



ATTICA TOWNSHIP MASTER PLAN

Prepared by
Attica Township Planning Commission
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A Master Plan is a long-range policy document that is intended to guide future decision-making related to land use and community development. It is intended to portray a clear statement of community goals and objectives – a vision of the future—and plans to achieve the vision.

A community's Master Plan is like a blueprint for the future. If it is followed carefully, it will have a lasting, positive impact on the built and natural environment.

Master Plan = Guide The Master Plan is a comprehensive document, long-range in its view, and is intended to guide development in the Township over a period of 10 to 20 years. The Master Plan sets forth public policies that will be followed regarding 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. A sound Master Plan promotes a land use pattern that is consistent with a community's goals.

WHY DO WE PREPARE A MASTER PLAN?

The Township Planning Act of 1959 states that “**the planning commission shall make and adopt a basic plan as a guide for the development of unincorporated portions of the Township.**” The Act also states that the plan should be used to:

- promote public health, safety and general welfare;
- encourage the use of resources in accordance with their character and adaptability;

Introduction

- avoid the overcrowding of land by buildings or people;
- lessen congestion on public roads and streets;
- facilitate provision for a system of transportation, sewage disposal, safe and adequate water supply, recreation and other public improvements; and
- consider the character of each township and its suitability for particular uses judged in terms of such factors as the trend in land and population development.

RELATIONSHIP BETWEEN THE MASTER PLAN AND ZONING ORDINANCE

Zoning is a regulatory mechanism for controlling the classification and regulation of land use. It has the force of law. The Zoning Ordinance controls land uses based on today's conditions.

Unlike the Zoning Ordinance, the Master Plan is a set of policies, not laws. While the Zoning Ordinance and Zoning Map regulate current and proposed land use, the Master Plan and its maps and policy statements are intended to guide land use decision-making over the long term. The Master Plan is a community's "vision", while the zoning ordinance contains the rules that govern the path to that vision. **State law requires that the zoning ordinance be based on a plan.**

Therefore, the Master Plan forms the basis upon which zoning decisions are made. With a Master Plan in place, zoning decisions consistent with the plan are presumed by the courts to be valid; it is up to the challenger to prove the municipality's action is not valid. Without a Master Plan, the courts may find the Township's argument to be weaker, leaving the community more vulnerable to a ruling inconsistent with the community's vision.

**Zoning
Ordinance
= Law**

THE PLANNING PROCESS

Attica Township initiated the Master Plan process by working with its planning consultant to prepare an inventory and analysis of existing conditions. The Planning Commission reviewed its regional setting, community facilities, existing land use, natural features, and population characteristics. Problems, opportunities, and community assets were identified. The complete existing conditions analysis findings are provided in the Appendix of this document.

Upon completion of the existing conditions analysis, the Township Planning Commission reached out to the public for input through a *Vision Session*. Representatives from a variety of interests within the community came together on September 25th, 2003 to discuss planning issues in the Township.

The next step in the process was for the Planning Commission to develop its goals and objectives statements. Using the valuable input from the Vision Session, a series of goals and objectives were formulated to guide the "Plan" elements of the Master Plan.

Introduction

The Planning Commission then developed the Land Use Plan and Thoroughfare Plan elements. The final chapter of the document includes specific recommendations for plan implementation to chart a path to make the plan a reality. It is important to note 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 is appropriate.

The final step in the planning process was to garner additional public input through a public hearing, which is required by the Township Planning Act. This final segment of the process provided an opportunity to receive public input prior to the adoption of the plan.

By working closely with the residents, business owners, planning experts, and surrounding communities, the Township has developed a plan that attempts to balance the competing interests that impact many land use decisions. These include jobs and tax base on one side and protection of quality of life and natural resources on the other. Through careful planning and implementation of the plan, the Township can build on its tax base and provide for high-quality new growth, while preserving important environmental assets, maintaining community character, and protecting the overall public health, safety and welfare.

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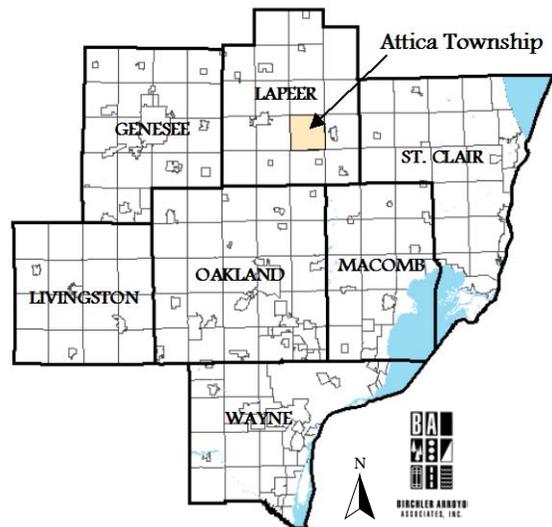
The future of a community is determined by many factors. Some are the result of local decisions, while others result from action taken outside the community. Very few communities are self-sufficient. Rather, the interaction between communities within a region gives each one the opportunity to grow and develop.

REGIONAL LOCATION

Attica Township is located approximately two miles west of Imlay City and four miles east of the City of Lapeer. Port Huron is about 35 miles east of the Township; Flint is approximately 25 miles to the west; and the City of Detroit lies approximately 50 miles south via M-53.

Interstate 69 traverses the Township from east to west and is the primary highway in Attica. Constructed in the early 1980s, I-69 replaced M 21 (Imlay City Road) as the primary highway providing regional access between Attica Township and points east and west. I-69 not only

Map 2-1
Regional Location



Regional Setting

connects Attica to western Michigan and northern Indiana, it also provides a direct connection to the Blue Water Bridge and our Canadian neighbors in Ontario.

REGIONAL INFLUENCES

LAPEER COUNTY PLANNING COMMISSION

The Lapeer County Planning Commission is currently in the beginning stages of updating the County's Master Plan. The 1992 Lapeer County General Development Plan designates the majority of Attica Township for Agricultural or Prime Agricultural land use. The north-central portion of the Township is designated for Low Density Residential and Rural Residential use, and two commercial areas are designated at the intersections of Lake Pleasant Road with Imlay City Road and I-69.

ADJACENT COMMUNITIES

In addition to regional plans that may affect the future development of Attica Township, local plans by neighboring communities may also influence land use on the Township's boundary. The following brief descriptions highlight the elements of master plans of adjacent townships as they relate to the bordering areas of Attica Township.

Arcadia Township

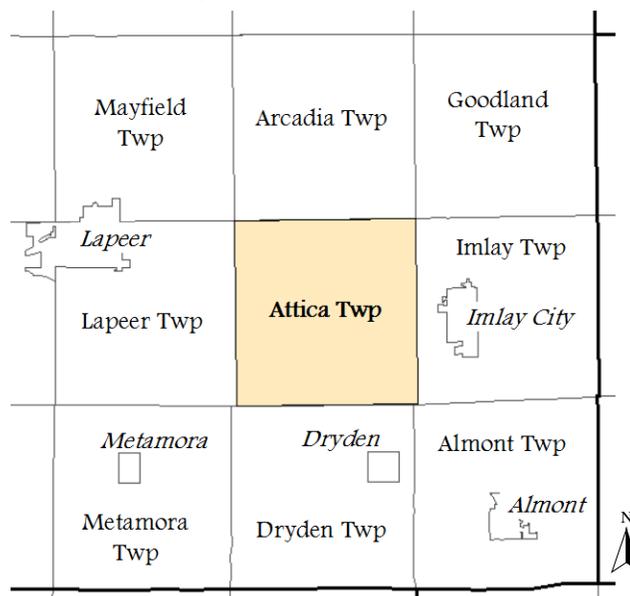
The Arcadia Township Master Land Use Plan was adopted in February 1999. The majority of Arcadia's border with Attica is planned for Agriculture and Rural Residential uses. The plan describes this designation as suitable for areas of the Township intended to be occupied by persons engaged in farming activity or who desire to live in a rural environment. A minimum 2-acre lot size is recommended.

A small pocket of Commercial is planned at the northeast and northwest corners of the Lake Pleasant and Bowers Road intersection. According to the plan, commercial uses in this location are intended to primarily serve local residents. Surrounding this intersection is a relatively small area planned for Single Family Residential use which is intended for approximately one dwelling unit per acre. In addition, approximately one-quarter mile east and west of Lake George Road is designated for Mobile Home Park use.

Lapeer Township

The Lapeer Township Master Plan was adopted in January 1994. Two types of land uses are planned along Attica's western border: Agriculture / Rural Preservation and

Map 2-2
Adjacent Communities



Regional Setting

Single Family Residential. The area north of Imlay City Road is designated for low density single family use, as is a small area between Greenwood and Peppermill Roads. The plan describes low density areas as being appropriate for approximately one dwelling unit per acre. The area between Imlay City Road and the Grand Trunk Railroad is designated for moderate density single family (two to three dwelling units per acre). The remainder of Lapeer Township's border with Attica is planned for Agriculture / Rural Preservation which has a recommended density of 0.2 dwelling units per acre.

Dryden Township

The Dryden Township Master Plan was updated in 2003. Nearly the Township's entire northern border adjacent to Attica is planned for Agricultural / Rural Residential land uses. The only exception is the Huntsman Hunt Club land between Lake George and Haven Roads south of Attica Township Section 33 which is planned for Recreation use. The plan also designates the former Grand Trunk rail line, running north-south through the Township and extending into Attica Township, as a future Rails to Trails route.

Imlay Township

The Imlay Township Master Plan was recently adopted in November 2002. All of Imlay Township's western border adjacent to Attica is planned for Single Family Residential use except for a small pocket of Open Space surrounding the North Branch of the Belle River. The Single Family Residential designation is intended to accommodate primarily residential development with densities ranging from 0.5 – 3 units per acre, depending upon the availability of public utilities.

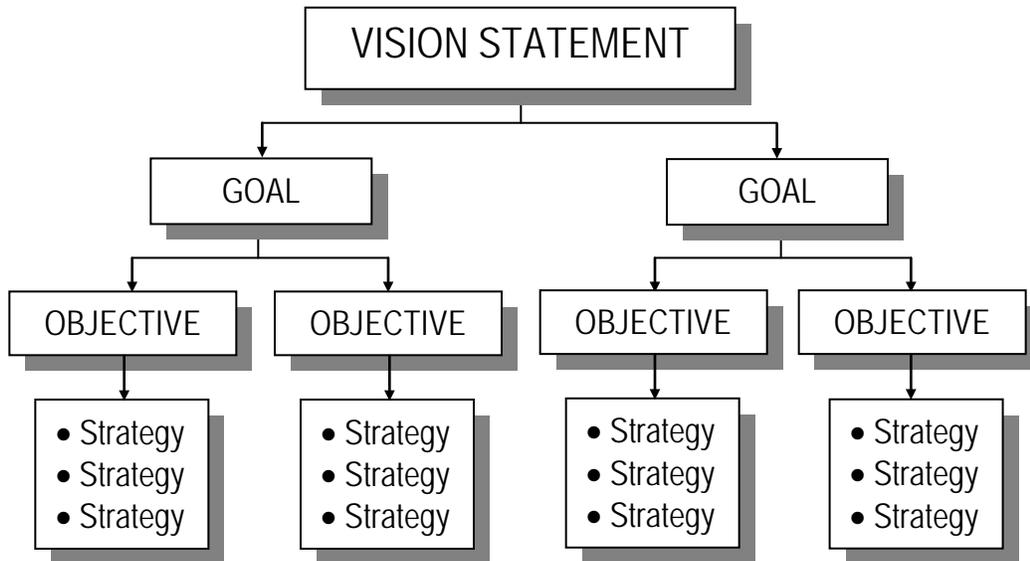
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Attica Township held an “Issues and Solutions” workshop in late September 2003 where the Planning Commission sought input from residents, community leaders, and neighboring townships. This input, along with the foundation of the Goals and Objectives from Attica’s 1998 Master Plan, contributes to the policy basis from which long-range land use decisions can be made. Several of the Goals and Objectives remain constant from the 1998 Master Plan, although many have been modified, or refined based on the 2003 public input.

The **Vision Statement** is a guide to provide direction to the Planning Commission in the formulation of the goals and objectives of the Master Plan. **Goals** are typically very general statements about the quality and character of the community that are not very easily quantified or measured. Goals must be translated into measurable **objectives** that can be prioritized and pursued by instituting specific **strategies** that will be followed. The goals and objectives proposed are intended to result in a specific quality and character for the community. This will be achieved by following strategies designed to permit measurable progress toward achieving the Township’s objectives. These strategies will have to balance the public purposes inherent in planning for the long-range future of the community with the rights of private property owners to develop an appropriate use of their land.

The following illustration provides a graphic depiction of the relationship between the vision statement, goals, objectives, and strategies.



VISION STATEMENT

Attica Township intends to promote a vision of its future where:

- clean air, water, and soils are the rule but are not taken for granted;
- residents and visitors continue to enjoy the Township's rural and agricultural characteristics and natural surroundings;
- new development is a positive contribution to the community;
- growth and development occurs in a manner that contributes to the community's unique rural character;
- residential development contributes to and accommodates the variety and complexity of the Township's population;
- the local transportation network affords proper motorized and non-motorized access without promoting premature development or densities that exceed carrying capacity;
- land uses are properly located and regulated to prevent adverse impacts on neighboring uses;
- the environment receives attention and protection from adverse influences;
- public services are provided consistent with the community's needs, in a fiscally responsible manner; and
- planning and land use regulatory efforts balance the long-term goals and objectives of the community and the individual resident.

GOALS AND OBJECTIVES

COMMUNITY CHARACTER

GOAL: Protect and enhance the unique community character of Attica Township.



OBJECTIVE: Maintain and promote the rural, agricultural, and open space characteristics of the community.

Strategies:

- Maintain agricultural vistas along country roads by encouraging maintenance of hedgerows by periodic clearing of brush.
- Encourage dedication or preservation of open space areas within new developments.
- Review and consider zoning ordinance provisions which would encourage a range of open space development designs such as cluster housing.
- Develop a Recreation / Conservation zoning classification which is designed to accommodate limited outdoor recreation uses and preserve identified natural features.
- Review zoning ordinance development standards to reduce requirements which result in unnecessary loss of open space.
- View open space preservation comprehensively; preservation efforts should result in large tracts of preserved land and connecting corridors rather than smaller isolated parcels.

OBJECTIVE: Protect and enhance the environmental assets in the Township, including clean air, water, and soils, as well as the woodlands, wetlands, lakes, wildlife, and viewsheds.

Strategies:

- Obtain air quality improvements through restrictions on burning and regulations covering business emissions.
- Establish appropriate buffer zones around wetlands, lakes, and river edges.
- Protect surface and groundwater through standards for fertilizers, pesticides, septic-system location, and filtration of storm water runoff.
- Promote management of wooded areas and selective cutting to enhance woodland quality.
- Review current ordinance provisions and review procedures to ensure adequate wetland and woodland identification and preservation measures are in place.
- Take responsibility for protecting small wetlands not monitored by the Michigan Department of Environmental Quality.

Vision Statement, Goals & Objectives

- Consider zoning ordinance woodland protection standards for land uses which impact woodlands due to design.
- Support the use of land trusts or conservancies to accept donations of land, purchase sensitive properties, and manage and protect designated open spaces.
- Encourage maintenance of wildlife corridors by providing natural features connections through all adjoining developments.
- Develop a Recreation / Conservation zoning classification which could be utilized to protect and provide limited accessory use of natural areas in conjunction with recreation or other land uses.
- Consider zoning ordinance provisions which encourage development designs which minimize lot coverage, maximize open space, and allow flexibility in accommodating and protecting environmentally sensitive areas.

OBJECTIVE: Review all development proposals to insure that future projects will be compatible with Attica's rural character, and will not detract from its environmental assets.

Strategies:

- Promote a pattern of development that is based upon the natural capacity of the land to support homes and other uses.
- Encourage rural, agricultural and/or open space to be incorporated as a feature of all new development.
- Incorporate wooded areas into new developments and provide incentives for new tree plantings.
- Add tree and woodlands protection standards to the Township Zoning Ordinance.

AGRICULTURE

GOAL: Promote stable and economically viable agricultural operations within appropriate areas of the Township.

OBJECTIVE: Encourage the continuation of agricultural activities and discourage non-agricultural development in planned agricultural areas.

Strategies:

- Maintain and enhance zoning provisions which accommodate agriculture as a permitted principal use.
- Consider development of a prime agriculture zoning district which restricts land uses to only those activities associated with farming.
- Encourage and support PA 116 Farmland Preservation applications when located in areas planned for agricultural uses.
- Analyze the zoning ordinance to reduce or eliminate non-agricultural land uses within planned agricultural areas.

Vision Statement, Goals & Objectives

- Encourage future development on land that is inappropriate for agriculture or will not influence the status of agriculture and natural resources in Attica Township.
- Evaluate lot size restrictions for residential properties so that agricultural activities can be continued on the interior acreage, while accommodating limited residential uses in planned agricultural areas.
- Consider zoning map amendments which accommodate higher density residential, commercial, and industrial uses in proximity to the settlement of Attica.

OBJECTIVE: Accommodate the development and continuation of agricultural support uses and activities necessary to the continued vitality of agricultural operations.

Strategies:

- Develop and / or maintain specific zoning standards which accommodate bulk feed, fertilizer and other agricultural support services.
- Develop and / or maintain zoning standards which accommodate farm implement sales and service in commercial districts and, in appropriate instances, in agricultural areas.

OBJECTIVE: Minimize the conflicts between agricultural and non-agricultural activities.

Strategies:

- Limit the provision of future sewer and water utilities to those areas in close proximity to the settlement of Attica.
- Enhance zoning standards which encourage cluster development patterns to allow open space buffers between residential and agricultural uses.

RESIDENTIAL

GOAL: New residential development in Attica Township should provide a variety of housing opportunities, while still maintaining and promoting Attica's rural character.

OBJECTIVE: Encourage residential development designs which increase open space and decrease negative impacts on agriculture and the visual and natural environment.

Strategies:

- Design residential development standards to be directly related to the natural capacity of the land.
- Develop and / or enhance zoning standards which encourage cluster, single-family attached, zero lot line and other development patterns which result in open space buffers between residential and agricultural uses.

Vision Statement, Goals & Objectives

- Include incentives in the zoning ordinance to encourage preservation of agricultural lands and open space, including reductions in lot size in exchange for open space preservation.
- Increase the use of pre-application conferences with developers to insure that Township ordinances and policies are considered at the beginning of site design.
- Utilize hedgerows, woodlots and natural topography to enhance views, provide wildlife habitat, and provide adequate privacy for homeowners.
- Monitor engineering and drainage issues for new residential developments to ensure that they do not negatively impact existing development.

OBJECTIVE: Concentrate higher density residential development adjacent to the settlement of Attica in proximity to services and potential utilities.

Strategies:

- Provide opportunities through zoning for affordable housing developments.
- Concentrate development where soils are adequate for septic tank systems or where sewers are most likely to occur first.
- Consider adoption of specific zoning standards which require appropriate water and sewer service for higher density development.
- Maintain zoning ordinance provisions which only accommodate low density residential development in areas not adjacent to the settlement of Attica.
- Accommodate higher density residential development (apartments, mobile home parks, etc.) in those areas designated for such uses on the Master Plan in close proximity to the settlement of Attica.

COMMERCIAL

GOAL: Provide commercial retail and service facilities to meet the present and future needs of the Township's residents.

OBJECTIVE: Locate commercial uses in areas where demand warrants, ingress and egress will not impede traffic flow, and where available utilities will logically arrive first.



Strategies:

- Recognizing that Lapeer and Imlay City will continue to provide the majority of the Township's commercial needs, base approval of commercial and office development in Attica Township primarily on the Township's residents' convenience needs.

Vision Statement, Goals & Objectives

- Accommodate commercial, office and service facilities through commercial zoning in proximity to the settlement of Attica and at the I-69 / Lake Pleasant interchange.
- Provide adequate commercially zoned land within planned commercial areas to satisfy demand.
- Prevent extensive commercial development in the Township's agricultural areas.
- Review zoning ordinance standards for commercial uses to ensure that development criteria encourage commercial development within planned commercial areas and discourage it elsewhere.

OBJECTIVE: Minimize the negative impact of commercial development on roads, adjacent land uses, and the environment.

Strategies:

- Increase the use of pre-application conferences with developers to insure that Township ordinances and policies are considered at the beginning of site design.
- Address the relationship between adjacent uses by developing site plan review standards that encourage service drives, interconnected parking and shared drives, landscaping, screening and signage which is cohesive and compatible with the existing development patterns.
- Work with the Road Commission and MDOT to reduce the number of driveways for individual commercial sites.
- Create a "Developer's Guide" to explain review procedures and specify required traffic, environmental and design requirements.
- Review and enhance the zoning ordinance screening and landscaping requirements for commercial sites.
- Review existing code enforcement efforts to insure adequacy of violation response.
- Review sign standards to insure appropriate scale and lighting.

OBJECTIVE: Direct commercial development toward the village area to increase the viability of the settlement.

Strategies:

- Designate land in the village area for local business use.
- Encourage the development of small businesses in the village.
- Encourage and offer opportunities for relocation of home-based businesses that now require commercial designation.
- Incorporate design guidelines into the zoning ordinance to define and promote a unified character.

INDUSTRIAL

GOAL: Provide for a limited range of light industrial uses in appropriate areas of the Township.

OBJECTIVE: Concentrate industrial development in those areas of the Township which are in proximity to potential future utilities, and near the Imlay City Road / Grand Trunk ROW with appropriate road access.

Strategies:

- Provide adequate industrial zoned land within planned industrial areas with appropriate access to paved Class A county roads or the Grand Trunk railroad.
- Review zoning ordinance standards for industrial uses to ensure that development criteria encourage industrial development within planned industrial areas and discourage it elsewhere.

OBJECTIVE: Minimize the negative impact of industrial development on roads, adjacent land uses, and the environment.

Strategies:

- Increase the use of pre-application conferences with developers to insure that Township ordinances and policies are considered at the beginning of site design.
- Address the relationship between adjacent uses by developing site plan review standards that encourage service drives, combined parking and drives, landscaping, screening and signage which is cohesive and compatible with the existing development patterns.
- Work with the Road Commission and MDOT to reduce the number of driveways permitted for individual industrial sites.
- Review and enhance the zoning ordinance performance standards for all uses relating to hazardous materials and other negative environmental impacts.
- Review and enhance the current site plan review procedures and standards to address environmental considerations more thoroughly.
- Create a "Developer's Guide" to explain review procedures and specify required traffic, environmental and design requirements.
- Review and enhance the zoning ordinance screening and landscaping requirements for industrial sites.
- Review existing code enforcement efforts to insure adequacy of violation response.

PUBLIC SERVICES

GOAL: Provide adequate public services to accommodate the existing and future population of Attica Township

OBJECTIVE: Concentrate higher density residential, commercial and industrial development in proximity to the settlement of Attica and the location of potential logical future utilities.

Strategy:

- Review zoning ordinance standards to ensure that development criteria encourages higher density residential, commercial, and industrial development within planned areas close to the settlement of Attica and potential future utility provisions.

OBJECTIVE: Provide adequate recreational facilities throughout the Township.

Strategies:

- Plan for public recreation facilities in the Township.
- Seek available recreation funding or facility improvements from grants, contributions or dedications.
- Develop cooperative associations with other communities or private non-profit organizations to develop recreational facilities or programs.
- Consider feasibility of a non-motorized path system in future recreation plans and programs.

OBJECTIVE: Provide adequate public safety services to Township residents.

Strategies:

- Continue current police services with Lapeer County Sheriff and State Police.
- Continue current fire protection services provided by the Attica Township Fire Department.
- Investigate expansion of fire and EMS services to include a mix of full and part-time staff.
- Investigate the development of a first-responder facility, in order to decrease response time for Attica residents.

OBJECTIVE: Provide adequate cemetery facilities for current and future Township residents.

Strategy:

- Identify and plan for areas that may be appropriate for cemetery development.

