercial, Commercial, Municipal, and Industrial

Each of these land use categories have specific places in the community based on the research compiled for the Master Plan. Office and local commercial are found close to the intersection of 32 Mile and Welding Roads. Larger scale commercial and industrial land uses should develop within the Urban Growth Areas adjacent to the Cities of Richmond and Memphis. This plan does not anticipate the development of additional Township municipal facilities based on population and housing projections.

2035 FUTURE LAND USE PLAN



 Urban Growth Areas

Prepared By: Richmond Township Planning Commission



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|---|-------------------------|---|---------------------------|
|  | Commercial |  | Resource Conservation |
|  | Industrial |  | Local Commercial & Office |
|  | Low Density Residential |  | Primary Agricultural |
|  | Municipal |  | Secondary Agriculture |
|  | Manufactured Housing |  | Suburban Residential |