TRANSPORTATION

GOAL: Provide a transportation network that facilitates the safe and efficient movement of people and goods.

OBJECTIVE: Minimize the impact of development on roads.

Strategies:

- Increase the use of pre-application conferences with developers to ensure that Township ordinances and policies are considered at the beginning of site design.
- Encourage developers to make improvements to roads impacted by their developments, such as acceleration/deceleration and passing lanes.
- Investigate Natural Beauty Road designation for appropriate roads.
- Address the relationship between adjacent uses by developing site plan review standards that encourage service drives, combined parking and drives, landscaping, screening and signage which is cohesive and compatible with the existing development patterns.
- Work with the Road Commission and MDOT to reduce the number of driveways for individual sites.

OBJECTIVE: Maintain and enhance current road network.

Strategies:

- Keep an appropriate balance between accessibility and mobility.
- Evaluate sight distance and clear vision at the corner of Imlay City and Lake Pleasant Roads.
- Identify and prioritize road areas in need of drainage improvements.
- Seek out sources of funding for drainage improvements.

OBJECTIVE: Concentrate development of non-residential and higher density residential uses on paved, Class A roads.

Strategies:

- Provide high density residential and non-residential zoned areas on paved, Class A roads.
- Develop zoning standards which encourage higher density residential and non-residential uses only in those areas where direct access to appropriate paved roads is feasible.

OBJECTIVE: Accommodate and encourage alternative means of transportation.

Strategy:

- Consider feasibility of a non-motorized pathway system connecting the village, school, and Civic Center of the Township.



Planning the Township's future requires creative thinking and the ability to visualize the character Attica should exhibit many years from now. Increased development within Attica Township is certain to occur in the next ten to twenty years as evidenced by the population growth trend within nearby townships in Lapeer County. The time is right to envision a unique future for Attica, different from the development patterns rapidly consuming land in many other communities. The Township's Land Use Plan specifies the future direction of anticipated growth within the Township and is based upon the analysis of existing conditions, vision statement, and goals and objectives components of the Master Plan. The Land Use Plan represents the Planning Commission's long-range vision for growth, development, and redevelopment within the Township.

LAND USE DESIGNATIONS

Following are descriptions of the land use categories included on the Land Use Plan as well as specific recommendations for each land use category.

RECREATION/OPEN SPACE

Planned recreation areas include the Township Park at the Civic Center complex, the Huntsman Hunt Club on Sutton Road, Camp David on Force Road, the Nature Center at Imlay City and Mitchell Lake Roads, and the Michigan Christian Youth Camp on Lake George Road.

PRIME AGRICULTURE

These areas are planned for continued agricultural uses, in order to preserve and foster Attica's traditional function as a farming community. Non-agricultural land uses, including intensive single-family residential developments, are considered incompatible with the intent of Prime Agriculture planned areas. Any homes constructed in this district should be placed at no more than 0.2 dwelling units per acre. The Prime Agriculture areas generally meet the following criteria:

- Majority of soils are designated by the USDA as prime agricultural land.
- Parcel sizes are large.
- Non-agricultural uses are limited.
- Farming operations are ongoing.

Approximately 5,768 acres are planned for Prime Agriculture.

RURAL RESIDENTIAL

This category is intended to accommodate primarily agricultural land uses, farm dwellings, and non-farm dwellings that are in keeping with the rural and agricultural character. Residential development at densities of 0.4 units per acre is anticipated in areas planned for Rural Residential. A large portion of the Township, roughly 11,305 acres, is planned for Rural Residential. Maintaining the rural views from the roadside, often referred to as the "viewshed" is extremely important in these areas, in order to preserve the Township's rural character even as limited low-intensity development occurs. Cluster developments, where more open space is preserved, would help to achieve the desired character of the Rural Residential district.



Trees screen residential uses from a road in another Michigan township.



This low density single family development is scarcely visible from the road, except for its sign.

LOW DENSITY RESIDENTIAL

Areas of Low Density Residential uses at densities of 0.67 units per acre surround the Village, encompassing about 2,969 acres. The establishment of Low Density Residential neighborhoods near the Village will help to establish community character while providing support for retail uses there. Cluster housing developments would be appropriate in these areas. Screening from roadways is also very important for more densely developed residential uses, in order to preserve the rural character of the Township.

VILLAGE RESIDENTIAL

This category, planned for approximately 582 acres, includes most of the land in the Village area, as well as land surrounding Elk Lake. This district is intended to

accommodate residential land uses at a scale and density which is compatible with the historical residential development patterns in the Village, about 4 dwelling units per acre. This density will ultimately require some type of central sewage disposal system. Even with out additional development, the protection of Elk Lake and Lake Pleasant will require some type of municipal system. Architectural and spatial compatibility is anticipated through development of architectural design standards, zoning standards for reduced setbacks, and the provision of modified design standards for lots and roads to compliment the historical patterns of Village area development. Residential densities in this classification could include duplexes and attached residential development of architecturally compatible design and scale. Please see the Village Area Plan for more information.

HIGH DENSITY RESIDENTIAL

This 230-acre area to the north and east of Lake Pleasant provides an opportunity for traditional multiple family development at densities of 5.0 units per acre, such as rental apartments and attached condominium units. Sewer and water services would be necessary to achieve this density, as noted above for Village Residential.

MOBILE HOME PARK

One area of about 85 acres is designated for a Mobile Home Park use with a recommended density of four units per acre. Sewer and water services would be necessary to achieve this density, and could be provided by a private system licensed by the MDEQ.

VILLAGE RETAIL

This 13-acre area is intended as the Village's "downtown." Uses appropriate here include shops and offices designed to serve the Township's population and a limited number of patrons from beyond the Township's borders. Examples of uses that would be appropriate here include coffee shops, restaurants, food market, gift shops, bookstores, florists, hardware stores, dry cleaners, hair salons, pharmacies, and professional offices. Village Retail uses should be of a size compatible with the general scale of the Village Area, and generate an amount of traffic that will not unduly tax the small-scale street network of the Village.



Local business uses should be well designed and landscaped so that they are compatible with nearby residential uses.

LOCAL BUSINESS

This 41-acre area at the intersection of Lake Pleasant and Imlay City Roads is planned as a node of development at a key intersection while discouraging strip commercial development along roadways throughout the Township. Local Commercial uses are similar to those encouraged in the Village Retail category, but they may be higher traffic generators or may require a larger building or more parking than would be appropriate in the Village

setting. Uses such as drug stores, florists, beauty salons, and modest-sized grocery stores are included in this category.

HIGHWAY COMMERCIAL

The planned Highway Commercial area at the junction of I-69 and Lake Pleasant Road, which includes 72 acres, is intended for land-intensive, individual users which require highway exposure. Extensive landscaping and screening and quality architectural design is the goal. Uses could include motel, fast food, convenience store, automobile service station, vehicle dealerships, home center stores, and the like.



This large store incorporates design elements such as awnings and second-story windows that greatly improve its appearance.

LIGHT INDUSTRIAL

Provides sites for typical light manufacturing, assembly, prototype development, and similar uses in the setting of a modern Class A, industrial park. This category is intended to provide Attica Township with employment for its residents and a balanced tax base. This category includes 201 acres.

PUBLIC

This land use category includes the Township Hall, I-69 rest area, Attica Elementary, cemeteries, and similar uses. This land use category incorporates 150 acres of the Township's land area.

CONCLUSION

As demonstrated in the table below, this plan designates over 75% of the Township's land for agriculture and residential development of rural character. Denser development is concentrated around the Village area. If this plan is followed in the years to come, Attica Township will be able to retain the rural character that its current residents enjoy, while accommodating new residents and new non-residential development.

Table 4-1
Land Use Plan Summary

Land Use	Approximate Acreage	Percent of Total
Recreation / Open Space	684	3.1%
Prime Agriculture	5,768	25.8%
Rural Residential	11,305	50.5%
Low Density Residential	2,969	13.3%
Village Residential	582	2.6%
High Density Residential	230	1.0%
Mobile Home Park	85	0.4%
Village Retail	13	0.1%

Land Use	Approximate Acreage	Percent of Total
Local Commercial	41	0.2%
Highway Commercial	72	0.3%
Light Industrial	201	0.9%
I-69	268	1.2%
Public	150	0.7%

VILLAGE AREA PLAN

The Attica Village area is at the heart of Attica Township. It includes the Township Hall and Park complex, fire station and library, Attica Elementary, several churches, and the small retail shopping core. The Village area is instrumental in making Attica unique among surrounding townships. It is vital that future development in the Village area enhance rather than detract from its character. Encouraging new development in the Village area will also help to concentrate it in one area, while leaving other parts of the Township in their current rural state.



Attica Elementary School

DEVELOPMENT PATTERNS

In comparing aerial photographs of the Township with a parcel map, it becomes evident that a fairly dense development pattern is already in place in the Village; however, the buildings that have actually been constructed do not always follow this pattern. The street system suggested on the map has only been partially constructed, as well as the system of alleys. The diagrams below show the difference between development that is respectful and contributive toward the original pattern and development that destroys the pattern.



Source: Randall Arendt, *Rural by Design: Maintaining Small Town Character*, APA Planners Press, 1994, Page 188.

New development that does not relate to the historic settlement pattern (above left) has an “unraveling” effect, as seen in the example in the middle. To avoid this, growth should be a natural extension of the existing pattern, as seen in the example on the right.

As development occurs in the Village area, the original street grid design should be realized and potentially expanded. If possible, the alley system should also be developed as originally planned, although existing development may make this less feasible.

RESIDENTIAL DEVELOPMENT

Many of the lots to the west of Lake Pleasant Road and south of the railroad tracks are only about a tenth of an acre. People wishing to build new homes in this area would most likely want slightly larger lots. It is important, however, that the general feeling of density be maintained. Otherwise the Village will lose geographic definition. For this reason, the recommended residential density in the Village is 4 units per acre.

In addition to respecting the pattern of development, new residential construction (infill housing) should seek to create harmony with the existing architectural styles of the Village. The homes shown in the photograph at right face a green area and have their garages in the back on an alley. Like many existing homes in the Attica Village area, they feature porches, double hung windows, and steeply peaked roofs.



COMMERCIAL DEVELOPMENT

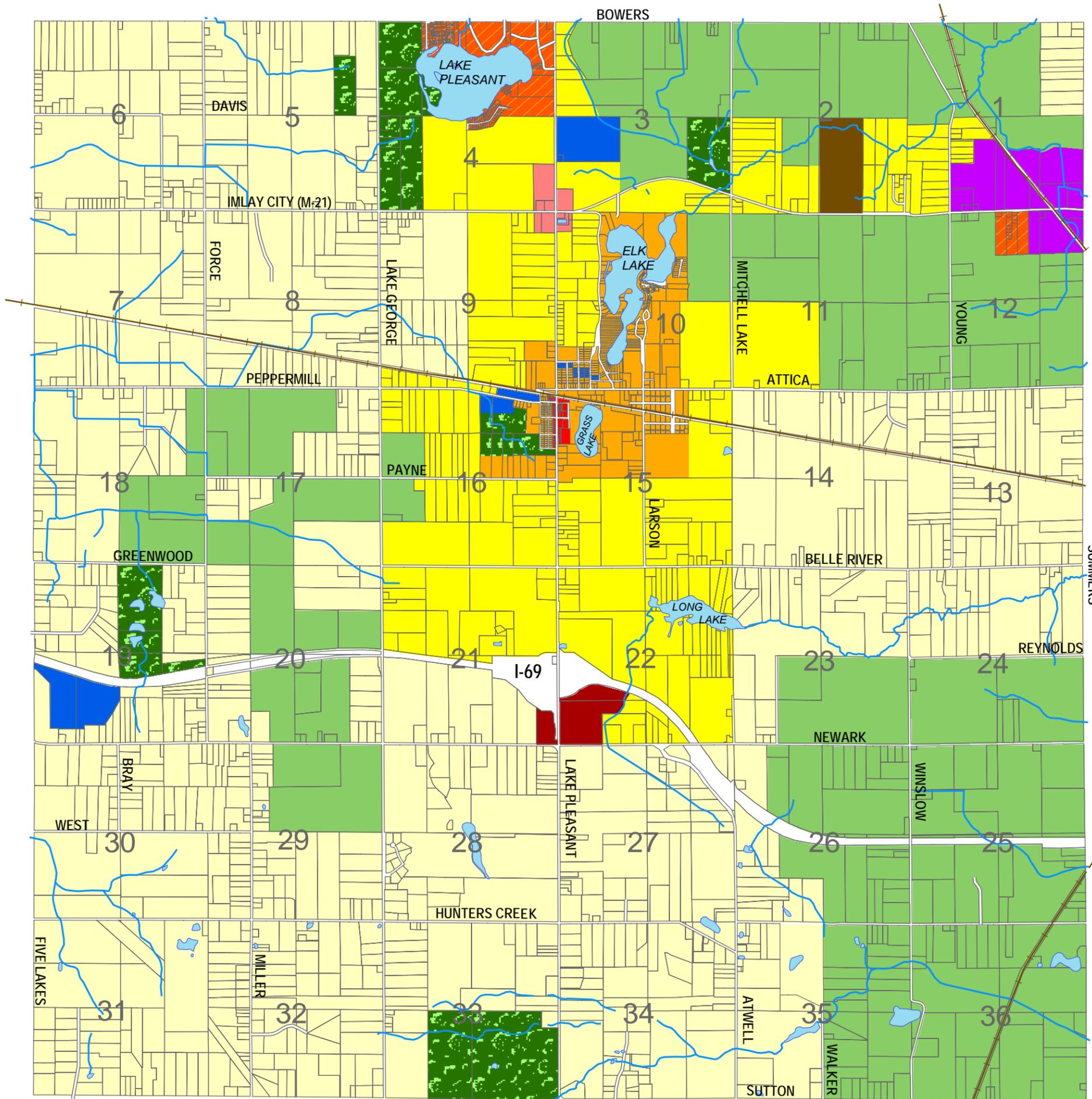
New commercial development in the Attica Village area could take different forms. In keeping with the generally residential character of

the Village, some low-intensity commercial establishments could be housed in formerly residential structures, or new structures with a residential character. This antique shop (at right) provides a good transition between residential and retail uses. For larger businesses, a two-story structure such as the one shown at left would be appropriate. The building's scale is small enough to fit into the Village area, but the details and structure are elegant enough to make the building an asset to the community. The owner of the building can make more efficient use of the land as well, since both the ground and second floors can house tenants.



CONCLUSION

The Attica Village area is an important feature of the community and its expansion and enhancement would benefit both the immediate Village area and the Township as a whole. Over the past 100 years, this area has lost some of its original importance: it was once the center of an active lumber and farming community. At one time, the Village was busy enough to support two hotels and active passenger and freight rail service. Any new development should contribute to, rather than detract from, the character of the Village, and improve the quality of life for Township residents.



- RECREATION/OPEN SPACE
- PRIME AGRICULTURE
- RURAL RESIDENTIAL
- LOW DENSITY RESIDENTIAL
- VILLAGE RESIDENTIAL
- HIGH DENSITY RESIDENTIAL
- MOBILE HOME PARK
- VILLAGE RETAIL
- LOCAL COMMERCIAL
- HIGHWAY COMMERCIAL
- LIGHT INDUSTRIAL
- PUBLIC

NOTES:
 1. The Attica Township Master Plan includes the Land Use Plan Map and all text, maps, charts, tables, and other graphics included in the full Master Plan Report.
 2. This Land Use Plan is intended to show generalized land use and is not intended to indicate precise size, shape, or dimension. These recommendations have a long-range planning horizon and do not necessarily imply that short-range rezoning is appropriate.

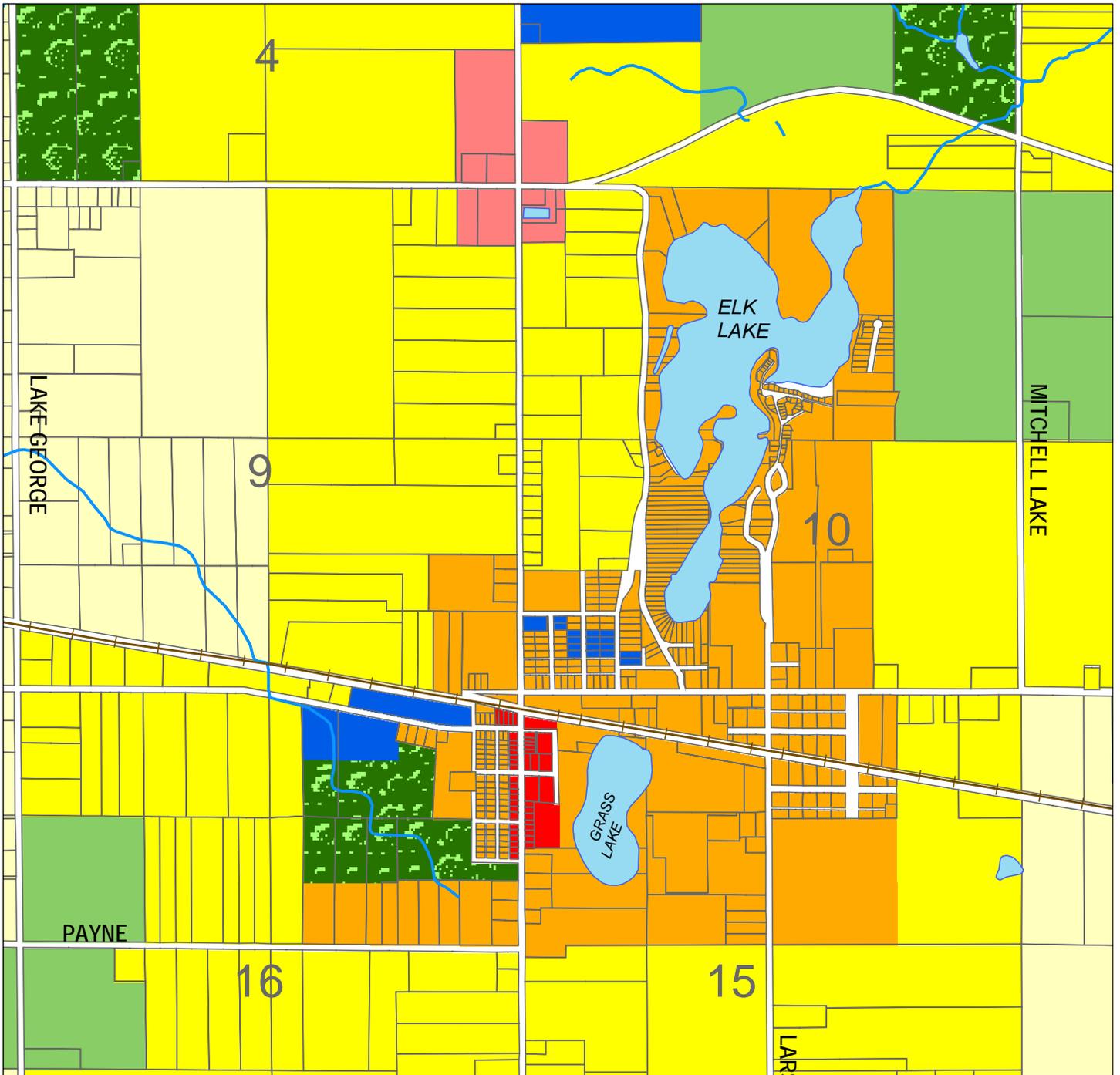
LAND USE PLAN
ATTICA TOWNSHIP
LAPEER COUNTY, MICHIGAN

MAP 4-1



BIRCHLER ARROYO ASSOCIATES, INC.

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-  RECREATION/OPEN SPACE
-  PRIME AGRICULTURE
-  RURAL RESIDENTIAL
-  LOW DENSITY RESIDENTIAL
-  VILLAGE RESIDENTIAL
-  VILLAGE RETAIL
-  LOCAL COMMERCIAL
-  PUBLIC

LAND USE PLAN
VILLAGE AREA DETAIL
 ATTICA TOWNSHIP
 LAPEER COUNTY, MICHIGAN

MAP 4-2



BIRCHLER ARROYO
 ASSOCIATES, INC.

See Land Use Plan Map for important notes regarding the use of this map.

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The thoroughfare plan is an important component of Attica Township's Master Plan process. It requires Attica to consider existing roadway conditions as well as future improvements that may be necessary to support the future land use arrangement prescribed in the plan. The function of the road system and its ability to move traffic in an efficient and convenient manner has a significant impact on the viability of land uses and the overall quality of life in a community. The primary goal of the Thoroughfare Plan is to lay the foundation for a road network that will serve the residents and businesses anticipated in the Land Use Plan chapter. Attica Township's road network includes state and county roadways requiring coordination with the agencies that have jurisdiction over these roads.

EXISTING CONDITIONS

The process for planning a community's transportation system is similar to the land use planning process; it must begin with a study and analysis of existing conditions. This includes an analysis of current traffic volumes and the existing conditions of the Township's roadways.

EXISTING ROAD NETWORK

The major road system in Attica Township is based upon a grid pattern generally following section lines. This layout was influenced by the Ordinance of 1785, which established a land survey system. The survey system resulted in the division of land into congressional townships of six miles square, equaling 36 square miles. Each one square mile was called a section. In addition to making land identification easier, the

Thoroughfare Plan

establishment of townships and sections provided a logical system for the provision of roadways along section lines. Lapeer County has jurisdiction over most of the roads in Attica Township. I-69 is the only interstate freeway in Attica Township, with one interchange at Lake Pleasant Road. Imlay City Road (Old M-21) is a paved former state highway, now under the jurisdiction of the Lapeer County Road Commission.

As shown on Map 5-1, Existing Road Conditions, a majority of the roadways within the Township remain unpaved. Paved roads include Lake Pleasant Road, Lake George Road, Bowers Road, Imlay City Road (Old M-21), Newark Road, Elk Lake Road, part of Peppermill Road, and Attica Road. Five Lakes Road is paved north of Peppermill Road. The ability of unpaved roads to carry high traffic volumes depends on their width, alignment, and state of maintenance.

The Existing Road Conditions map also identifies locations on the Township's road system that may be of concern. Such locations include:

- Offset Intersections (where the center line of the road is shifted on the opposite side of the intersection)
- Skewed Intersections (angles less than ninety degrees or other unusual configurations)
- Sharp curves
- Road closures
- At grade railroad crossings
- Bridge closures

The Grand Trunk Western Railroad runs through the northern half of Attica Township on a gentle northwest/southeast diagonal. At-grade railroad crossings are located at: Five Lakes Road between Peppermill and Imlay City Road, Lake George Road just north of Peppermill, Lake Pleasant Road near the junction with Attica Road in the Village, and Larson Road just south of Attica Road.

There is a bridge out on Summers Road near Attica Road, and Force Road is closed at the railroad tracks.

TRAFFIC VOLUMES

The Average Daily Traffic Volumes Map 5-3 shows 24-hour traffic volumes on major roadways within the Township. Data displayed on this map was collected from 1999-2003 by the Lapeer County Road Commission, and in 2002 by the Michigan Department of Transportation. The I-69 freeway carries the most traffic through Attica Township: over 20,000 trips per day. Increased usage of I-69 relieves some of the traffic pressure from other east-west routes such as Imlay City Road. Among surface roads, the highest volumes recorded are on Imlay City Road (Old M-21) and Lake Pleasant Road, each carrying over 4,500 vehicles per day. Significant volumes were also recorded for Newark Road, Lake George Road north of Newark, and Attica Road. Unpaved roads such as Hunters Creek, Belle River, and Force Roads carry very low volumes (under 500 vehicles per day) and primarily serve residential uses.

STATE ROAD DESIGNATIONS

Map 5-2 depicts the Michigan Department of Transportation's road classification system within the Township. The Township's Thoroughfare Plan map with planned roadway classifications is intended to establish the policy direction for future development in Attica Township.

THOROUGHFARE PLAN

The recommendations in the Township's Thoroughfare Plan are intended to promote coordination with the various agencies having jurisdiction over roadways within the Township. Recommendations are based on an examination of the current conditions while taking into consideration development anticipated with the implementation of the Township's Land Use Plan.

FUNCTIONAL CLASSIFICATION

Roadway classifications vary but they are generally divided into two types those that carry through traffic and those that carry local traffic. Through roadways provide quick traffic movement while local roadways provide access to abutting properties. It is desirable to physically separate these two road types as much as possible to eliminate conflicting traffic movements, traffic congestion, delays, and accidents. In order to function successfully, the overall traffic circulation system must be carefully integrated. The six basic roadway classifications in Attica Township include freeways, major arterials, arterials, minor arterials, collectors, and local streets.

Freeway

Freeways and limited access highways provide travel routes through communities and across the State, as well as connections to other highways. The I-69 freeway traverses the entire width of Attica Township north and south of Newark Road.

Major Arterial

Major arterials provide travel routes from one city to another, and can traverse one or more states. They are most often used for longer trips, as higher speeds are allowed. When a major arterial passes through a more populated area, however, the highway functions more like an arterial: the number of intersections increases and speeds decrease. Major arterials are planned for 150-foot rights-of-way and are intended to handle a maximum daily traffic volume of 45,000 vehicles. Imlay City Road (Old M-21) serves as a major arterial, connecting Attica Township with Port Huron to the east and Grand Rapids to the west. Another east-west major arterial, Newark Road, connects Baldwin Road and M-24 in Lapeer

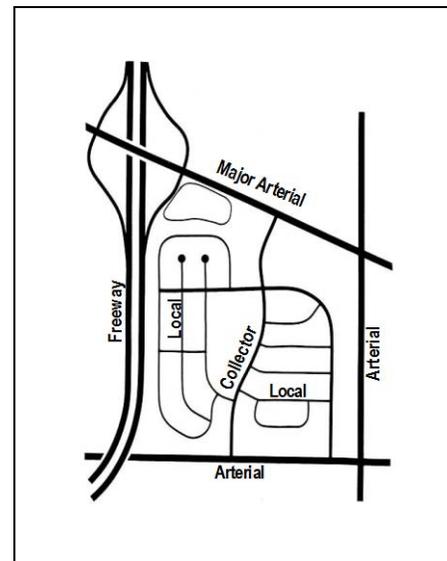


Figure 5-1
Road Classifications

Thoroughfare Plan

Township with M-53 in Imlay Township. Lake Pleasant Road is the north-south major arterial in Attica. It effectively continues south for quite a distance, by connecting with Rochester Road, via the paved segment of Sutton, and passing through many Detroit suburbs all the way to Royal Oak.

Arterial

Arterial roads carry trips of shorter length than do major arterials. They can provide routes for lengthy trips if a major arterial or freeway is not available. Arterial roads have a dual function: to provide routes for through traffic while providing access to abutting properties and minor intersecting streets. This can lead to congestion and traffic crashes because of turning vehicles conflicting with through traffic. Arterials are planned for 120-foot rights-of-way and are intended to accommodate daily traffic volumes up to 30,000 vehicles.

Minor Arterial

Minor arterials serve a similar function as arterials, however, these roads typically carry less traffic for shorter trip lengths. Minor arterials typically do not provide continuous routes through neighboring communities. Minor arterials are planned for a 120-foot right-of-way and are designed to handle a maximum daily traffic volume of 15,000 vehicles.

Collector

The intent of a collector street is to collect vehicles from the local streets or rural areas and distribute them to either local destinations or to an arterial. The collector street system serves both land access and through traffic. These roads are planned for an 86-foot right-of-way and are intended to accommodate a maximum of 7,500 vehicles per day.

Local Street/Road

Providing access to adjacent land is the sole function of local streets (and in rural areas like Attica, local roads). The aim of local streets is to provide access to collector streets and through routes, but in such a manner that through traffic is not encouraged to use the local streets as a shortcut route. Local streets are planned for 66-foot rights-of-way and can handle a maximum daily traffic volume of 2,000 vehicles.

Table 5-1
Planned Rights-of-Way

Road	Master Plan Classification and Typical Planned Right-of-Way
I-69	Interstate Freeway
Imlay City Road Lake Pleasant Road / Sutton Newark Road	Major Arterial (150')
Bowers Road Peppermill Road Attica Road Sutton Road Summers Road Lake George Road Five Lakes Road	Arterial (120')
Young Road Winslow Road Miller Road Force Road Greenwood Road Hunters Creek Road	Minor Arterial (120')
Larson Road Elk Lake Road Payne Road	Collector (86')

RECOMMENDED IMPROVEMENTS

An examination of the existing conditions revealed a number of improvements that could enhance the Township’s road network.

Intersection Alignment

Where feasible, intersections should occur as closely as possible to 90 degrees. Offset intersections (where the center line of the road is shifted on the opposite side of the intersection) and skewed intersections (angles less than ninety degrees or other unusual configurations) can be dangerous for both drivers and pedestrians. Problem intersections are shown on the Existing Road Conditions Map (5-1) and recommended improvements are shown on the Thoroughfare Plan Map (5-4).

The intersection of Winslow and Young Roads with Belle River Road is an example of an offset intersection. Ideally, one of these roads should be curved gently to meet Belle River Road at a 90 degree angle directly opposite the other road.

Hunters Creek jogs to avoid a pond just west of its intersection with Atwell Road. Shifting Hunters Creek northward on both sides of Atwell would create a 90 degree intersection.

Thoroughfare Plan

Another difficult area is the intersection of Attica and Peppermill Roads with Lake Pleasant Road. Since this intersection also incorporates an at-grade railroad crossing, and is located in the Village area, it is likely not feasible to simplify the intersection.

Dangerous Curves

Dangerous curves are found at the corner of Davis and Evans Roads, and on Winslow Road between Hunters Creek and Sutton. If these roads are improved at some point in the future the Road Commission should consider softening the curves to make the roads less treacherous. One consideration that may make this task more difficult at Winslow Road is the presence of extensive wetlands in the area.

At-Grade Rail Crossings

Signal lights are an economically feasible solution to protect motorists from train traffic along at-grade railroad crossings. The Township should work with the railroad to insure the maintenance and installation of these signals where necessary. A standard railroad crossing with lights should be built at Force Road and the road should be re-opened.

Bridges

The Township should continue to work closely with the Lapeer County Road Commission particularly in seeking grant funds in order to reopen the closed bridge on Summers Road. Bridges with weight restrictions should be repaired as soon as possible in order to prevent their eventual collapse and the resulting loss of traffic flow and emergency vehicle access. Weight limits and bridge closures may lengthen the route a fire truck must take to reach individual homes.

Unpaved Local Roads

Improvements to unpaved local roads should reflect the rural character of the Township. Maintenance and improvement activities should enhance the natural appearance of these roadways, maintaining tree canopies and other rural features where feasible.

BIKE/ PEDESTRIAN TRAIL

Attica Township should examine the feasibility of a bike path connecting the Township Park/Civic Center Complex and Attica Elementary School.

ACCESS MANAGEMENT RECOMMENDATIONS

As discussed above, most streets provide two functions: 1) to move traffic, and 2) to provide access to land uses that abut them. However, these functions can often conflict because each access point interrupts traffic movement as vehicles enter and exit the roadway. In order to balance these two road functions, access management techniques should be used.

The access management techniques described below primarily apply to large-scale residential and intensive, non-residential land uses. Access management is usually implemented through the site plan review process, and these techniques are suggested

as guidelines in that process. Each case will require an individual analysis to determine the appropriate action given the characteristics of the site and use.

Restricting the Number and Spacing of Access Points

Limiting the number of driveways permitted for each land use can help preserve the traffic movement function of a roadway. Proposed and existing land uses should provide the minimum number of driveways needed to provide access to a development site. If additional driveways are proposed, additional street frontage for the subject site and appropriate spacing between existing driveways should be provided.

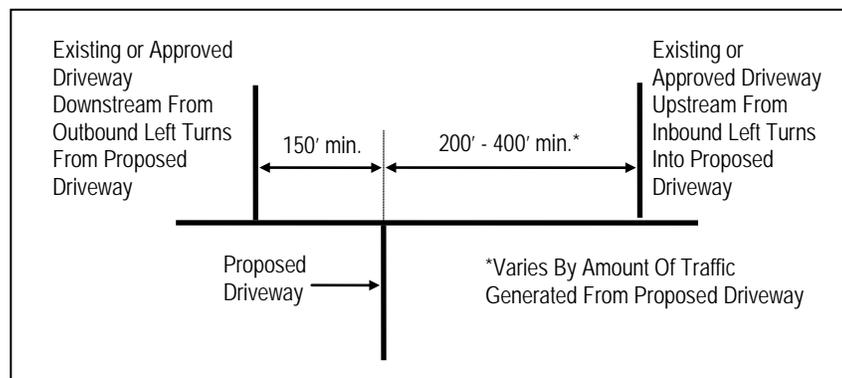
Even if only one access point is proposed, the most appropriate location should be selected to preserve the function of the roadway and more importantly, to assure public safety. Driveways located too close together are safety hazards and they can negatively impact road capacity. Recommended spacing standards for non-residential driveways on the same and opposite sides of the roadway are provided below.

Table 5-2
Spacing Standards for Driveways on Same Side of Street

Road Speed (MPH)	Driveway Spacing (Feet)
25	105
30	125
35	150
40	185
45	230
50 or more	275

Source: FHWA Report IP-82-3, June 1982; FHWA Report RD-76-86, August 1975

Figure 5-2
Spacing Standards for Driveways on Opposite Side of Street



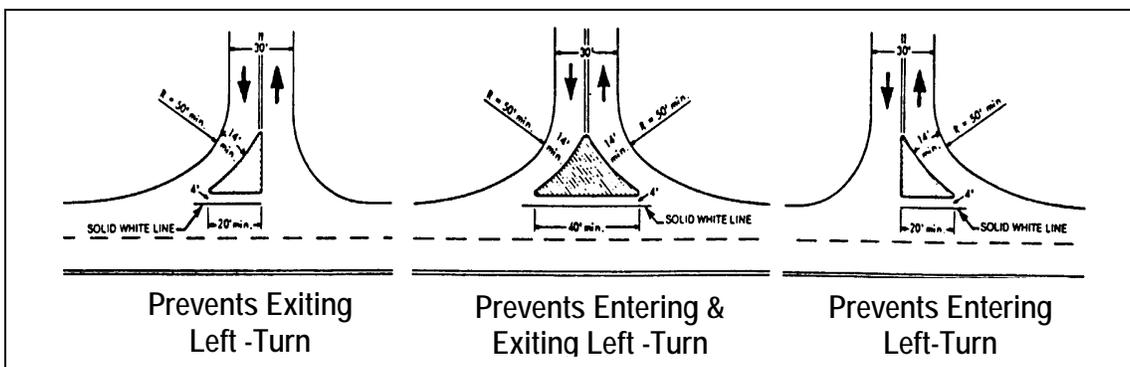
Access / Driveway Design

Another access management technique is assuring proper driveway and intersection design. To begin with, driveways should be designed with adequate width, turning radius, and depth to allow automobiles and large trucks to enter and exit a site safely and efficiently. A clear vision area at the corners of all driveways and intersections is also needed for safe driver visibility.

In addition, uses that generate high volumes of traffic may warrant the construction of deceleration and acceleration lanes adjacent to driveways and intersections. Left turn passing lanes or center left turn lanes may also be necessary. Such improvements are often identified by the completion of traffic impact studies. In general, traffic impact studies are recommended whenever a proposed land use will generate more than 750 vehicle trips per day and/or more than 100 vehicle trips in one direction during the morning (e.g., 7 a.m. - 9 a.m.) or afternoon (4 p.m. - 6 p.m.) peak hour.

Finally, restricting turning movements at a driveway or intersection is often warranted due to traffic volumes or poor spacing of proposed access points to existing driveways and/or intersections. For example, when an existing driveway is too close to an intersection, it is possible to improve the access and safety by restricting turning movements to right turns in and out of a proposed or existing development site. The following graphic illustrates ways in which driveways can be “channelized” to restrict turning movements.

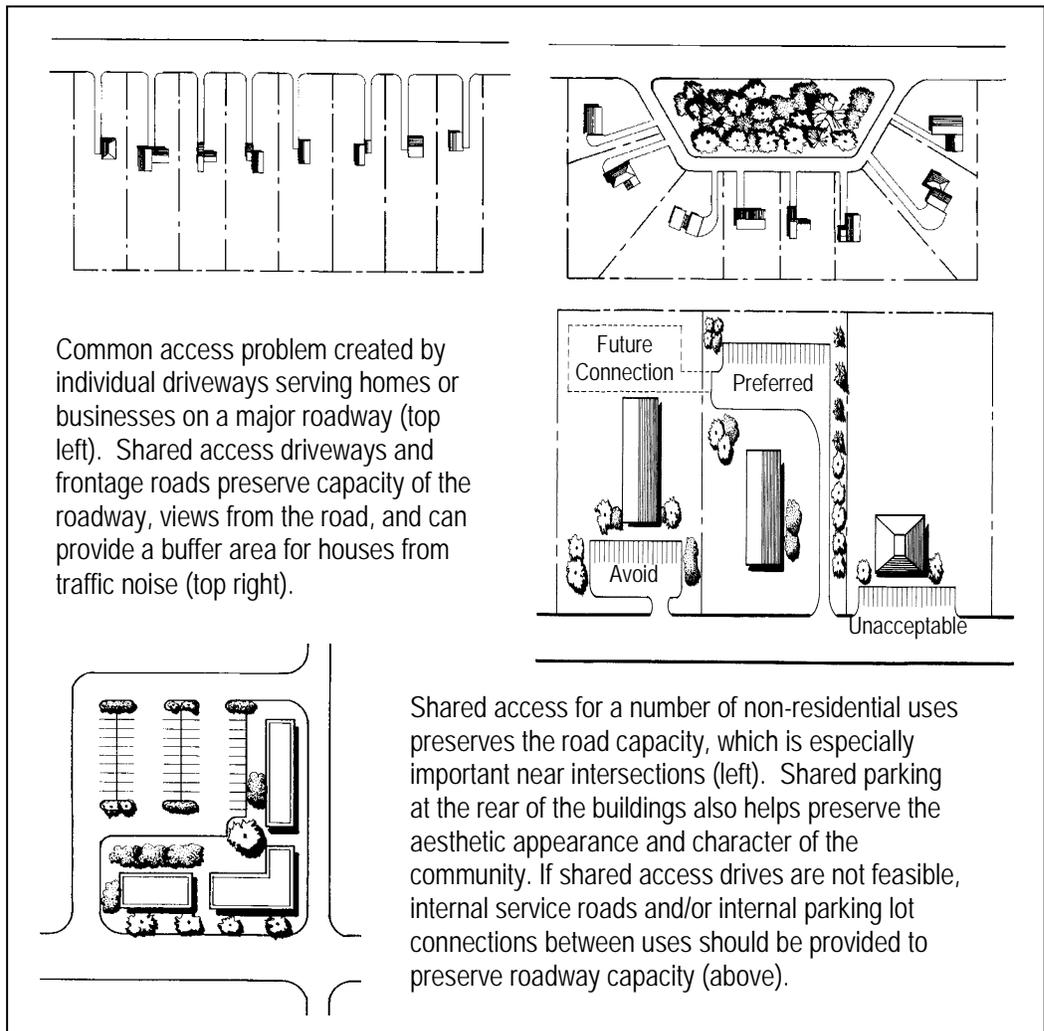
Figure 5-3
Driveway Turning Movement Restriction Methods



Encouraging Shared Access

Providing shared access to a site reduces the number of access points, preserves the capacity of the road, and can even help to maintain the character of the community. Shared access can be achieved through a variety of techniques including shared driveways, frontage roads, service roads and internal connections between sites. As discussed above, access management is critical for non-residential land uses because of their intensive nature and tendency to demand a higher number of access points. The following graphics illustrate ways in which residential and non-residential uses can utilize access management techniques.

Figure 5-4
Shared Access Techniques



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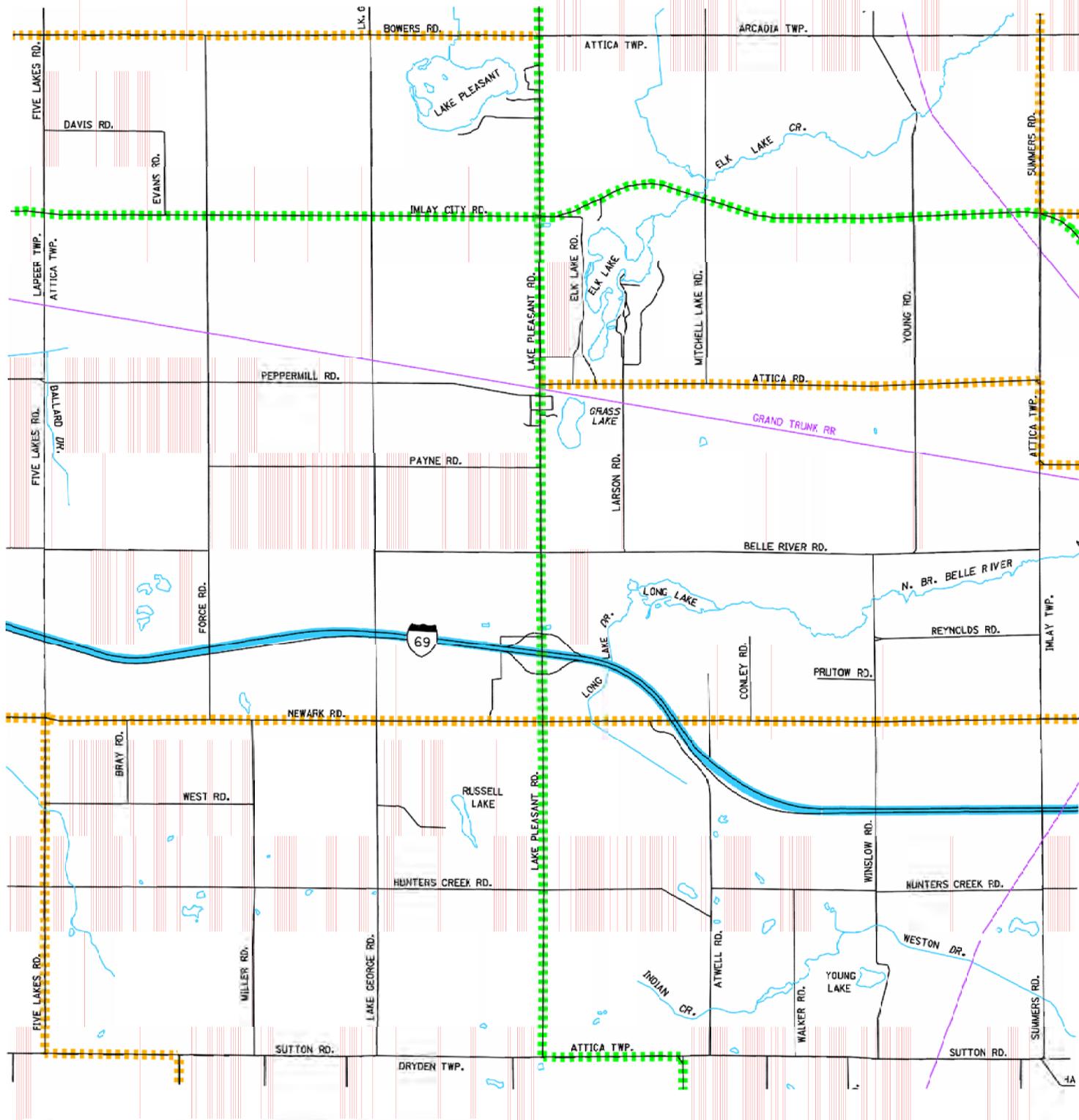


-  AT GRADE RAILROAD CROSSING
-  BRIDGE OUT
-  ROAD CLOSED
-  SHARP CURVE
-  SKEWED / OFFSET INTERSECTION
-  PAVED
-  UNPAVED
-  PRIVATE/LOCAL STREETS
-  I-69 FREEWAY

EXISTING ROAD CONDITIONS
ATTICA TOWNSHIP
LAPEER COUNTY, MICHIGAN
MAP 5-1



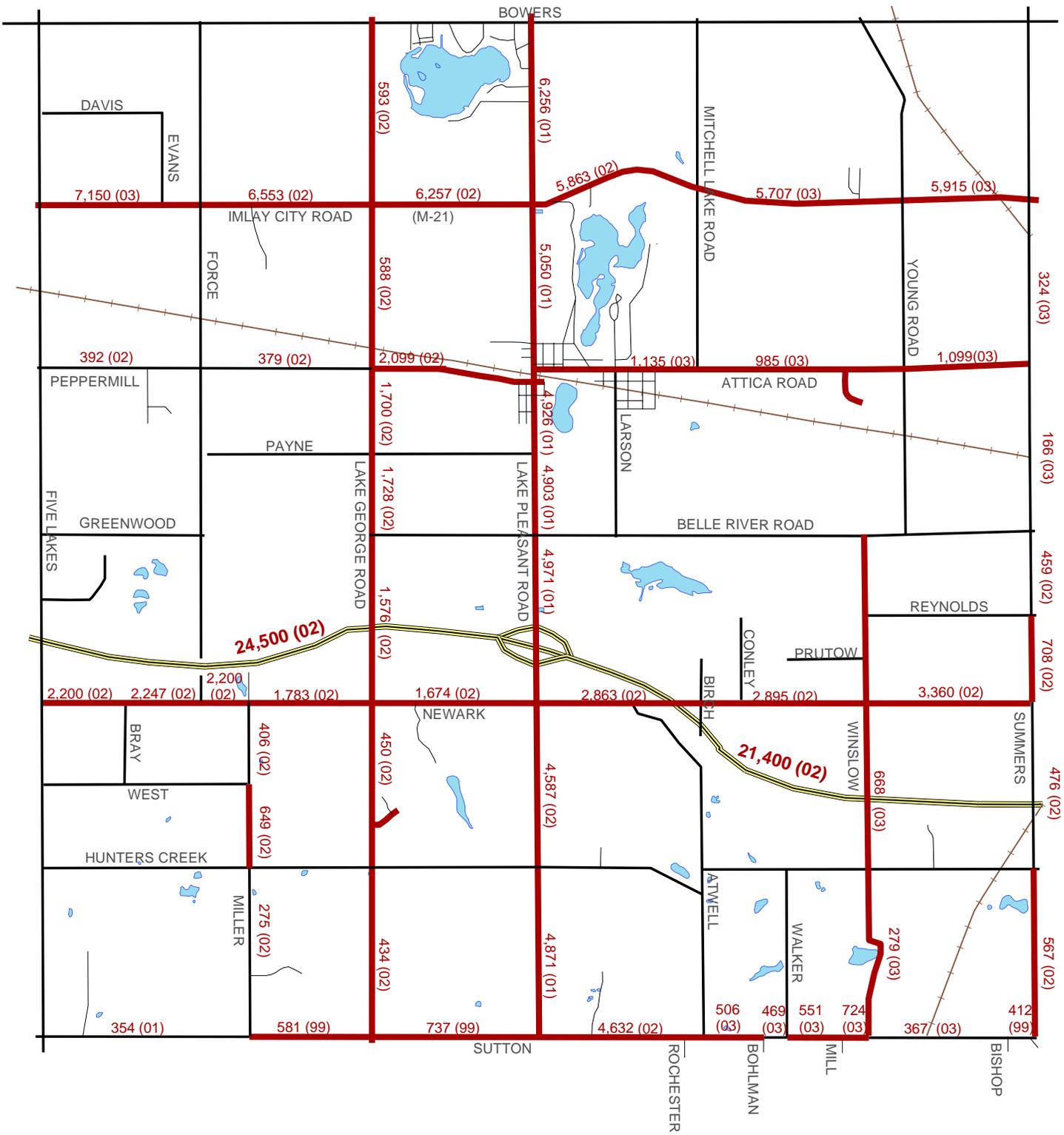
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ASSOCIATES, INC.



LEGEND FOR OFFICIAL MAP	
FEDERAL-AID SYSTEMS OR PROGRAMS ARE COLOR-CODED. ROADS SHOWN IN BLACK ARE INELIGIBLE FOR FEDERAL-AID.	NATIONAL HIGHWAY SYSTEM: BLUE PURPLE RED SURFACE TRANSPORTATION PROGRAM: GRAY GREEN ORANGE (IN ADDITION TO BLUE, PURPLE & RED.)
NATIONAL FUNCTIONAL CLASSIFICATION SYSTEMS	
ROADS SHOWN WITH ANY ONE OF THESE CLASSIFICATIONS ARE ALSO CALLED FEDERAL-AID HIGHWAYS.	
INTERSTATE	OTHER FREEWAYS
OTHER PRINCIPAL ARTERIALS	MINOR ARTERIALS
URBAN COLLECTORS (NONE IN RURAL AREA)	MAJOR COLLECTORS (NONE IN URBAN AREA)
MINOR COLLECTOR (NONE IN URBAN AREA)	LOCAL STREETS AND ROADS
FEDERAL-AID URBAN BOUNDARY	BOUNDARY BETWEEN URBAN & RURAL LAND AREA

MICHIGAN DEPARTMENT OF
TRANSPORTATION ROAD
FUNCTIONAL CLASSIFICATIONS
ATTICA TOWNSHIP
LAPEER COUNTY, MICHIGAN
MAP 5-2



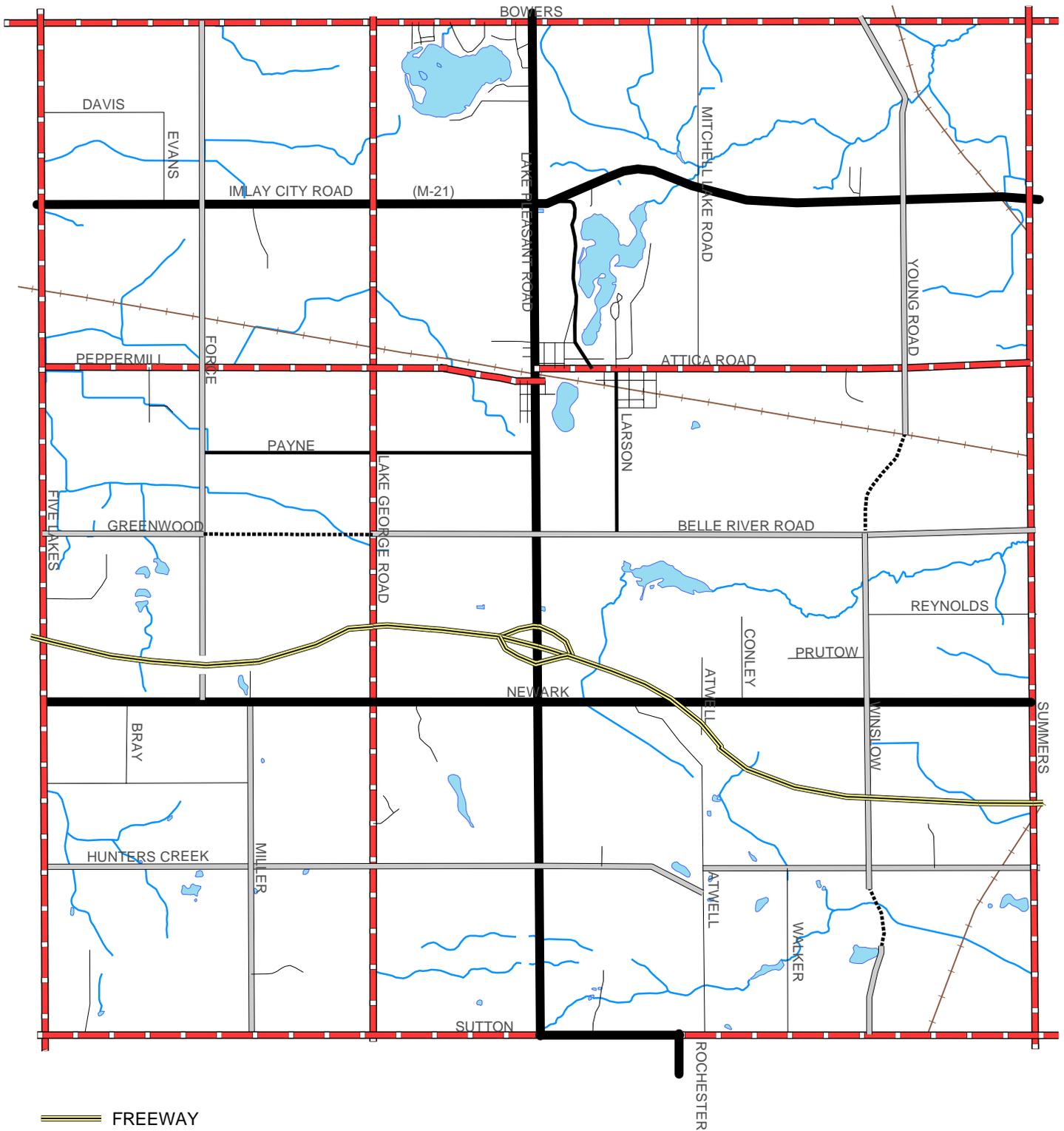


AVERAGE DAILY TRAFFIC VOLUMES
ATTICA TOWNSHIP
LAPEER COUNTY, MICHIGAN
MAP 5-3

4,632 (02) ADT VOLUME (YEAR)



BIRCHLER ARROYO ASSOCIATES, INC.



THOROUGHFARE PLAN
ATTICA TOWNSHIP
LAPEER COUNTY, MICHIGAN
MAP 5-4

-  FREEWAY
-  MAJOR ARTERIAL
-  ARTERIAL
-  MINOR ARTERIAL
-  COLLECTOR
-  PRIVATE/LOCAL STREET
-  PROPOSED ROAD IMPROVEMENT



BIRCHLER ARROYO
ASSOCIATES, INC.



The Planning Commission's thoughtful preparation and adoption of the Master Plan would be wasted effort without a program of implementation strategies. Aggressive implementation techniques permit the Township to turn potential problems into real opportunities. The implementation program that follows will attempt to correlate specific plan proposals with appropriate implementation techniques. These techniques should be referred to frequently and used systematically so that the outcome is a consistent program of implementation over whatever period of time is required to achieve the Master Plan recommendations.

IMPLEMENTATION TOOLS

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

ZONING ORDINANCE STANDARDS

The Township's most effective tool to implement the land use arrangement of the Master Plan is zoning standards and districts. A zoning ordinance is not meant to be a static document. The experiences communities undergo in the application of their zoning rules and the review of unusual new land uses constantly change the body of professional knowledge related to planning and zoning standards. Periodic review of the zoning ordinance will result in the application of the most up-to-date standards for the design of new uses and the maintenance of existing developments.

Implementation Strategies & Opportunities

One specific Zoning Ordinance tool that may assist the Township in implementing the Village Area plan is an Overlay Zone. Overlay zones can be used to place regulations on property in addition to the requirements of the underlying zoning districts. Overlay zones are useful in protecting areas such as, but not limited to, historic districts, wetlands, floodplains, and environmentally sensitive areas. Overlay zones may also be used to encourage unique development of the Village area by permitting appropriate mixed-uses without changing the underlying zones.

CODE ENFORCEMENT

Simple code enforcement can often turn the tide with regard to the image of an area and the livability of a neighborhood. More aggressive but fair enforcement of current codes and ordinances could be effective in the following instances:

- Improve housing conditions
- Terminate improperly established, non-conforming uses
- Repair or replace ineffective screen walls and/or greenbelts
- Eliminate open storage in business districts
- Eliminate blight in residential areas

SUBDIVISION AND CONDOMINIUM REGULATIONS

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

SPECIAL DESIGN PLANS AND FUNCTIONAL PLANS

Sometimes a Master Plan must be followed by more detailed design studies in order to illustrate specific concepts that can only be covered briefly in the plan. For example, the Township may consider developing a more detailed design plan to serve as the basis for more specific design standards and zoning standards in order to achieve the type of development and land use pattern envisioned for the Attica Village area. Functional plans can also help to implement certain ideals outlined in the Plan.

SITE PLAN, SPECIAL LAND USE, AND REZONING APPROVAL

Many essential components of the Plan will be the subject of a site plan or special land use application, perhaps preceded by an application for rezoning. The Township should consider making the appropriate zoning district changes following adoption of the Plan only for those areas that are identified by the Commission as critical elements. Now is the appropriate time to review the community's site plan and special land use approval processes and standards. The standards should clearly set forth any discretionary powers the Township feels it should reserve. Once such standards are in place, the Planning Commission must adhere to them consistently when reviewing development proposals.

Implementation Strategies & Opportunities

The implementation of the Plan could take 20 years or longer. In order to maintain the vision, consistent application of design criteria and development standards will be essential.

FEDERAL AND STATE GRANT PROGRAMS

Federal and State grants are much smaller and more competitive than in their heyday during the 1950's through the mid-1980's. There are still programs in place, however, particularly for pollution abatement (sanitary sewers), pedestrian enhancements (related to roadway projects), and parks and recreation. Proper planning in advance is generally the key to success in securing these grants. Often times the granting agency is particularly interested in innovative projects that stretch the grant dollars or present a concept that is transferable to other communities. Projects that involve two or more neighboring municipalities often receive priority for funding.

TRANSFER OF DEVELOPMENT RIGHTS AND PURCHASE OF DEVELOPMENT RIGHTS

"Transferable Development Rights" (TDR) is a market-based technique that encourages the voluntary transfer of growth from places where a community would like to see less development (called sending areas) to places where a community would like to see more development (called receiving areas). Purchase of Development Rights (PDR) involves an entity, usually governmental, purchasing a property owners development rights thereby preserving agricultural or open space use of property in perpetuity. At the current time Townships have not been granted the authority to participate in a TDR program.

RE-EVALUATION AND ADJUSTMENT OF THE PLAN

The final – and sometimes most difficult – step in the planning process is re-evaluation and adjustment. The process is never really finished. A community's population, economic status, goals, land uses, land use problems, and political climate are constantly changing. It is important to assess how well the Plan is addressing the present land use issues in the community, and whether amendments should be made to keep the Plan relevant and make it the most appropriate guide for the community's future land use. If the Plan no longer reflects the vision of the community, the Planning Commission can then begin the planning process again.

IMPLEMENTATION PROGRAM

The specific implementation strategies summarized in the following table have been developed to assist with the continual use of this policy document.

Table 6-1
Implementation Program

Goal / Objective	Action
Protect and enhance environmental assets within Township.	Review and strengthen site plan review procedures to ensure wetlands and woodland identification and preservation.
	Amend Zoning Ordinance to establish appropriate setbacks from wetlands, lakes, and river edges.
Maintain and promote Attica's rural, agricultural, and open space characteristics.	Develop Recreation / Conservation zoning district.
	Review Zoning Ordinance provisions and strengthen incentives to encourage open space development designs.
	Actively work with land trusts and conservancies to preserve open spaces.
	Consider creating and maintaining connections between natural areas and open spaces throughout the site plan review process.
Promote stable and economically viable agricultural operations in appropriate areas.	Review and, if necessary, amend Zoning Ordinance standards related to the Agricultural District.
	Consider comprehensive Zoning Ordinance amendments, including map amendments, to achieve agricultural goals of the Master Plan.
Concentrate higher density residential development in and around the Village area.	Consider developing a detailed design plan for the Attica Village area.
	Consider developing a new zoning district to accommodate the type and pattern of residential land use intended for the planned Village Residential area.
Encourage residential development designs that minimize negative impacts on agriculture and the visual and natural environment.	Review Zoning Ordinance provisions and strengthen incentives to encourage open space development designs.
	Amend the Zoning Ordinance to include appropriate landscaping, planting, and screening requirements for new residential developments.
Direct future commercial development toward the Village area to increase the viability of the settlement.	Consider developing a detailed design plan for the Attica Village area.
	Develop design guidelines to define and promote a unified character within the Village commercial area.
	Consider a Township-initiated rezoning of appropriate properties for commercial uses in the Village.
	Consider developing a distinct Village Commercial zoning district and/or overlay zone to achieve the character and land uses intended for the Village Retail area.

Implementation Strategies & Opportunities

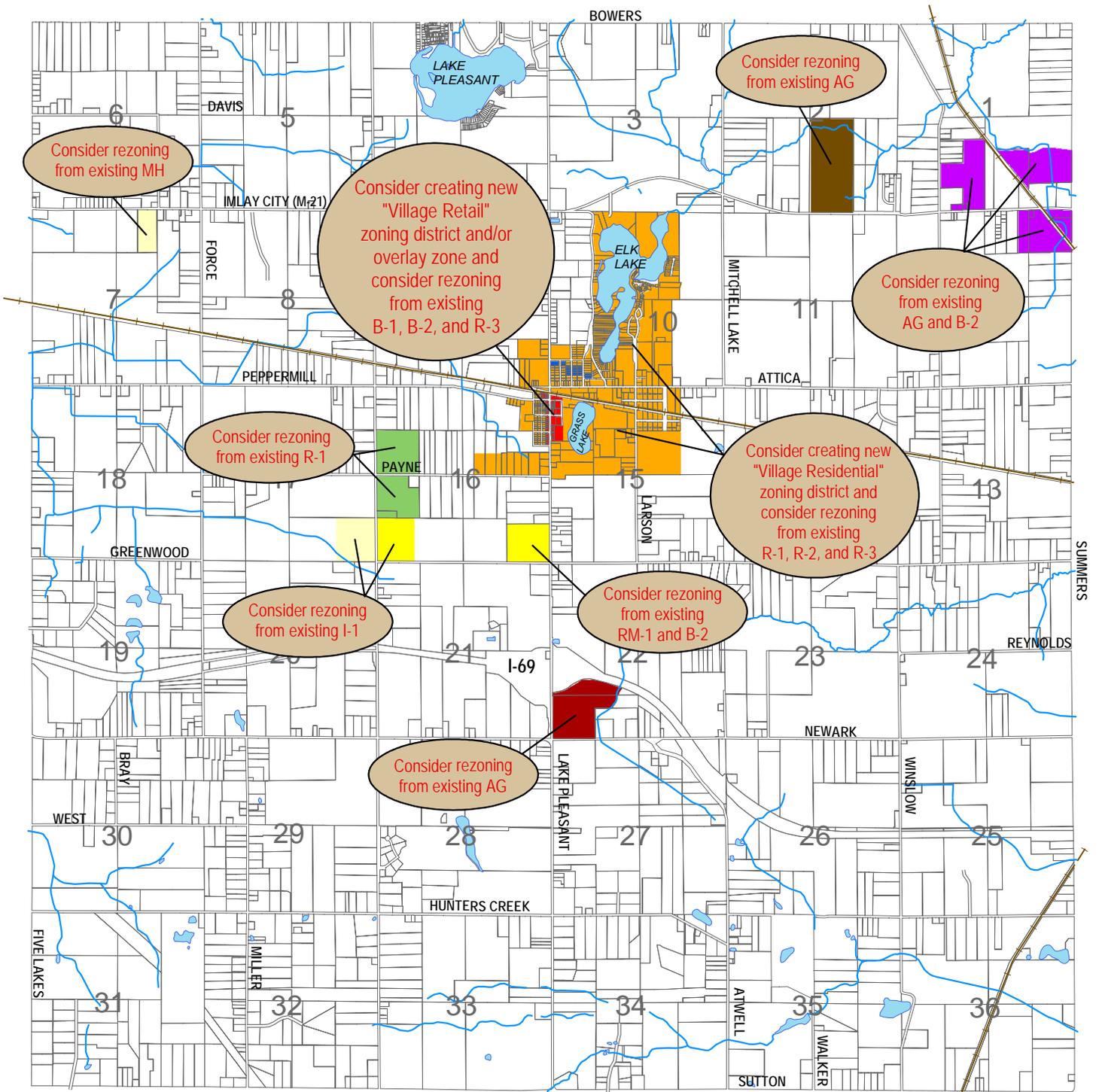
Goal / Objective	Action
Minimize the negative impact of commercial development on roads, adjacent land uses, and the environment.	Review and, if necessary, amend landscaping and screening standards for commercial uses.
	Review signage and exterior lighting standards for commercial uses.
	Create a "Developer's Guide" to explain the review process and specify required traffic, environmental, and design requirements.
	Work with the Road Commission and MDOT to reduce the number of driveways for individual commercial sites.
Minimize the negative impact of commercial development on roads, adjacent land uses, and the environment.	Review and, if necessary, amend landscaping and screening standards for industrial uses.
	Review signage and exterior lighting standards for industrial uses.
	Create a "Developer's Guide" to explain the review process and specify required traffic, environmental, and design requirements.
	Work with the Road Commission and MDOT to reduce the number of driveways for individual industrial sites.
Provide a transportation network that facilitates the safe and efficient movement of people and goods.	Through the site plan review process, encourage developers to make improvements to roads impacted by their developments.
	Work with the Road Commission and MDOT to reduce the number of driveways for individual sites.
	Consider feasibility of a non-motorized pathway system connecting the Village, school, and Civic Center of the Township.

ZONING PLAN

The Township's Zoning Plan is intended to encourage short-term implementation of the long range land use recommendations included in the Land Use Plan. These short-term actions could be implemented through a Township-initiated rezoning of select areas as recommended on the Zoning Plan. Alternatively, private applications for rezoning consistent with the Master Plan should be given high priority by the Planning Commission.

The intent of the Zoning Plan is not to identify *all* areas that would require rezoning to be consistent with the Plan. Instead the Zoning Plan highlights specific *key* areas where existing zoning would inhibit development in accordance with the Plan. For example, the northwest corner of the intersection of Lake Pleasant and Belle River Roads is currently zoned for commercial and multiple family use; however, the Land Use Plan recommends low density residential use. By rezoning these properties to a more appropriate zoning district, the Township can prevent development of this area in a manner that is inconsistent with the Plan.

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- PRIME AGRICULTURE
- RURAL RESIDENTIAL
- LOW DENSITY RESIDENTIAL
- VILLAGE RESIDENTIAL
- MOBILE HOME PARK
- VILLAGE RETAIL
- HIGHWAY COMMERCIAL
- LIGHT INDUSTRIAL
- PUBLIC

ZONING PLAN

ATTICA TOWNSHIP

LAPEER COUNTY, MICHIGAN

MAP 6-1



BIRCHLER ARROYO
ASSOCIATES, INC.

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An updated existing land use inventory provides a base from which current and long-range planning recommendations and decisions can be made. By updating the parcel-by-parcel inventory of land use, the Township is able to analyze current conditions and make comparisons with past studies to identify changes and trends in the Township's land use.

A field survey of existing land use in Attica Township was conducted in July of 2003. Based on data collected through the field survey and aerial photos, the use of each parcel was recorded on a base map of the Township. Once the land uses for all of the parcels in the Township were identified, Geographic Information Systems (GIS) software was used to create a land use database that could be linked to the Township's parcel map. As a result, Map A1-1 illustrates the land use of each individual parcel, as well as the overall land use pattern throughout the Township. It is important to note that an Existing Land Use map reflects the actual current use of the land, not the zoning classification or the Master Plan designation.

LAND USE CLASSIFICATIONS

The following is a description of the various land use classifications used in the survey.

SINGLE FAMILY RESIDENTIAL

This category includes single family dwelling units and accessory structures.



MULTIPLE FAMILY RESIDENTIAL

This category includes all apartments or multi-plex units where two or more separate dwelling units occupy a single building on a lot.

MOBILE HOME PARK

This category includes planned mobile home parks and their related accessory buildings and recreational areas.

COMMERCIAL

Includes land areas where retail sales and service establishments are found. This category also includes office uses such as doctors and dentists, legal, accounting, and similar professions, real estate, sales and business offices.



INDUSTRIAL

Uses with or without buildings where materials are processed, fabricated, assembled, or manufactured; or where equipment, materials, or wastes are stored out-of-doors are classified as industrial.



EXTRACTIVE

Includes extractive activities that are primarily carried out upon the surface of the earth through open excavation, such as topsoil, sand, gravel and rock quarry removal operations.

PUBLIC / QUASI-PUBLIC

Includes public uses, such as schools, government buildings, and public cemeteries. This category also includes uses owned by private, non-profit, or religious entities that provide public services. Churches are a good example of a Quasi-Public use, as are properties owned by service organizations and clubs such as the American Legion or the Knights of Columbus.



RECREATION

Includes public and private outdoor recreation areas such as playgrounds, picnic areas, camps, sports fields, and the like.

AGRICULTURAL

This category includes all land area used for crops and permanent pasture land. If the parcel appeared to have been farmed in the last few years, though



Existing Land Use Inventory

not within the last growing season, it was assumed to be lying fallow and included in this classification.

UTILITY

This category includes power and gas lines, gas compressor stations and production facilities, telephone switching stations, and electricity substations.



VACANT AND OTHER

Included in this category are woodlands, water bodies, freeway right-of-way, open and vacant land.

CURRENT LAND USE INVENTORY

Total acreage was calculated for the different land use categories using GIS. The following table provides a breakdown of land use in the Township.

Table A1-1
Existing Land Use
Attica Township, 2003

Land Use Category	Total Area (Acres)	Percent of Total Land Area
Single Family Residential	4,531.7	20%
Multiple Family Residential	11.0	0%*
Mobile Home Park	11.9	0%*
Commercial	73.9	0%*
Industrial	65.2	0%*
Extractive	557.3	2%
Public / Quasi-Public	152.7	1%
Agricultural	7,382.1	33%
Recreation	570.4	3%
Utility	2.1	0%*
Vacant & Other	9,014.0	40%

* Less than 1% of total land area

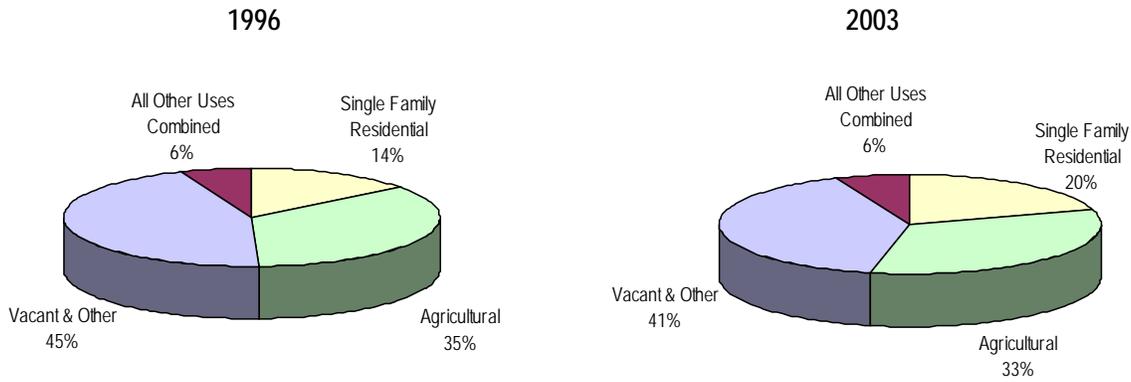
CONCLUSION

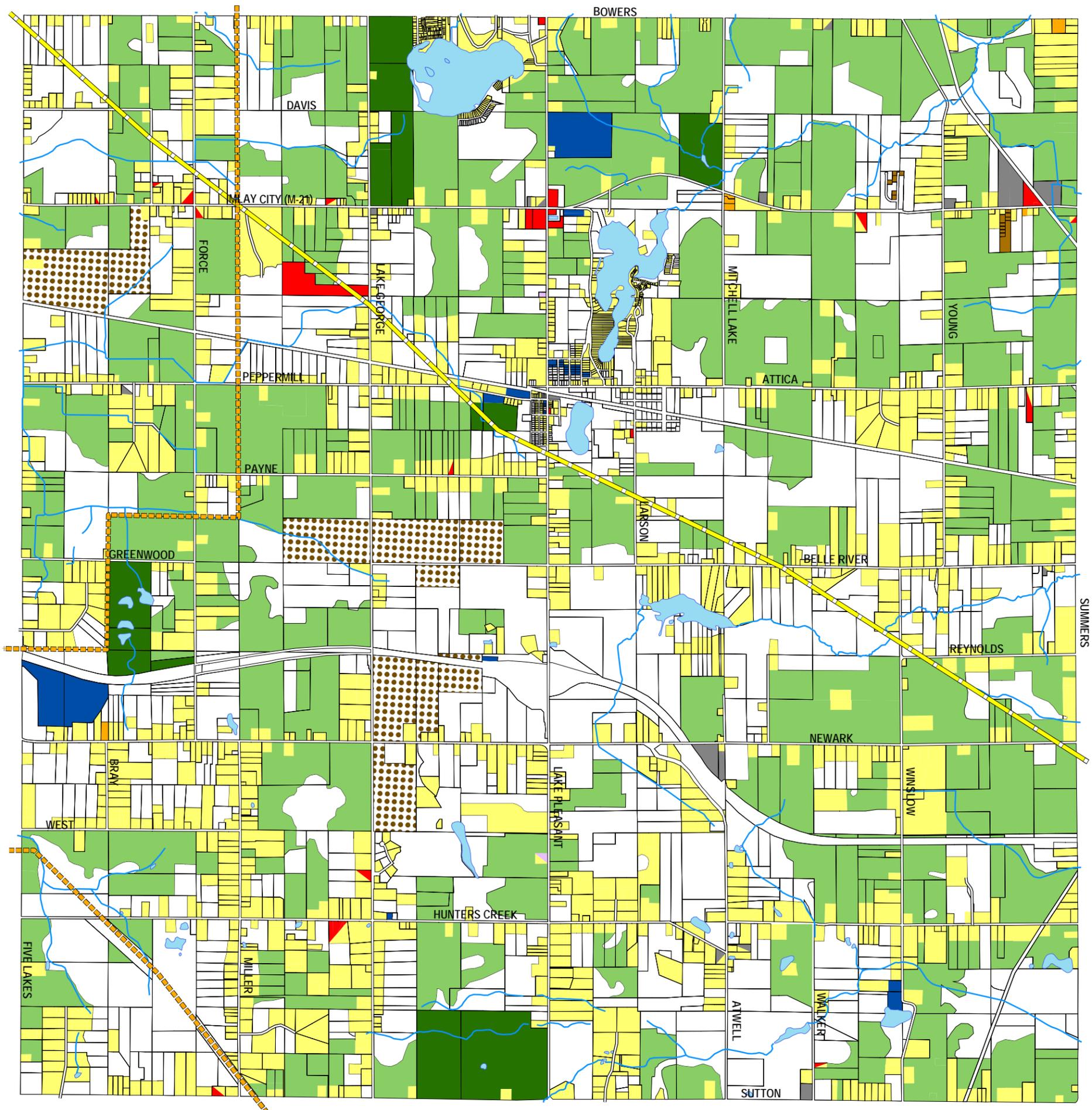
As shown in the chart below, the 2003 existing land use analysis documents the predominance of Agricultural, Vacant, and Single Family Residential land uses in the Township. All other land use categories combined only make up about 6% of the Township. By comparing the two charts, we can see that single family residential development comprises approximately 6% more of the Township in 2003 than it did in 1996. Despite the amount of residential growth, Attica has thus far retained its rural character through the maintenance of active farming and the existence of many areas

Existing Land Use Inventory

of open space. It is important to note that while single family residential land use increased by 6%, agricultural land use decreased by only 2% in the same time period. The remaining 4% of land use change can be seen in the decrease of vacant land from 45% to 41%.

Figure A1-1
Percent of Total Land Use
Attica Township, 1996 and 2003





-  VACANT & OTHER
-  AGRICULTURAL
-  RECREATION
-  SINGLE FAMILY
-  MULTIPLE FAMILY
-  MOBILE HOME PARK
-  COMMERCIAL
-  INDUSTRIAL
-  EXTRACTIVE
-  PUBLIC / QUASI-PUBLIC
-  UTILITY
-  PIPELINE (GAS)
-  TOWERLINE EASEMENT (ELECTRIC)

Sources: PARCEL DATA PROVIDED BY LAPEER COUNTY EQUALIZATION; EXISTING LAND USE DATA COLLECTED FROM FIELD SURVEY AND AERIAL PHOTOS BY BIRCHLER ARROYO ASSOCIATES, INC. JULY 2003

EXISTING LAND USE 2003
 ATTICA TOWNSHIP
 LAPEER COUNTY, MICHIGAN



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The planning process begins with an evaluation of a community's characteristics such as population, housing, workforce, income, local market potential, development patterns, natural resources and other pertinent factors. This information is a basic ingredient in planning for the future. Historical and current population trends can be used in various ways to illustrate problem areas of development, identify opportunities for growth and improvement, and provide an indication of probable future needs. Once a database of existing conditions is compiled, a community can first evaluate the data, then use the findings to help set goals for the future development of the community.

POPULATION AND HOUSING

POPULATION

Since 1940, Attica Township has more than tripled its population—from 1,278 in 1940 to 4,678 in 2000. As shown in Table A2-1 below, in the last decade alone the Township's population has increased by 20%. For most communities in Lapeer County, the decade between 1980 and 1990 was one of minimal growth; in fact, several communities actually lost population, including the Villages of Dryden and Metamora and Imlay and Goodland Townships. The decade between 1990 and 2000 saw growth rates picking up again in most communities, especially in Almont Township to the southeast of Attica, which has grown by 155% since 1990. Mayfield Township, northwest of Attica, has experienced the largest amount of growth over the last sixty years of any of the communities adjacent to Attica—the population has increased by

537%. During the last decade, however, Mayfield Township experienced the lowest growth rate of any of the communities adjacent to Attica.

Table A2-1
Population
Attica Township & Adjacent Communities, 1940-2000

Community	1940	1950	1960	1970	1980	1990	2000	% Change, 1980-90	% Change, 1990-2000	% Change, 1940-2000
Attica Twp	1,278	1,457	1,880	2,695	3,642	3,873	4,678	6.3%	20.8%	266.0%
Almont Twp	1,047	997	1,174	1,529	2,297	2,361	6,041	2.8%	155.9%	477.0%
Almont Village	924	1,035	1,279	1,634	1,857	2,346	2,803	26.3%	19.5%	203.4%
Arcadia Twp	1,106	1,078	1,253	1,666	2,347	2,447	3,197	4.3%	30.6%	189.1%
Dryden Twp	1,243	1,256	1,427	2,129	2,327	3,399	4,624	46.1%	36.0%	272.0%
Dryden Village	411	476	531	654	650	636	815	-2.2%	28.1%	98.3%
Goodland Twp	955	1,011	1,013	1,261	1,543	1,476	1,734	-4.3%	17.5%	81.6%
Imlay Twp	1,248	1,474	1,847	2,170	2,238	2,143	2,713	-4.2%	26.6%	117.4%
Imlay City	1,446	1,654	1,968	1,980	2,495	2,921	3,869	17.1%	32.5%	167.6%
Lapeer Twp	868	1,313	1,875	2,574	4,261	4,519	5,078	6.1%	12.4%	485.0%
Lapeer City	5,365	6,143	6,160	6,270	6,225	7,759	9,072	24.6%	16.9%	69.1%
Mayfield Twp	1,202	1,275	2,125	3,645	7,098	7,133	7,659	0.5%	7.4%	537.2%
Metamora Twp	915	1,127	1,445	1,988	2,668	3,094	4,184	16.0%	35.2%	357.3%
Metamora Village	281	390	452	468	552	450	507	-18.5%	12.7%	80.4%
Lapeer County	32,116	35,794	41,926	52,317	70,038	74,768	87,904	6.8%	17.6%	173.7%

Source: U.S. Census, 1940-2000

For the purpose of evaluating likely future population outcomes, it is useful to compare the Township's population trends with those of adjacent communities. Table A2-2 below illustrates the Township's share of Lapeer County's growth. In 2000, Attica Township comprised 5.3% of the County's population, and the Township's growth during the decade contributed 6.1% to the County's total growth. Attica Township's share of the County population has increased slightly since 1940, when it contributed 4.0% of the total. The Township contributes slightly more than its proportional share to the County's growth.

Table A2-2
Attica Township Population and Growth
as a Percent of Lapeer County, 1940-2000

Year	Attica Township Population	Lapeer County Population	Attica Share of County Population	Attica Share of County Growth
1940	1,278	32,116	4.0%	N/A
1950	1,457	35,794	4.1%	4.9%
1960	1,880	41,926	4.5%	6.9%
1970	2,695	52,317	5.2%	7.8%
1980	3,642	70,038	5.2%	5.3%
1990	3,873	74,768	5.2%	4.9%
2000	4,678	87,904	5.3%	6.1%

HOUSEHOLDS

As discussed previously, Attica Township's population increased by 20.8% between 1990 and 2000. The number of households in the community increased by 28.1%-- a rate slightly higher than the population increase (see Table A2-3). This is consistent with the national trend, which reflects a rising number of households relative to population increases due to decreasing household size. In keeping with this trend, the Township's average household size has decreased over the last two decades. In 1980 the Township had an average household size of 3.12 persons. Household size decreased to 3.07 in 1990, and in 2000 it dropped again to 2.89 persons. Although in 1980 average household size in Attica Township was smaller than in Lapeer county, in the last two Census counts average household size in the Township was larger than that for the County (See Table A2-4).

Table A2-3
Total Households
Attica Township and Adjacent Communities, 1990 and 2000

Community	1990 Households	2000 Households	% Change, 1990-2000
Attica Twp	1,251	1,602	28.1%
Almont Twp	1,565	2,094	33.8%
Almont Village	828	1,022	23.4%
Arcadia Twp	756	1,089	44.0%
Dryden Twp	1,103	1,586	43.8%
Dryden Village	195	285	46.2%
Goodland Twp	484	589	21.7%
Imlay Twp	668	879	31.6%
Imlay City	1,119	1,496	33.7%
Lapeer Twp	1,451	1,765	21.6%
Lapeer City	2,844	3,443	21.1%
Mayfield Twp	2,339	2,685	14.8%
Metamora Twp	1,196	1,533	28.2%
Metamora Village	153	188	22.9%
Lapeer County	24,659	30,729	24.6%

Source: U.S. Census, 1990, 2000

Table A2-4
Average Household Size, 1980-2000

	1980	1990	2000
Attica Township	3.12	3.07	2.89
Lapeer County	3.23	2.97	2.8

Source: U.S. Census, 1980-2000

HOUSING UNITS

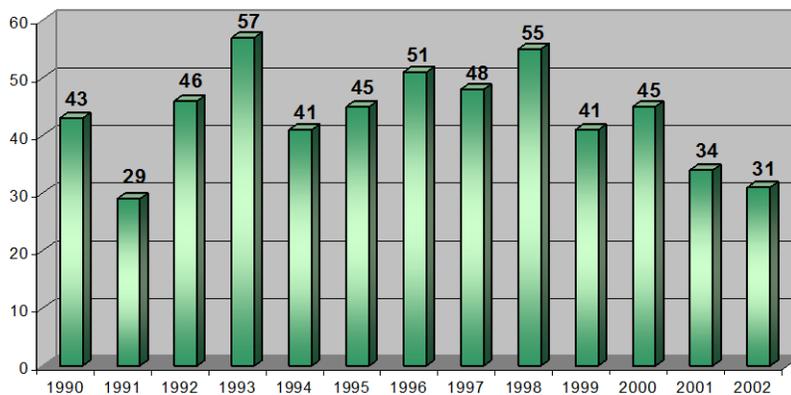
As demonstrated in Table A2-5 below, the number of housing units in Attica Township increased by nearly 24% during the last decade – consistent with the 20.8% increase in population reflected in Table A2-1. These figures indicate that Attica Township is growing at about the same rate as Lapeer County as a whole.

Table A2-5
Total Housing Units
Attica Township and Adjacent Communities, 1990 and 2000

Community	Total Housing Units, 1990	Total Housing Units, 2000	% Change, 1990-2000
Attica Twp	1,444	1,789	23.9%
Almont Twp	1,630	2,185	34.0%
Almont Village	867	1,058	22.0%
Arcadia Twp	796	1,134	42.5%
Dryden Twp	1,154	1,673	45.0%
Dryden Village	198	312	57.6%
Goodland Twp	512	621	21.3%
Imlay Twp	700	920	31.4%
Imlay City	1,261	1,599	26.8%
Lapeer Twp	1,510	1,831	21.3%
Lapeer City	3,070	3,658	19.2%
Mayfield Twp	2,390	2,774	16.1%
Metamora Twp	1,283	1,634	27.4%
Metamora Village	156	188	20.5%
Lapeer County	26,445	32,732	23.8%

Source: U.S. Census, 1990 and 2000

Figure A1-1
Residential Building Permits Issued, 1990-2002
Attica Township



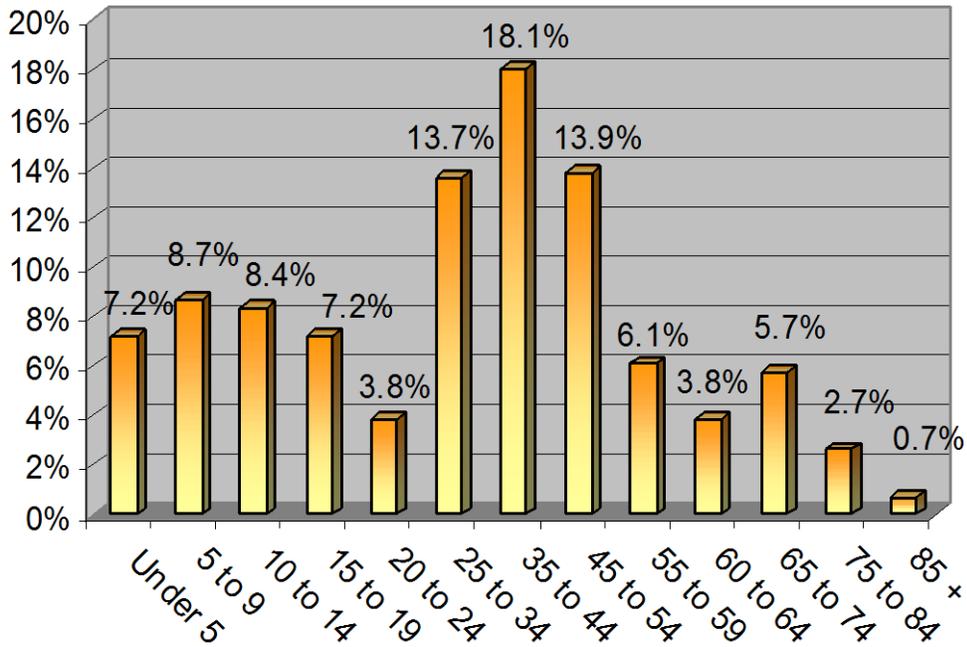
Source: Construction Code Authority

Over the past thirteen years, Attica Township has experienced steady rates of construction of new, site-built single family homes. The average number of residential building permits per year is forty-four. The last two years have seen a decrease in the number of permits issued, but housing starts have been low nationally due to the minor downturn in the economy.

AGE

In addition to total population, housing units, and household size, it is also important to examine the overall age groupings of a community's population. The overall age grouping provides figures for the number of school-age children, the size of the workforce (i.e. 18-64 year groups), and size of the elderly population. This data can be used for school enrollment projections, planning for recreation facilities, special services for the elderly, and other governmental services. Figure A2-2 illustrates the age distribution of the Township's residents in 2000.

Figure A2-2
Age Distribution, 2000
Attica Township



These demographics indicate that there is a large percentage (over 45%) of adults in the "parenting" years—ages 25 to 44—and a large proportion of school-aged children. Children between the ages of 5 and 19 make up almost one quarter of Attica Township's residents. It is important for the community to plan for the needs of people of all ages, but it may prove particularly beneficial to emphasize programs and facilities for families and children.

POPULATION PROJECTIONS

It is important to have a good estimate of the future population so that planning for infrastructure, municipal services, and administrative capabilities can be well managed and directed for the growth and development that occurs. Underestimating future population when planning renders the community unprepared; overestimating can lead to wasted resources. To properly plan for Attica Township’s future, an accurate estimate of its population for the next twenty years is essential.

There are a variety of methods that can be used to project the Township’s future population. The constant proportion, growth rate, and increasing proportion methods are relatively easy to administer and can generate alternative projections based on historical trends and growth rates.

The growth rate method, shown below, assumes that the 2000-2010 growth rate will be the same as between 1990-2000 and the 2000-2020 growth rate will be the same as between 1980-2000. The Township’s low growth rate of 6.3% during the 1980’s may lead to an underestimation of future populations using this method.

Table A2-6
**Population Projections, Growth Rate Method
 Attica Township**

2000 Population	1990-2000% Change	1980-2000 % Change	2010 Projection	2020 Projection
4,678	20.8%	28.0%	5,651	5,987

The constant proportion method assumes that the Township will maintain the same percentage of the County’s projected 2010 and 2020 population it contributed in 2000. The population projections for Lapeer County in 2010 and 2020 are from the Office of the State Demographer and are based on 1990 Census data. Again, the County’s low growth rate in the decade between 1980 and 1990 may result in the population projections being too low. In 2000, Attica Township represented 5.32% of the County’s population. Projections for the Township using State of Michigan projections for the County are as follows:

Table A2-7
**Population Projections, Constant Proportion Method
 Attica Township and Lapeer County**

	2000 Population	2010 Projection	2020 Projection
Lapeer County	87,904	101,100	111,500
Attica Township	4,678	5,378	5,932

If State projections for the County are correct, this method should be fairly accurate, since Attica’s proportional contribution to the population of Lapeer County has stayed

relatively constant over the last sixty years. However, as mentioned previously, the Growth Rate Method used to calculate the County population projections likely results in projections that are too low, due to the unusually low growth rate from 1980-1990.

The increasing proportion method assumes that the rural areas and small Townships on the fringe of growth centers will expand over the next two decades as the growth centers approach their build-out. This method requires that the forecaster apply a growth rate to the community. The data below assumes that Attica Township will comprise 6.2% percent of the County population in 2010 and 7.0% percent in 2020. The results are as follows:

Table A2-8
**Population Projections, Increasing Proportion Method
Attica Township and Lapeer County**

	2000	2010	2020
Lapeer County	87,904	101,100	111,500
Increasing %	5.32%	6.20%	7.00%
Attica Township	4,615	6,268	7,805

Table A2-9
Population Projection Summary

Method	2000 Census	2010 Projection	% Change, 2000-2010	2020 Projection	% Change, 2010-2020
Constant Proportion	4,678	5,379	15.0%	5,932	10.3%
Growth Rate	4,678	5,651	20.8%	5,987	5.9%
Increasing Proportion	4,678	6,268	34.0%	7,805	24.5%

Most of the above methods of projection rely upon estimates for a larger jurisdiction that may or may not be accurate. It is important for a community planning for its future not to underestimate its potential for growth. Underestimation can result in being unprepared. For that reason, the Master Plan will use the following assumptions of future Township population, which are slightly higher than the numbers generated by the increasing proportion method, as the basis for the community's long range plans:

Table A2-10
Population Projections, Attica Township

	2000	2010	2020
Attica Township	4,678	6,500	8,000

EMPLOYMENT

As shown in Table A2-11 below, the largest number of Attica Township residents is employed in “production, transportation, and material moving” occupations. Another large group is employed in “management and professional” occupations. Service, sales and office, and construction, extraction, and maintenance each make up about an equal amount of the total occupations of Attica Township residents. The employment by industry distribution in Attica Township is generally consistent with the distribution of employment in Lapeer County. The Township exceeds the County by a small amount in terms of production, transportation, and material moving occupations, while the County has a slightly higher proportion of residents in management and professional, and sales and office occupations. Also consistent with the County data is the low percentage of Attica Township residents employed in farming, fishing, and forestry occupations.

Table A2-11
Employment by Occupation and Industry
Attica Township and Lapeer County, 2000

Occupation	Attica Township	% of Township Total	Lapeer County	% of County Total
Management, professional, and related occupations	549	23.8%	11,043	26.9%
Service occupations	385	16.7%	5,608	13.7%
Sales and office occupations	352	15.3%	8,581	20.9%
Farming, fishing, and forestry occupations	0	0.0%	165	0.4%
Construction, extraction, and maintenance occupations	344	14.9%	5,687	13.9%
Production, transportation, and material moving occupations	674	29.3%	9,928	24.2%
		100.0%		100.0%
Industry				
Agriculture, forestry, fishing and hunting, and mining	11	0.5%	610	1.5%
Construction	227	9.9%	3,767	9.2%
Manufacturing	836	36.3%	12,237	29.8%
Wholesale trade	55	2.4%	767	1.9%
Retail trade	193	8.4%	4,486	10.9%
Transportation and warehousing, and utilities	88	3.8%	1,433	3.5%
Information	33	1.4%	655	1.6%
Finance, insurance, real estate, and rental and leasing	55	2.4%	1,499	3.7%
Professional, scientific, management, administrative, and waste management services	129	5.6%	2,537	6.2%
Educational, health and social services	351	15.2%	7,209	17.6%
Arts, entertainment, recreation, accommodation and food services	128	5.6%	2,298	5.6%
Other services (except public administration)	183	7.9%	2,259	5.5%
Public administration	15	0.7%	1,255	3.1%
		100%		100%

Source: U.S. Census, 2000

Attica Township residents' commuting patterns are generally in line with the county as a whole. According to the 2000 U.S. Census, the mean travel time to work for Attica residents was 39.1 minutes, compared with a mean travel time of 35.3 minutes for Lapeer County. This relatively long commute time indicates that Attica is an attractive enough place to live to warrant a long commute, but also that the majority of residents have not been able or have not wanted to find jobs within the Township itself.

Almost all Attica Township residents (86.3%) drive alone to their place of work, just as 83.6% of Lapeer County residents do. The other significant means of transportation to and from work is carpooling, which accounts for 9.8% of the trips. In the County as a whole, the carpool rate is a relatively similar 11.3%. Currently 1.8% of Attica Township residents walk to work and 2.2% work from home. There are no opportunities for public transportation to places of employment for Attica Township residents at this time.

EDUCATION

Table A2-12 below shows the educational attainment levels for Attica Township and Lapeer County. As shown, the educational attainment of residents in Attica Township is fairly consistent with that of the County. The number of Township residents with a Graduate or Professional Degree is lower than the County as a whole. The number of Attica residents who do not have a high school diploma is slightly higher than the County as a whole.

Table A2-12
Educational Attainment
Attica Township and Lapeer County, 2000

	Attica Township*	% Attica Township	Lapeer County*	% Lapeer County
Not A High School Graduate	545	18.2%	8,744	15.5%
Graduated From High School	1,203	40.2%	21,751	38.5%
Some College- No Degree	746	24.9%	14,560	25.8%
Associate Degree	254	8.5%	4,217	7.5%
Bachelor's Degree	199	6.6%	4,950	8.8%
Graduate or Professional Degree	49	1.6%	2,232	4.0%
Population 25 Years and Older*	2,996	100.0%	56,454	100.0%

Source: 2000 U.S. Census

* Census figures on educational attainment are based on population 25 years and over.

INCOME

Table A2-13 shows the per capita and median household incomes of Attica Township and adjacent communities. The 2000 Census figure for Attica Township represents an increase of approximately 32% in median household income over the past 10 years (1990 median household income was \$38,250). Attica Township's 2000 per capita income of \$22,226 is slightly higher than that of Lapeer County overall (\$21,462); however, the median household income for the Township (\$50,392) is lower than that

of Lapeer County (\$51,717). Of the adjacent communities, Dryden and Almont Townships have the highest median household incomes, while Imlay City and the City of Lapeer have the lowest.

Table A2-13
Income
Attica Township and Adjacent Communities, 2000

Community	2000 Median Household Income	2000 Per Capita Income
Attica Twp	\$50,392	\$22,226
Almont Twp	\$65,000	\$23,608
Almont Village	\$53,984	\$21,252
Arcadia Twp	\$56,458	\$22,080
Dryden Twp	\$69,659	\$26,902
Dryden Village	\$54,375	\$21,180
Goodland Twp	\$51,313	\$19,999
Imlay Twp	\$60,362	\$21,222
Imlay City	\$32,436	\$16,021
Lapeer Twp	\$63,411	\$23,383
Lapeer City	\$35,526	\$16,608
Mayfield Twp	\$50,822	\$20,399
Metamora Twp	\$61,250	\$29,255
Metamora Village	\$58,088	\$19,548
Lapeer County	\$51,717	\$21,462

Source: U.S. Census, 2000

UNEMPLOYMENT AND LOW INCOME

According to the 2000 Census, 2,374 Attica Township residents 16 years and over were in the labor force. The unemployment level for the Township was 2.0%, which is lower than the 3.6% unemployment rate for the County as a whole. The Census also reported that only 1.7% of Attica Township families were living below the poverty line. This is a lower percentage than Lapeer County as a whole, which had a 3.8% family poverty rate. Unemployment rates may be higher currently than those recorded in 2000 due to the recent economic downturn.

NONRESIDENTIAL LAND USE MARKET POTENTIAL

An important part of the existing conditions analysis is an examination of demand or market potential for non-residential land uses. A balanced supply of industrial, office and retail development is critical to a community for a number of reasons. If there are fewer acres available than the market can support, a community could lose potential tax base and employment opportunities, and decrease the quality of life for residents who need the goods and services that such uses provide. If there is an overabundance of commercial, office and industrial land, marginal businesses may develop and/or building vacancy rates may increase creating the potential for blight.

RETAIL SPENDING

In order to determine how much commercial land Attica Township can support, an analysis of income levels in Attica is necessary. As noted above, the year 2000 per capita income for Attica Township was \$22,226. Based on this income level, the table below estimates Attica's 2000 ("current") retail expenditures and projected retail expenditures. The population and per capita income are multiplied to find the total yearly income for the Township. Then retail expenditures, estimated to be 55% of total income, are calculated.

Table A2-14
**Current Neighborhood, Community, and Regional Expenditures, 2000
 Attica Township**

Total Year 2000 Income	Current ('00) Retail Expenditures	Current ('00) Neighborhood Expenditures	Current ('00) Community Expenditures	Current ('00) Regional Expenditures
\$103,973,228 ¹	\$57,185,275 ²	\$14,153,356 ^{3,4}	\$16,154,840 ^{3,5}	\$11,437,055 ^{3,6}

1. \$22,226 (2000 per capita income) x 4,678 people (2000 Census population)
2. Assumes 55% of total income is spent on retail purchases (PAS Report #358, *Analyzing Neighborhood Retail Opportunities*, Published by American Planning Association)
3. Assumes 33% of total retail expenditures is spent in Convenience goods stores, 40% spent in Comparison goods stores (PAS Report #358, Published by American Planning Association).
4. Assumes 75% of Convenience goods spending will be made within Neighborhood Shopping Center categories.
5. Birchler Arroyo Associates, Inc. estimates that 25% of Convenience goods and 50% of Comparison goods spending will be made within Community Shopping Center categories.
6. Birchler Arroyo Associates, Inc. estimates that 50% of Comparison goods spending will be made within Regional Shopping Center categories.

Table A2-15
Forecast Retail & Neighborhood Expenditures, 2010 & 2020
Attica Township

Forecast 2010 Income	Forecast 2010 Retail Expenditures	Forecast 2010 Neighborhood Expenditures	Forecast 2020 Income	Forecast 2020 Retail Expenditures	Forecast 2020 Neighborhood Expenditures
\$188,572,823 ¹	\$103,715,053 ²	\$25,669,476 ^{3,5}	\$302,942,475 ⁴	\$166,618,361 ²	\$41,238,044 ^{3,5}

1. \$29,011 x 6,500 people (2010 population estimate with income adjusted for 2.7% inflation)
2. Assumes 55% of total income is spent on retail purchases (PAS Report #358, *Analyzing Neighborhood Retail Opportunities*, Published by American Planning Association)
3. Assumes 33% of total retail expenditures is spent in convenience goods stores, 40% spent in comparison goods stores (PAS Report #358, Published by American Planning Association)
4. \$37,868 X 8,000 people (2020 population estimate with income adjusted for 2.7% inflation)
5. Assumes 75% of Convenience goods spending will be made within Neighborhood Shopping Center categories.

Table A2-16
Forecast Community and Regional Expenditures, 2010 & 2020
Attica Township

Forecast 2010 Retail Expenditures	Forecast 2010 Community Expenditures	Forecast 2010 Regional Expenditures	Forecast 2020 Retail Expenditures	Forecast 2020 Community Expenditures	Forecast 2020 Regional Expenditures
\$103,715,053 ¹	\$29,669,476 ^{2,3}	\$20,743,011 ⁴	\$166,618,361 ¹	\$47,069,687 ^{2,3}	\$33,323,672 ⁴

1. Assumes 55% of total income is spent on retail purchases (PAS Report #358, *Analyzing Neighborhood Retail Opportunities*, Published by American Planning Association)
2. Assumes 33% of total retail expenditures is spent in convenience goods stores, 40% spent in comparison goods stores (PAS Report #358, Published by American Planning Association)
3. Birchler Arroyo Associates, Inc. estimates that 25% of Convenience goods and 50% of Comparison goods spending will be made within Community Shopping Center categories.
4. Birchler Arroyo Associates, Inc. estimates that 50% of Comparison goods spending will be made within Regional Shopping Center categories.

COMMERCIAL DEVELOPMENT

Once the amount of retail spending within a community is estimated, the amount of needed retail space the community can support (in square feet) can be estimated. This can be determined by looking at two factors: retail spending and supporting population. There are three shopping center classifications used for analysis: neighborhood convenience, community comparison, and regional comparison.

According to the latest retail data published in the Dollars & Cents of Shopping Centers: 2002 (Urban Land Institute) the average annual sales per square foot of gross leasable area for neighborhood shopping centers is \$271.53. Community centers had average annual sales per square foot of \$229.84 and regional centers had an average of \$218.77. Based on the previous retail spending analysis, Attica Township could support the following square footages in commercial centers.

Table A2-17
Shopping Center Classifications
Commercial GLA based on 2020 Population

Type	Forecasted 2020 Sales per Square Foot	Forecasted 2020 Township Resident Expenditures	Expenditures made within Township ²	GLA Based on Attica Township 2020 Retail Spending
Neighborhood (Convenience)	\$439 ¹	\$43,815,422	\$21,907,711 ²	49,947
Community (Minor Comparison)	\$371 ¹	\$50,011,542	\$12,502,886 ²	33,676
Regional (Major Comparison)	\$353 ¹	\$35,406,402	\$8,851,600 ²	25,048

1. ULI- 2002 data with 2.7% annual inflation for 2020 forecast.
2. Birchler Arroyo Associates, Inc. estimates that 50% of neighborhood item purchases and 25% of community and regional item purchases made by Township residents could take place within the Township.

As reflected in Table A2-17 above, with \$21,907,711 estimated available for convenience spending within the Township in 2020, Attica Township could support 49,947 square feet of neighborhood retail. This would be roughly equivalent to a grocery store. The Township could support 33,676 square feet of community comparison, which would make up less than half of a Target store, and 25,048 square feet of regional comparison shopping.

SUPPORTING POPULATION

A general comparison with the results of the retail spending analysis can be made using an analysis of the supporting population in the Township. As the table below illustrates, neighborhood retail centers are the smallest and serve the daily needs of nearby residents by providing basic goods and services such as groceries, hardware, dry cleaning, banking, etc. A population of 5,000 - 10,000 people living within a five to ten minute drive is generally required to support such a development.

Table A2-18
**Shopping Center Classifications
 GLA Based on Supporting Population**

Type	Leading Tenant	General Range (Typical GLA)	Minimum Site	Supporting Population	GLA Based on Attica 2020 Population
Neighborhood (Convenience)	Supermarket	30,000 - 100,000 sq. ft. (50,000 sq. ft.)	3 - 10 ac.	5,000 - 10,000	30,000 - 100,000 sq. ft.
Community (Minor Comparison)	Junior Dept. or Discount Store	100,000 - 300,000 sq. ft. (150,000 sq. ft.)	10 - 30 ac.	20,000 - 60,000	0
Regional (Major Comparison)	1 or more Full Line Dept. Store	300,000 - 900,000 sq. ft. (400,000 sq. ft.)	30 - 60 ac.	60,000 - 100,000	0

Source: Shopping Center Development Handbook, 2nd Edition, Urban Land Institute

Based on the previous analysis, Attica Township’s projected 2020 population of 8,000 could support between 30,000 sq. ft. and 100,000-sq. ft. of neighborhood commercial development. Population projections do not reflect an adequate supporting population for Community Commercial or Regional Commercial development within the Township.

Table A2-19
Summary of Commercial Development Forecast Methods

Type	GLA Based on Retail Spending Analysis	GLA Based on Attica Township Supporting Population Analysis
Neighborhood (Convenience)	49,947	30,000 – 100,000 sq. ft.
Community (Minor Comparison)	33,676	0
Regional (Major Comparison)	25,048	0

According to *Urban Planning and Design Criteria*, neighborhood commercial developments typically need approximately one acre per 12,500 square feet of space, community commercial developments typically need approximately one acre per 15,000 square feet, and regional centers need approximately one acre per 13,300 square feet. Based on the summary table above, in order to provide for neighborhood convenience shopping within Attica, approximately four acres of land would be needed. The total amount of land area planned for retail might need to be larger than these numbers because limitations occur on total buildable area due to wetlands, steep slopes, woodland preservation, on-site utilities and the like. Also, the Township may experience some mix of comparison goods stores in a neighborhood center, since

residents need the products but cannot support an entire community commercial center. For example, a neighborhood center with a grocery store anchor might attract a carpet and flooring store as one of its tenants.

INDUSTRIAL DEVELOPMENT

The demand for industrial development is related to many factors including materials, labor, transportation, energy, and public policy. Industrial developers examine the availability of utilities, affordable housing for the work force, suitable characteristics of the land, and good transportation access.

There are two common methods of forecasting future industrial needs for an area: 1) based on total population, and 2) based on total land area. According to *Urban Planning and Design Criteria*, a typical planning standard for industry is 12 acres per 1,000 population. Based on an estimated 2010 population of 6,500 for Attica Township, approximately 78 acres of industrial land can be supported within the community. The total land area method estimates that within a rural community industrial land typically consumes 2-5 percent of total land area. Two percent of the estimated 23,040 acres of land area within the community equals roughly 460 acres. This percentage approach cannot be related to a particular point in time; therefore, it is more closely associated with a “rural build-out” scenario.

Given Attica’s rural character, a range between the total population and the total land area methodologies may be a more appropriate estimate for forecasting the Township’s need for industrial land. Most of this demand will likely be filled by such uses as local contractors who need a storage yard and building to repair equipment, or small independent shops, fabricators, and auto repair facilities.

OFFICE DEVELOPMENT

There are two types of office buildings: single-tenant and multi-tenant. Single tenant buildings can be located in almost any location satisfactory to the tenant, who may often be the building owner. Multi-tenant office buildings, which are often built on the speculation that tenants will be found, are much more tied to market factors. Multi-tenant office developers look at access, proximity to professional and clerical labor, parking, transit opportunities, proximity to professional and personal services and the overall “image” of the community.

Around 40% of the employed residents of Attica Township work in professions that typically operate within an office setting (i.e. managerial, technical, sales, etc.). The Census reported that the median travel time for employed residents to their workplaces was 39.1 minutes. Assuming that this commuting pattern occurs evenly among all office professions, we can estimate that 901 office professionals may work within a forty-minute drive of Attica Township.

The Urban Land Institute estimates that approximately 202 square feet of office space is needed per employee. Based on this projection and the estimate of office employees of businesses close to Attica Township, approximately 182,002 square feet of office

space could be supported within the Township. However, it is not reasonable to expect that multi-tenant office buildings would be marketable at present, nor that a significant portion of Attica residents would suddenly find their office jobs relocated to the Township. Small professional office, medical office, and combination office/industrial buildings are likely to be more viable within the community over the next 15-20 years. Sites for future office development can play an important role as transitional uses between residential areas and retail or industrial uses.



The following is a brief overview of the community facilities and services within Attica Township (see Map A3-1).

CIVIC CENTER

The Attica Township Civic Center is located on the south side of Peppermill Road on the west edge of Attica Village. It includes the Township Hall, Park, Library, and Fire Station.

TOWNSHIP HALL

The Township Hall provides administrative office space for Township officials as well as a meeting hall for public meetings and functions.



Attica Township Hall

LIBRARY

The Attica Township Library is a Branch of the Ruth Hughes Memorial District Library located in Imlay City. As mentioned above, the Township Library is located in the Civic Center complex on Peppermill Road adjacent to the Township Fire Department. The library offers approximately 7,000 books, audiocassettes, and videos for loan. Inter-library loans are also available for books and resources not held at the Attica Township Library. In addition, the library offers Internet access to the public, as well as several

children's programs including storytime sessions for preschoolers during the school year and a summer reading program for children of all ages.

PUBLIC SAFETY

Police protection is provided to Attica Township by the Lapeer County Sheriff's Department and the State Police. In addition, the Township contracts with two deputies of the Lapeer County Sheriff's Department to patrol the Township for eighty total hours per week.

Attica Township has one fire station, located on the south side of Peppermill within the Township Civic Center complex. The department has one engine, one tanker, one pumper tanker, one equipment van, and a grass rig. Since Attica Township does not have a water system, the two tankers are vital pieces of equipment. The department has also recently purchased a thermal imaging camera that enables firefighters to locate fire hotspots and body heat through smoke and darkness.



Attica Township Fire Station

The Department serves all of Attica Township and responds to calls from any nearby communities on a request

basis. Department personnel consists of 23 firefighters who are paid on a per call basis. Nearly all personnel have been state-certified as Firefighter II, while several have the state's highest certification of Firefighter III. In 2002, the Attica Township Fire Department responded to 73 calls, and by mid-July the department had responded to 50 calls so far in 2003.

PARKS AND RECREATION

PUBLIC PARKS & FACILITIES

There are two Township-owned recreation facilities in Attica Township: the Attica Township Park and a 51-acre wooded parcel that is presently undeveloped. The 35-acre Attica Township Park, adjacent to the Township Hall, is located on Peppermill Road just west of the Village. The park includes three ball diamonds, tennis courts, a basketball court, shuffleboard courts, horseshoe pits, playground equipment, walking / fitness trail, two main picnic pavilions, a smaller handicapped picnic shelter with paved parking and walkway, and a large gravel parking lot.

The undeveloped wooded parcel is on Mitchell Lake Road, north of Imlay City Road. It is one of the major wooded areas in Attica with an estimated 50 - 100 different types of trees. This property would be an excellent location for such passive uses as nature trails, picnicking, and the like.

Community Facilities Inventory

In addition to the Township-owned recreation facilities, the school district and private property owners also contribute to the number of recreation facilities available in the Township. The Attica Elementary School, located just east of Lake Pleasant Road and north of Attica Road, has a small playground adjacent to the school building. The playground is primarily designed for use by students attending the school; however, the playground does provide limited opportunities for youngsters who live in the area. The typical service area for a small playground of this type would limit its use to persons north of Attica Road and east of Lake Pleasant Road in the immediate neighborhood.

PRIVATE FACILITIES

There are three privately owned recreation facilities in the Township: the Michigan Christian Youth Camp, Camp David, and the Huntsman Hunt Club. The Michigan Christian Youth Camp, located on Lake George Road just south of Bowers, is available to groups only. In addition to a camping area, the 129 acres includes four heated dormitories, modern restrooms and showers, and a lodge building with a fireplace. Activities such as tennis, sledding, and a rifle range are available, and the camp is open year round.

Camp David, located off Force Road, occupies approximately 100 acres of heavily wooded land. There are also a number of small lakes on the property. The owner of the land has been developing the property as a nature study camp with special facilities and programs for physically handicapped persons.

The Huntsman Hunt Club, which is located in Dryden Township, has 240 acres of hunting fields located in Attica Township. Besides providing an area for hunting, the large open spaces also conserve the natural environment and protect unspoiled viewsheds.

SCHOOLS

Attica Township is served by three school districts. About half of the Township is in the Imlay City Community School District. The west side of the Township is in the Lapeer Community School District, while just a small portion along the southern border of the Township is in the Dryden Community School District.

There are two public schools located within Attica Township. Attica Elementary, located on Lake Pleasant Road, is a Lapeer Community School District facility, and the Country Day Academy located on Imlay City Road is a state charter school.



Attica Elementary School Sign

In addition to these public facilities, the Lapeer County Vocational Technical Center is also located within Attica Township. The vocational school, located off Lake Pleasant Road, has a total enrollment of 700 - 750 students and employs about 60 people. The

school offers classes in trades, such as auto mechanics, heating and air conditioning, horticulture, and health services as part of its Career Technical Education Program for 11th and 12th grade students.

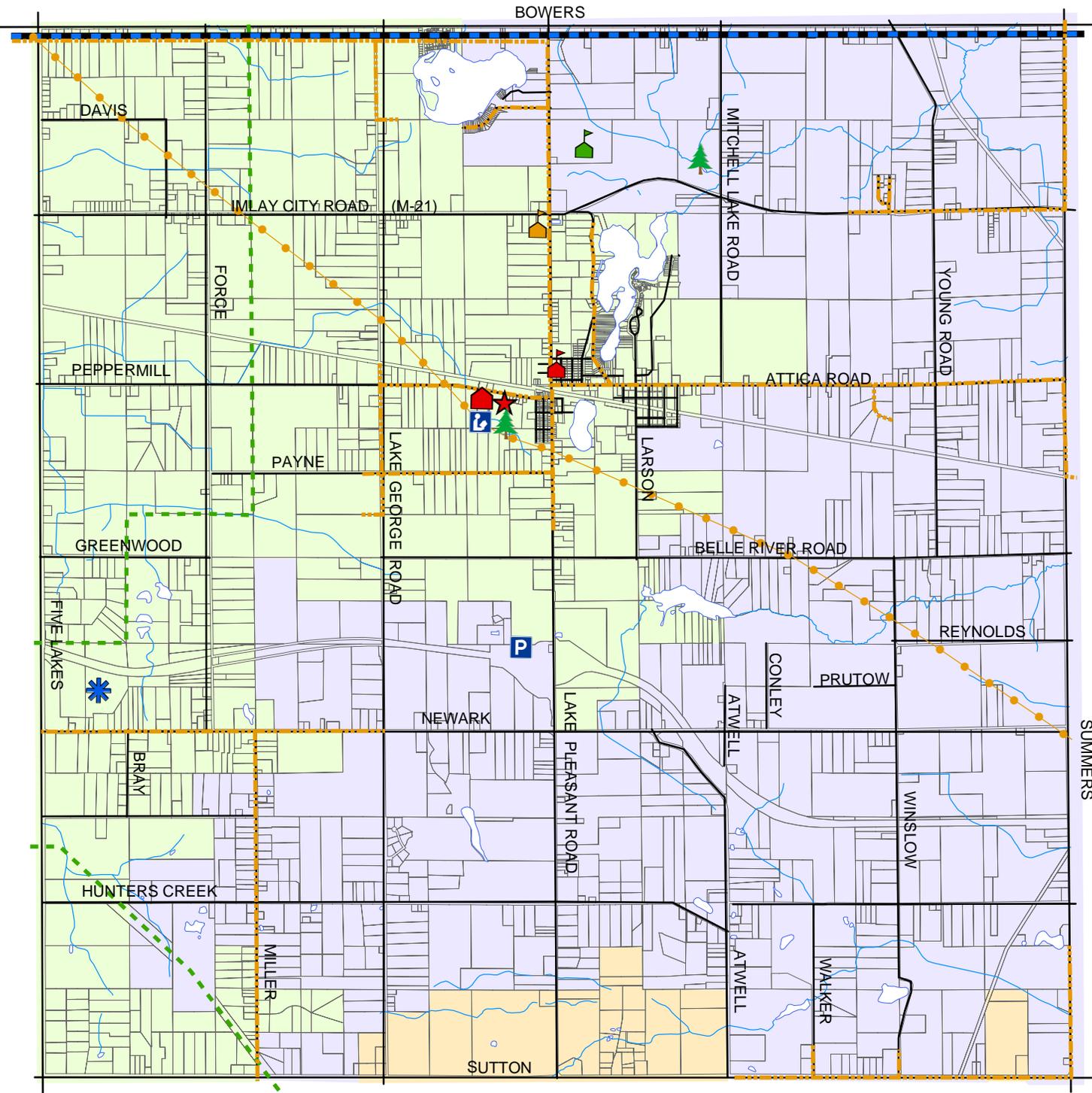
UTILITIES

The Township does not have a municipal sewer or water system. Any development must rely on individual well and septic systems. A 72" City of Detroit water main runs along Bowers Road providing service to the City of Flint.

Attica Township is partially served by Consumers Power for residential natural gas service as shown on Map A3-1.

HIGHWAY REST AREA AND PARK & RIDE LOT

A Michigan Department of Transportation (MDOT) rest area, located on the south side of I-69 on the extreme western side of the Township, serves the eastbound motoring public. MDOT also maintains a Park & Ride lot off Campbell Road at the I-69 / Pleasant Lake Road interchange.



- Towerline Easement (Electric)
- Pipeline (Gas)
- Residential Service Lines (Gas)
- Water Main (72')

- Dryden Community School District
- Imlay City Community School District
- Lapeer Community School District

- Attica Township Hall
- Attica Township Fire Station
- Attica Township Library
- Attica Township Park
- Attica Elementary School
- Country Day Charter School
- Lapeer County Vocational Tech Center
- I-69 Rest Area
- MDOT Park & Ride Lot

COMMUNITY FACILITIES
ATTICA TOWNSHIP
LAPEER COUNTY, MICHIGAN
MAP A3-1



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The identification of the natural features that presently exist in the Township is an important step in the Master Plan process. With such knowledge, decision-makers can make informed proposals for the preservation and protection of the Township's natural resources.

TOPOGRAPHY

Attica Township lies within an area that was covered and uncovered by glaciers as ice ages came and went.¹ The last glacier to affect Lapeer County was during the Late Wisconsinan period, around 9,000 years ago. Glaciers can have several different effects on the land as they retreat. For example, they may act as "steamrollers" across the land, flattening it as they go; they may create large depressions that later fill with water; or, as they pause in their movement, they may drop large quantities of glacial till—rocks, dust, and soil caught up in the ice. A till plain is a flat to gently undulating area of land where a glacier dropped relatively evenly spread out quantities of till, which was not subsequently rearranged and smoothed down by water.

An area where a glacier paused for a significant amount of time, long enough to drop large deposits of glacial till in a concentrated manner, is called a moraine. The result on the topography of the land, as is evident in Attica, is level ground or gently rolling hills. There are two moraines in Lapeer County.

¹ Topography and soils information from: United States Department of Agriculture & Michigan State University Extension. "Soil Survey, Genesee County, Michigan." Washington, D.C.: U.S. Government Printing Office. 1972.

Natural Features Inventory

Attica Township's topography varies by about 160 feet from the lowest point to the highest point. The lowest area of 843 feet above sea level is located in Section 1 of the Township, and the highest area of 1006 feet is located in Section 32. USGS Quad Map A4-1 illustrates the Township's topography.

SOILS

Map A4-2, General Soils, shows the locations of the various soil types in Attica Township. These soil associations are areas with distinctive and proportional patterns of soils. Of the twelve different types of soils in Lapeer County, five are found in Attica Township.

The majority of the Township is characterized by the Lapeer-Miami-Celina association. These soils are gently sloping to strongly sloping, well-drained and moderately well-drained soils that have a dominantly loam to clay loam subsoil. These soils occur on till plains and moraines.

An area of Conover-Blount-Brookston association soils is located in the southeast corner of the Township. These level to gently sloping, somewhat poorly-drained and poorly-drained soils with a dominantly clay loam subsoil occur on till plains.

Along the northern edge of the Township is a small area of Capac-Belding-Brookston association soils. These soils are level to gently sloping, somewhat poorly-drained and poorly-drained soils that have a sandy loam to clay loam subsoil. They also occur on till plains.

Just south of this is a larger area of Boyer-Montcalm-McBride association soils. These gently sloping to very steep, dominantly well-drained soils with a loamy sand to sandy clay loam subsoil occur on outwash plains, till plains, and moraines.

Finally, an irregularly-shaped area of Fabius-Wasepi-Mussey-Gilford association soils runs through the east-central area of the Township. These soils are level to gently sloping, somewhat poorly-drained and poorly-drained soils that have a sand loam to gravelly clay loam subsoils. These soils occur on outwash plains and lake plains.

Since Attica Township does not have sanitary sewer service, new development is restricted by the soil's ability to support septic systems. Map A4-3 indicates areas of the Township that have soils with slight and severe limitations for developments that require sewage disposal systems. Most of the Township has severe or moderate limitations to such development, which requires serious consideration of waste disposal arrangements for any proposed developments. This map does not imply, however, that development is not possible in these areas. On-site investigation is still necessary for individual home sites and may result in finding adequate soils for individual systems even on property in the unsuitable areas.

SURFICIAL GEOLOGY

The patterns of soils found in an area can generally be explained by the type of surface (quaternary) geology found below the soil. The surface geology found in southeastern Michigan can be divided into two broad zones—a lowland zone and a hill zone. These two zones parallel each other in a northeast/southwest direction, following the shoreline of Lake St. Clair. The lowland zone, consisting of St. Clair, Macomb, Wayne, Monroe, and eastern Lapeer Counties, was most likely covered by an ancient glacial lake as the last ice age came to a close. The geology in these areas consists mostly of clay and sand. The counties lying to the west of the lowland zone (Oakland, Livingston, Washtenaw, and western Lapeer Counties) are characterized as hill zones. The geology in these areas is composed mostly of sand and gravel deposits that were dropped by moving, melting ice. Attica is located somewhat on the border of these two zones, and has geology in common with both Imlay Township to the east (lowland zone) and Metamora and Hadley Townships to the west (hill zone).

The surficial geology of Attica is shown on Map A4-4. Large areas of the Township consist of lacustrine clay and silt. These materials typically occupy extensive, flat, low-lying areas formerly inundated by glacial Great Lakes. They were once deposited in lake water and were exposed by the decreasing water level.

Most of the rest of the Township consists of end moraines of coarse-textured till. An end moraine is a ridgelike deposit formed at the edge of a glacier. The coarse-textured material can result in excessive drainage of the land.

A small area including parts of Sections 1 and 2 consists of glacial outwash sand and gravel and postglacial alluvium. These areas are created as a glacier melts. The volume of the melting water has the ability to carry rocks, soil, and debris far beyond the area the glacier itself covered. The debris spreads out from the melting glacier.

PRIME AGRICULTURAL LAND

Map A4-5 indicates soils in the Township that have the potential to be prime agricultural land. As this map illustrates, a significant portion of Attica Township contains soils that are excellent for agricultural purposes.

The US Department of Agriculture defines prime farmland as having the following characteristics:

- Soils capable of providing yields of crops common to the area that are equal to or greater than yields from well-managed, deep, well-drained sandy loams.
- Soil quality, a growing season, and moisture conditions necessary to produce a high yield of crops economically if managed in accordance with modern farming methods.

Natural Features Inventory

- Slopes of less than six percent.
- Active rooting depth of a least 20 inches.
- Soils that are not waterlogged. Waterlogged soils are those that have standing water as much as six inches deep several times during the growing season.
- Soils that do not flood more than once every two years.
- Soils that present no particular difficulty in cultivating with large equipment (less than 10 percent is covered with coarse rock fragments).
- Soils with the potential for being made prime agriculture through economically justifiable investments and practices, including drainage, clearing, irrigation, etc.



The locations of these prime farmland areas are important to note when making decisions regarding future land uses throughout the Township.

WATERSHEDS

Map A4-6 shows that Attica Township falls within the Belle River, Black River, and Flint River Watersheds. In addition, there are five subwatersheds in the Township: Weston Drain and the North Branch of the Belle River drain to the Belle River, the South Branch of the Flint River drains to the Flint River, and Elk Lake Creek drains to the Black River.

WETLANDS

Wetlands are valuable natural resources within the Township. They may serve as storm water holding areas to reduce flooding; provide for the settling of sediments and pollutants from surface water runoff; reduce stream bank erosion caused by storm water runoff; and provide unique habitat for fish and wildlife. Wetlands throughout the Township are depicted on A4-7. Those which are five acres or more, as well as smaller wetlands hydrologically connected to large wetlands, fall under the jurisdiction of the Michigan Department of Environmental Quality. However, individual townships are in the best position to monitor the health of their wetlands, regardless of size.



WOODLANDS

Prior to settlement of southeast Michigan, the area that is now Attica Township was almost entirely covered by forests of varying types. As shown on Map A4-8, after almost two centuries of agricultural development the woodlands in the Township cover a much smaller area. Still, the remaining woodlands are valuable natural features which serve as windbreaks, aid in the absorption of rainwater, replenish oxygen, create natural beauty and character, and provide wildlife habitat. Preservation of these areas is important, and the effects of development on existing woodlands throughout Attica should be minimized.

STATE-PROTECTED WILDLIFE AND VEGETATION

Ecologists often emphasize the concept of species biodiversity – that is, the number and variety of different species of plants and animals that naturally populate a given place. Because of the interdependence among these organisms, the loss of natural diversity can throw an ecosystem out of balance. Natural biodiversity is often considered a measure of an ecosystem's sustainability, as well as its current health. In addition, species diversity is important because of the potential commercial value of rare species. Finally, many people agree that biodiversity is intrinsically valuable, regardless of human uses for the species.

The Michigan Natural Features Inventory (MNFI) has identified a variety of state-protected plant and animal species within Attica Township. The plant and animal species listed in Tables A4-1 and A4-2 with "Endangered" (E) and "Threatened" (T) classifications are protected under state law (Act 451 of 1994, the Natural Resources and Environmental Protection Act, Part 365, Endangered Species Protection). While the specific locations of these protected species are not released for protection purposes, the general distribution of these plants and animals in the Township is identified in the tables by Section number.

An endangered species is defined as any species of fish, plant life, or wildlife that is in danger of extinction throughout all or a significant part of its range. A threatened species is any species that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.



Astragalus canadensis, or Canadian Milk-vetch, is a state threatened species. It can be found in areas with mesic conditions and full or partial sunlight, including roadsides, fields, wet prairies and along streambeds. The Canadian Milk-vetch has a large white tubular flower from May to August which is then superseded by seed pods. It has not been observed in Attica by the MNFI since 1911.

Photo: Washington State University, Marion Ownbey Herbarium (<http://www.wsu.edu:8080/~wsherb/images/Fabaceae/astragaluscana.html>)



Rallus elegans, the King Rail, is a state endangered species. The King Rail is a marsh bird that eats insects and small crustaceans. Its habitat once extended across the lower half of the Lower Peninsula, with an especially heavy concentration along the western shore of Lake Erie. Endangerment of the King Rail has been caused by the loss of sedge and cattail marsh habitat, and by the proliferation of pesticides, which is keeping the birds away from otherwise suitable habitats. Recovery of the species can be aided by preserving and restoring the marshes, and by limiting the use and impact of pesticides.

Photo: University of Illinois Urbana-Champaign, Illinois Natural History Survey (<http://www.inhs.uiuc.edu/chf/pub/lfwis/birds/king-rail.html>)



Clemmys guttata, or spotted turtle, is a state threatened species. These turtles require clean, shallow, slow-moving bodies of water with muddy or mucky bottoms and some aquatic and emergent vegetation. Although spotted turtles are considered aquatic, they are frequently found on land during certain times of the year. Primary threats to this species are habitat destruction and degradation and illegal collection for the pet trade. Protection of suitable wetland and nesting habitats is crucial for the conservation of this species.

Natural Features Inventory

Also listed in the tables are species with the state classification of “Special Concern” (SC). While these species are not protected under state law, they have been identified as rare or their status is uncertain. Many of the species classified as “Special Concern” are noted as such because of their declining populations in the state. Should these species continue to decline, they would be recommended for “Threatened” or “Endangered” status in the future. Protection of “Special Concern” species now, before they reach dangerously low population levels, would prevent the need to list them in the future by maintaining adequate numbers of self-sustaining populations within Michigan. Some other potentially rare species are listed as “Special Concern” pending more precise information on their status in the state; when such information becomes available, they could be moved to “Threatened” or “Endangered” status or deleted from the list.

Several of the plant and animals species listed as threatened or of special concern have not been officially observed by the MNFI recently. Both state-protected plant species in Attica Township were last observed in 1911, and the King Rail was last observed in 1952. Given the length of time since these species were last observed, it is likely that many of these habitats may have been destroyed or severely compromised.

Table A4-1
State-Protected Animal Species, Attica Township

Scientific Name	Common Name	Year Last Observed	Status	Section
<i>Rallus elegans</i>	King Rail	1952	E	21
<i>Clemmys guttata</i>	Spotted Turtle	1985	T	18, 20
<i>Emys blandingii</i>	Blanding’s Turtle	2000	SC	21
<i>Acris crepitans blanchardi</i>	Blanchard’s Cricket Frog	1989	SC	29
<i>Oecanthus laricis</i>	Tamarack Tree Cricket	2000	SC	20
<i>Dendroica cerulea</i>	Cerulean Warbler	2002	SC	7
<i>Sistrurus catenatus catenatus</i>	Eastern Massasauga rattlesnake	1993	SC	24

Source: Michigan Natural Features Inventory (MNFI)

Table A4-2
State-Protected Plant Species, Attica Township

Scientific Name	Common Name	Year Last Observed	Status	Section
<i>Astragalus canadensis</i>	Canadian Milk-vetch	1911	T	17
<i>Astragalus neglectus</i>	Cooper's Milk-vetch	1911	SC	18

Source: Michigan Natural Features Inventory (MNFI)

In addition to specific plant and animal species, the MNFI has identified occurrences of other important natural elements in the Township. In 1970, a bog, which is one of the distinct natural communities that has been classified as rare or uncommon in Michigan, was identified in Section 13. A bog is defined as a peat wetland dominated by sphagnum moss and deriving all of its nutrients from rainwater (as opposed to groundwater). The peat is fairly acidic. Bogs occur at the edge of lakes and ponds, and in depressions in glacial outwash and sandy glacial lake plains.

In 1988, the Michigan Natural Features Inventory identified a Great Blue Heron rookery in Section 26. Great Blue Herons typically nest in colonies. They build their nests in trees in lowland hardwood swamps. These nesting habits are particularly susceptible to wetland filling and timber cutting. Without adequate habitat in which to nest, the survival of these beautiful birds could be in doubt.



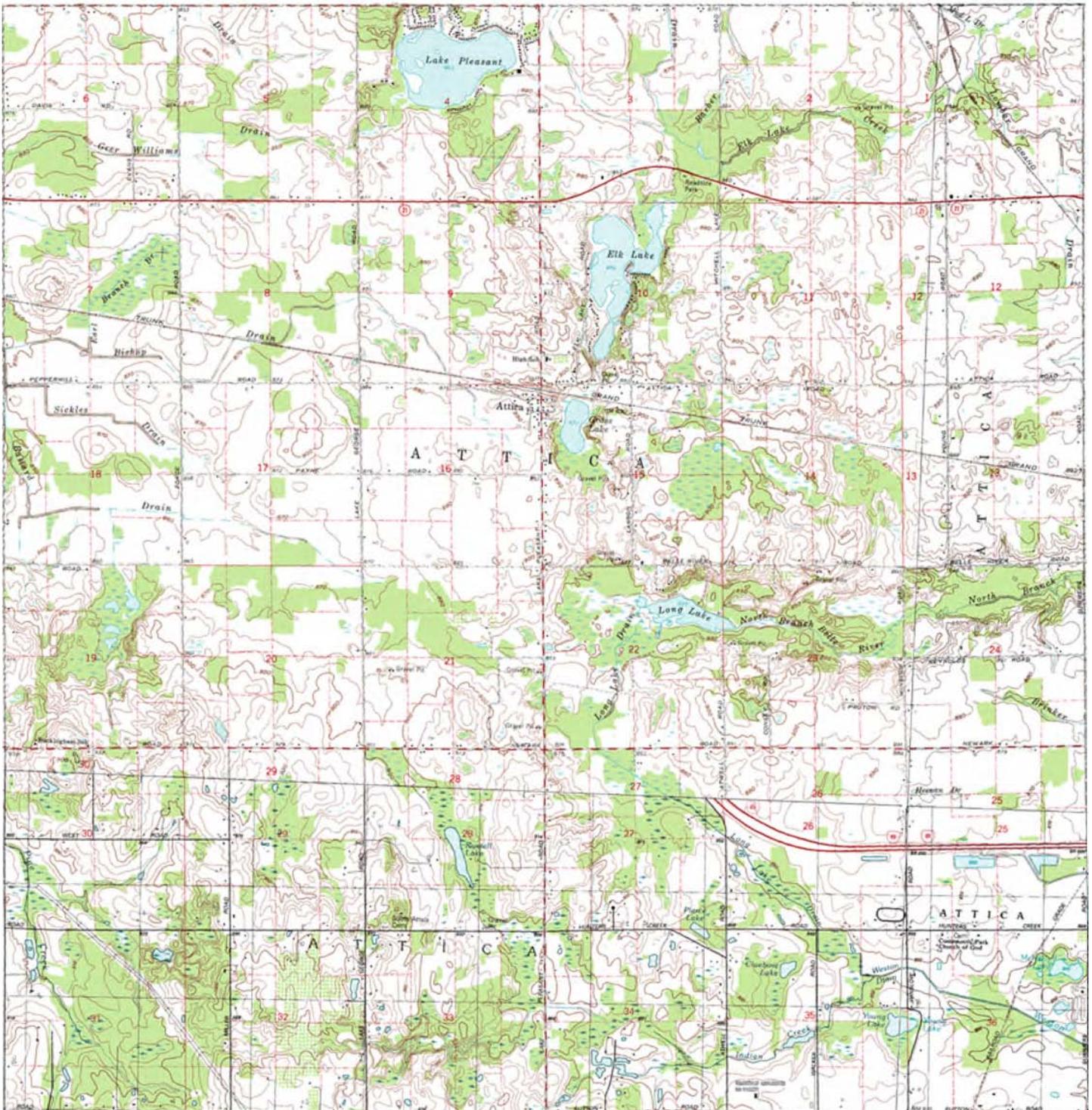
Great Blue Heron

Photo: University of Illinois Urbana-Champaign, Illinois Natural History Survey (www.inhs.uiuc.edu/chi/pub/ifwis/mabs/)



Great Blue Heron Rookery

Photo: Illinois Raptor Center (www.illinoisraptorcenter.org/Field%20Guide/rookery.html)



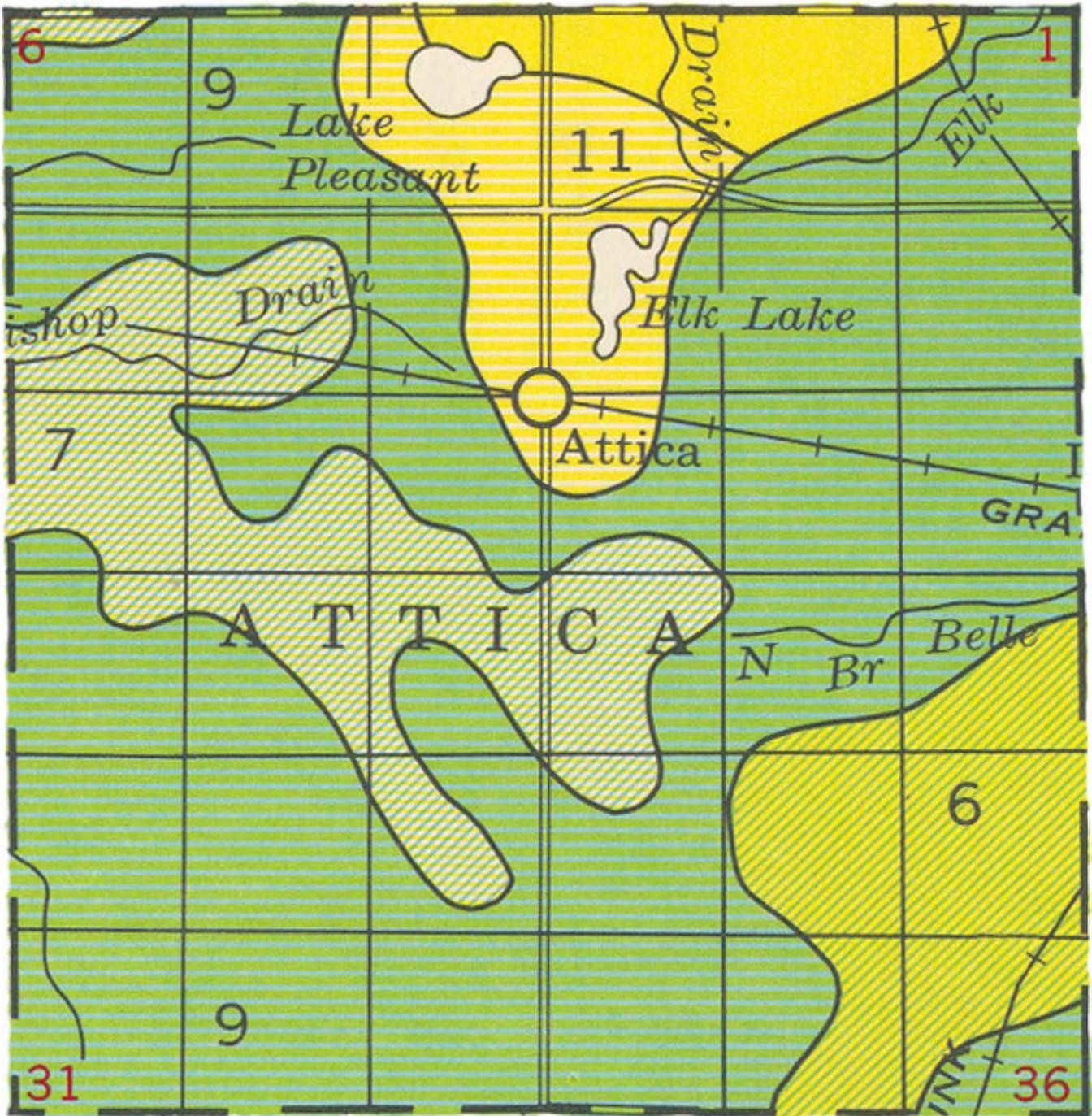
TOPOGRAPHY
ATTICA TOWNSHIP
LAPEER COUNTY, MICHIGAN

MAP A4-1

Source: USGS



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- 4
Capac-Belding-Brookston association: Level to gently sloping, somewhat poorly-drained and poorly-drained soils that have a sandy loam to clay loam subsoil; on till plains
- 6
Conover-Blount-Brookston association: Level to gently sloping, somewhat poorly-drained and poorly-drained soils that have a dominantly clay loam subsoil; on till plains
- 7
Fabius-Wasepi-Mussey-Gilford association: Level to gently sloping, somewhat poorly-drained and poorly-drained soils that have a sandy loam to gravelly clay loam subsoil; on outwash plains and lake plains
- 9
Lapeer-Miami-Celina association: Gently sloping to strongly sloping, well-drained and moderately well-drained soils that have a dominantly loam to clay loam subsoil; on till plains and moraines
- 11
Boyer-Montcalm-McBride association: Gently sloping to very steep, dominantly well-drained soils that have a loamy sand to sandy clay loam subsoil; on outwash plains, till plains, and moraines

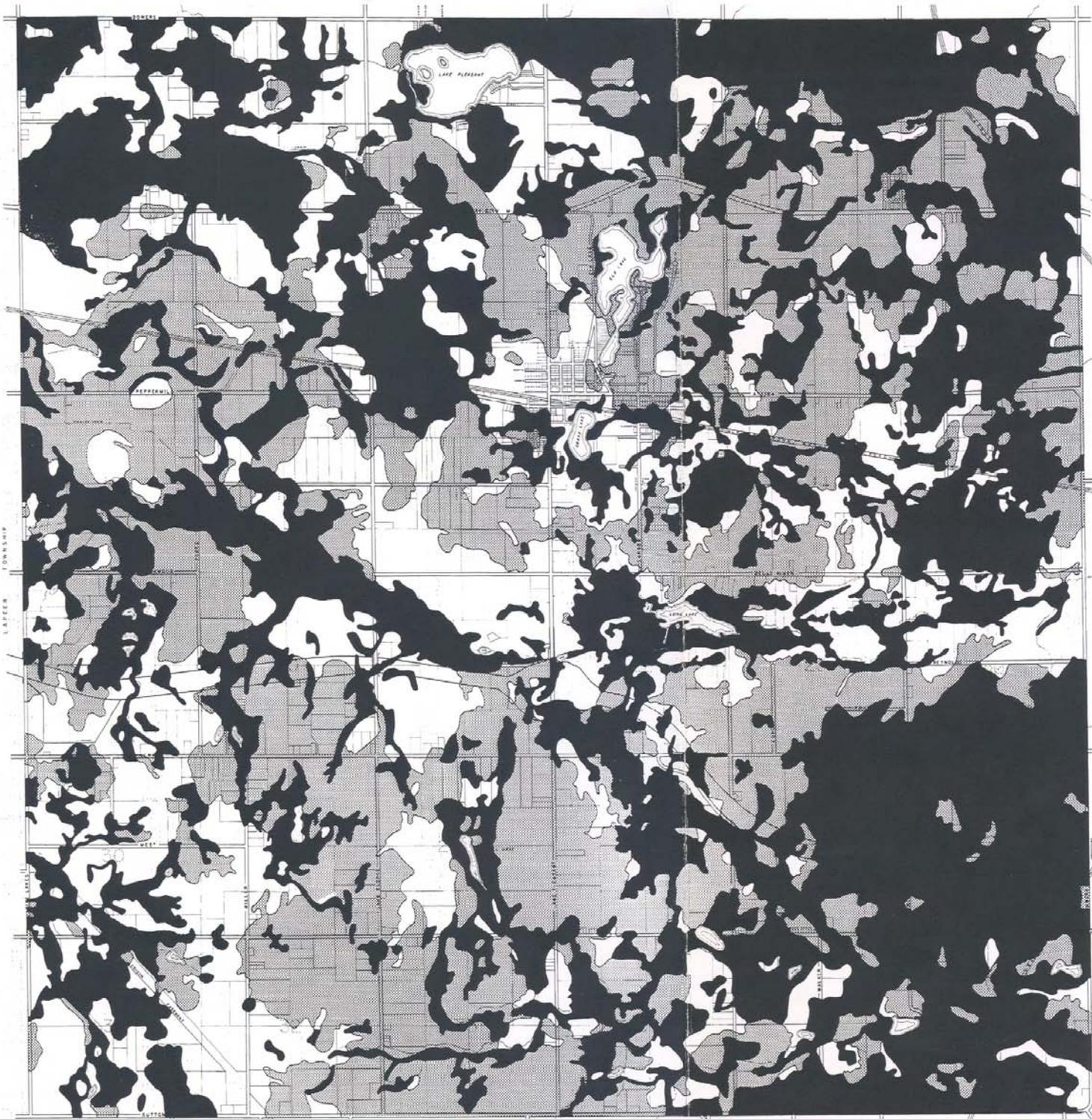
**GENERAL SOILS
ATTICA TOWNSHIP
LAPEER COUNTY, MICHIGAN**

MAP A4-2

Source: USDA



**BIRCHLER ARDYO
ASSOCIATES, INC.**



SOIL LIMITATIONS
FOR SEPTIC SYSTEMS
ATTICA TOWNSHIP
LAPEER COUNTY, MICHIGAN

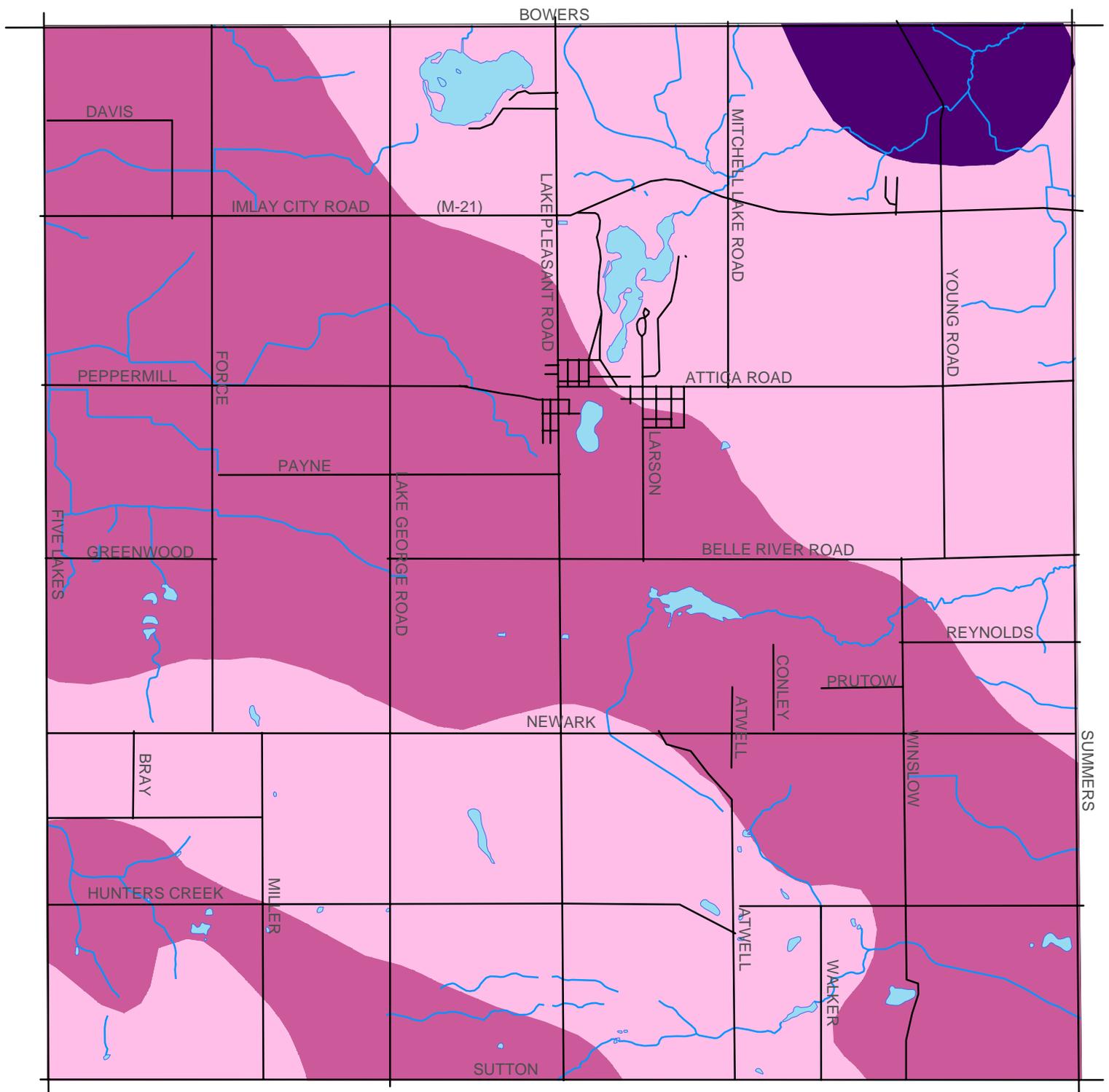
MAP A4-3

-  SEVERE LIMITATIONS FOR SEPTIC SYSTEMS
-  MODERATE LIMITATIONS FOR SEPTIC SYSTEMS
-  SLIGHT LIMITATIONS FOR SEPTIC SYSTEMS

MAP IS APPROXIMATE, BASED ON SOIL SURVEY DATA



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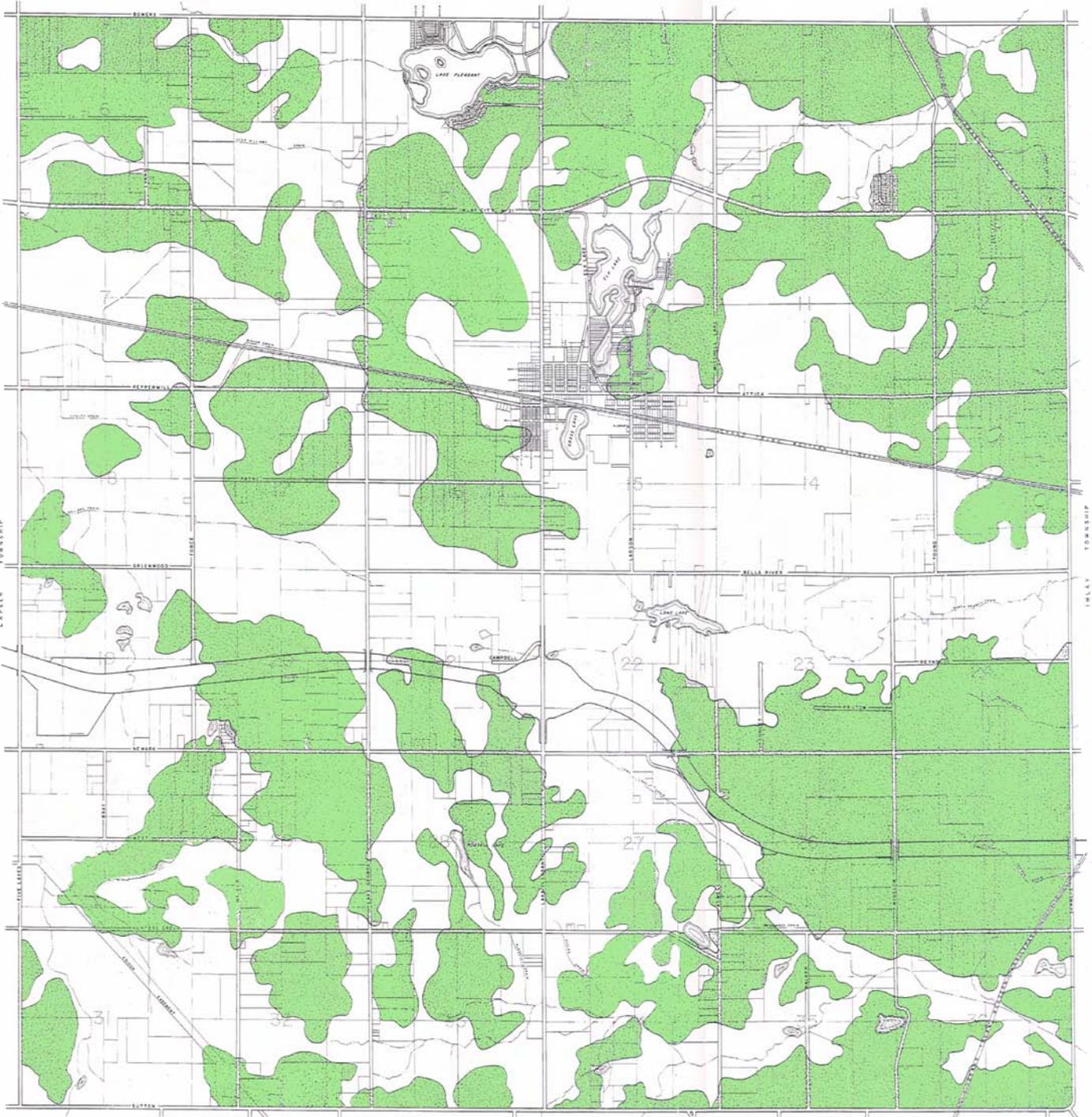
-  END MORAINES OF COARSE-TEXTURED TILL
-  GLACIAL OUTWASH SAND & GRAVEL AND POSTGLACIAL ALLUVIUM
-  LACUSTRINE CLAY AND SILT

Source: MICHIGAN DNR

QUATERNARY GEOLOGY
ATTICA TOWNSHIP
LAPEER COUNTY, MICHIGAN
MAP A4-4



BIRCHLER ARROYO
 ASSOCIATES, INC.



PRIME FARMLAND
 ATTICA TOWNSHIP
 LAPEER COUNTY, MICHIGAN

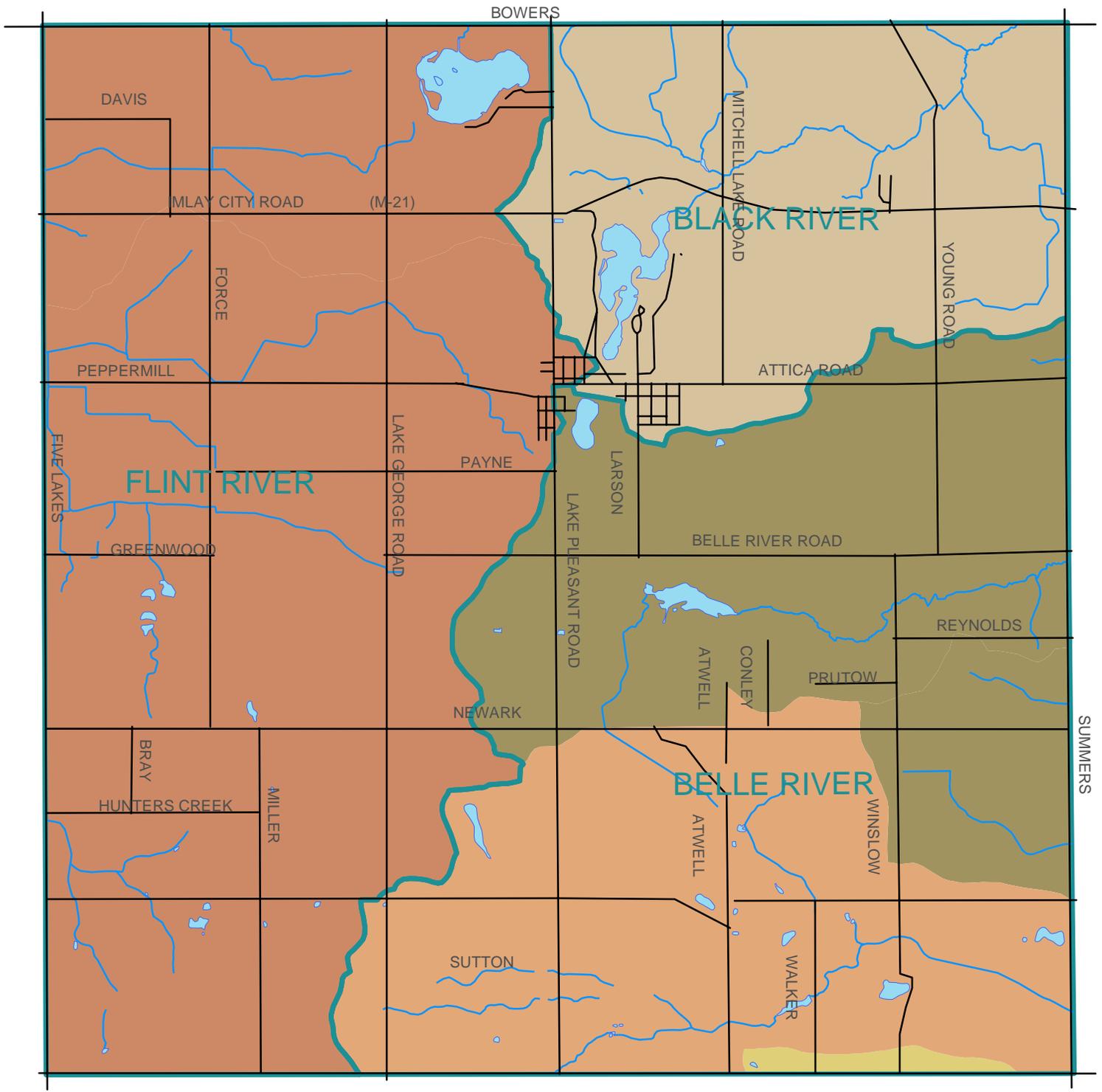
MAP A4-5

 PRIME FARMLAND

MAP IS APPROXIMATE, BASED ON SOIL SURVEY DATA



BIRCHLER ARROYO
 ASSOCIATES, INC.



 WATERSHED

SUBWATERSHEDS

-  Belle River
-  Elk Lake Creek
-  North Branch Belle River
-  South Branch Flint River
-  Weston Drain

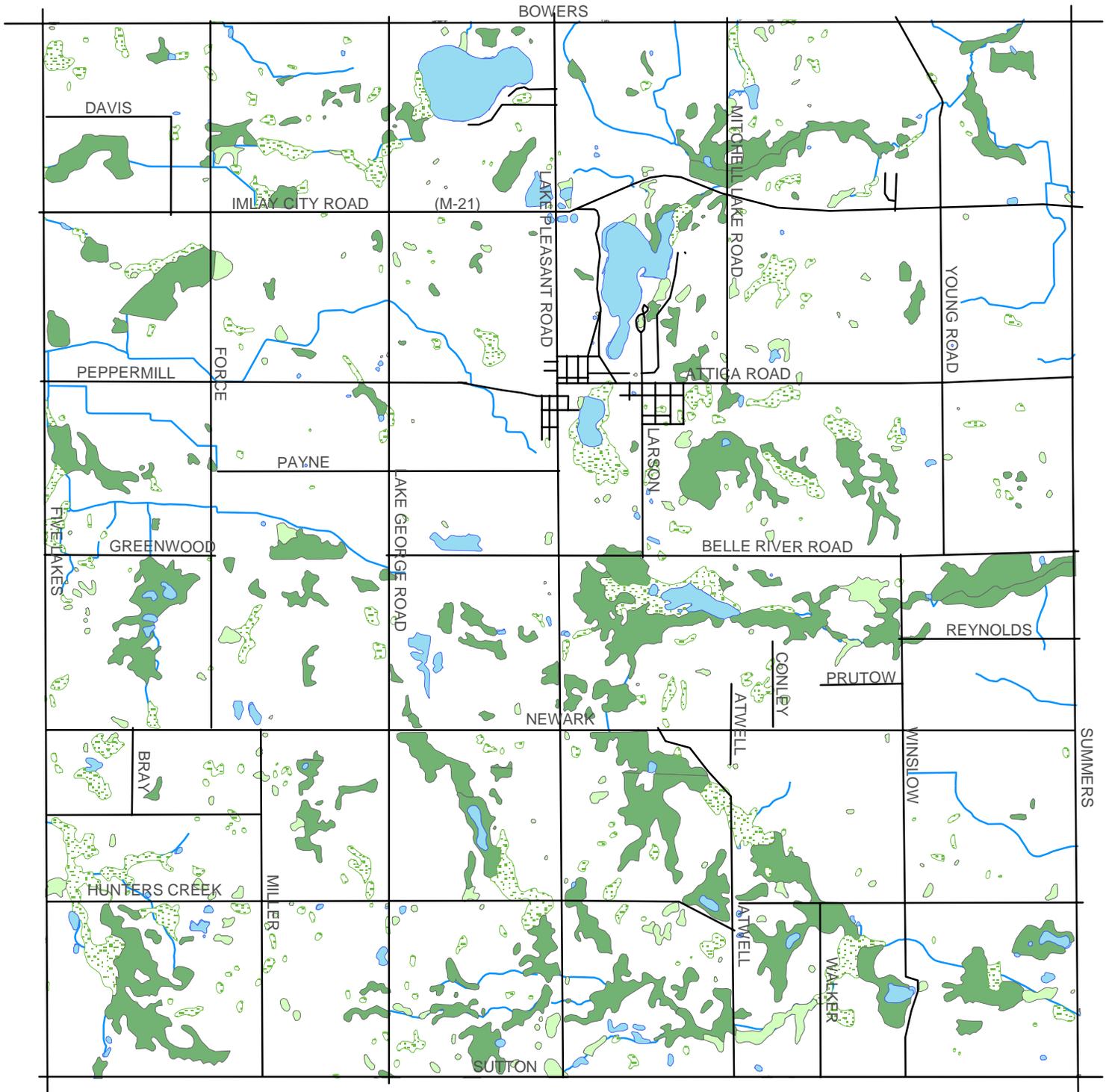
Source: MICHIGAN DNR

WATERSHEDS
ATTICA TOWNSHIP
LAPEER COUNTY, MICHIGAN

MAP A4-6



BIRCHLER ARROYO
ASSOCIATES, INC.



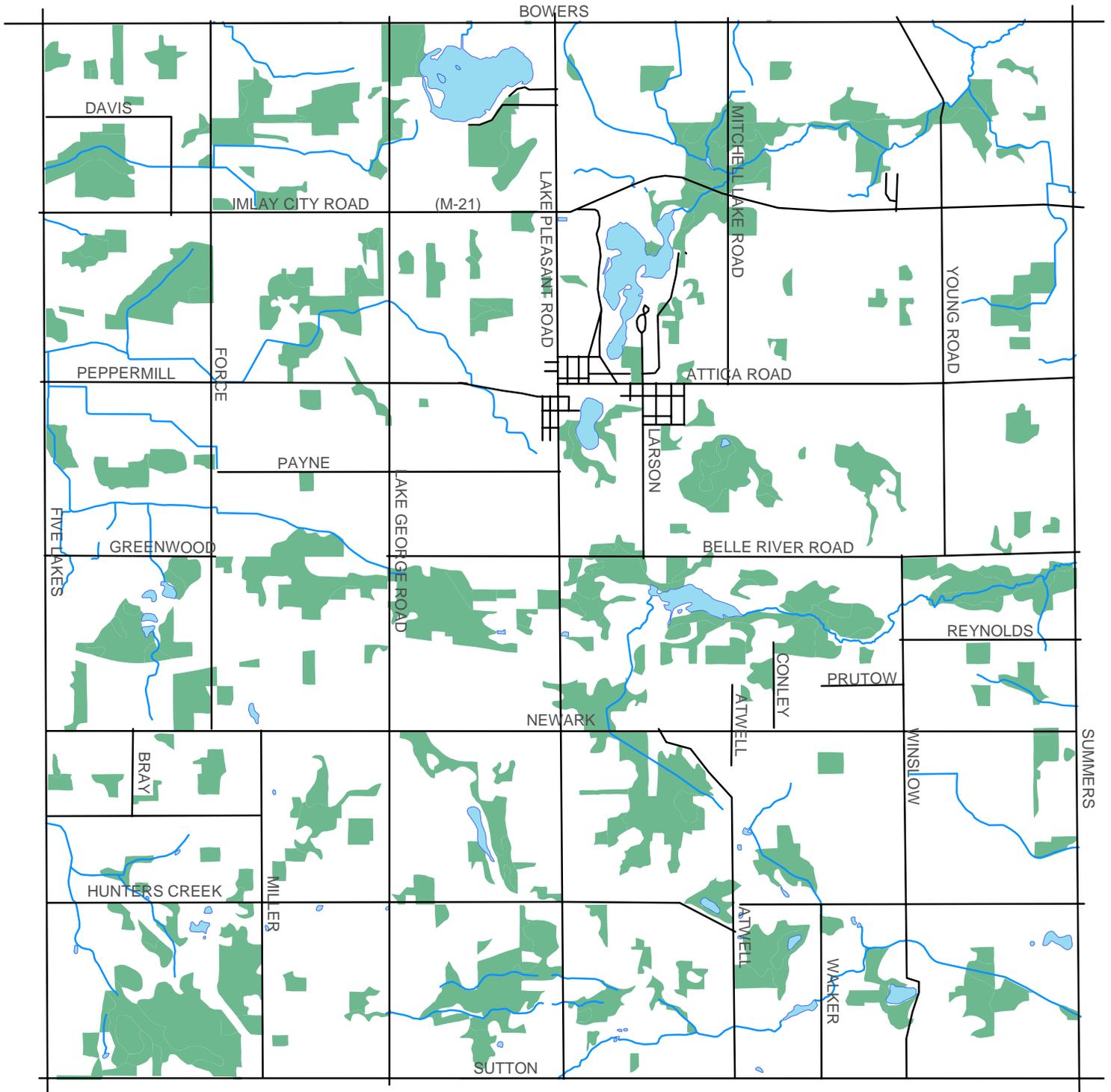
-  Emergent
-  Forested
-  Open Water/Unknown Bottom
-  Scrub-Shrub

WETLANDS
 ATTICA TOWNSHIP
 LAPEER COUNTY, MICHIGAN
 MAP A4-7

Source: National Wetlands Inventory



BIRCHLER ARROYO
 ASSOCIATES, INC.



 WOODLANDS

WOODLANDS
 ATTICA TOWNSHIP
 LAPEER COUNTY, MICHIGAN
 MAP A4-8

Source: MICHIGAN DNR



BIRCHLER ARROYO
 ASSOCIATES, INC.

RESOLUTION OF ADOPTION

Attica Township Master Plan

By Attica Township Planning Commission

WHEREAS, the Attica Township Planning Commission has the responsibility and is empowered by the Township Planning Act No. 168 of 1959, as amended, to make and adopt a Master Plan for the physical development of the Township and to amend the Plan as needed from time-to-time, and

WHEREAS, the Attica Township Board created the Planning Commission for the purposes stated in the Township Planning Act No. 168 of 1959, as amended, and

WHEREAS, Attica Township has retained a professional planning consultant to assist the Planning Commission with the technical studies necessary to make a comprehensive, new Master Plan of Attica Township, and

WHEREAS, the Attica Township Planning Commission has held a public hearing on its proposed new Master Plan for the Township on August 5, 2004 at the Attica Township Hall, and

WHEREAS, the Planning Commission finds that the new Master Plan is necessary for the continued development and the appropriate redevelopment of the physical areas of Attica Township,

NOW THEREFORE BE IT RESOLVED that the Attica Township Planning Commission hereby adopts this Master Plan for Attica Township, along with the text, maps, charts, graphs, and other descriptive materials contained in the Plan, and

BE IT FURTHER ORDERED, that an attested copy of the Master Plan shall be certified to the Attica Township Board, the Lapeer County Planning Commission, and the Southeast Michigan Council of Governments.

Motion by FACKLER. Supported by THOMPSON.

AYES: 5

NAYS: 0

ABSENT: 2

RESOLUTION DECLARED ADOPTED THIS 5th DAY OF AUGUST, 2004.



David Penzién, Chairperson
Attica Township Planning Commission

RESOLUTION OF ADOPTION

Attica Township Master Plan

By Attica Township Board

WHEREAS, the Attica Township Board may adopt a Master Plan for the physical development of the Township, as empowered by the Township Planning Act No. 168 of 1959, as amended, and

WHEREAS, the Attica Township Board created the Planning Commission for the purposes stated in the Township Planning Act No. 168 of 1959, as amended, and

WHEREAS, Attica Township has retained a professional planning consultant to assist the Planning Commission with the technical studies necessary to make a comprehensive, new Master Plan of Attica Township, and

WHEREAS, the Attica Township Planning Commission has held a public hearing on its proposed new Master Plan for the Township on August 5, 2004 at the Attica Township Hall, and

WHEREAS, the Planning Commission has adopted the new Master Plan for the Township on August 5, 2004 at the Attica Township Hall and transmitted the Plan to the Township Board for their approval,

NOW THEREFORE BE IT RESOLVED that the Attica Township Board hereby adopts this Master Plan for Attica Township, along with the text, maps, charts, graphs, and other descriptive materials contained in the Plan.

Motion by Lacey. Supported by Madeline.

AYES: Lacey, Ochadleus, Madeline, Herpolsheimer

NAYS: none

ABSENT: Mason

RESOLUTION DECLARED ADOPTED THIS 12 **DAY OF** August, 2004.


Al Ochadleus, Supervisor
Attica Township

