

ONONDAGA TOWNSHIP MASTER PLAN

DRAFT
December 23, 2008

**ONONDAGA TOWNSHIP
INGHAM COUNTY, MICHIGAN**

ONONDAGA TOWNSHIP MASTER PLAN

DRAFT
December 23, 2008

Prepared by the
**ONONDAGA TOWNSHIP
PLANNING COMMISSION**

with the assistance of
Mark A. Eidelson, AICP
LANDPLAN Inc.

**ONONDAGA TOWNSHIP
INGHAM COUNTY, MICHIGAN**

TABLE OF CONTENTS

Chapter One		
OVERVIEW		1-1
Introduction	1-1	
What is the Master Plan?	1-1	
Importance and Application of the Land Use Plan	1-2	
How the Plan Was Prepared	1-3	
Chapter Two		
PLANNING ISSUES and GOALS/OBJECTIVES		2-1
Introduction	2-1	
Onondaga Township Overview	2-1	
Planning Issues, Goals, and Objectives	2-2	
Chapter Three		
FUTURE LAND USE STRATEGY		3-1
Introduction	3-1	
Overview of the Future Land Use Strategy	3-1	
Land Use Areas	3-2	
Phased Zoning	3-5	
Chapter Four		
PUBLIC SERVICES STRATEGY		4-1
Introduction	4-1	
Individual Public Service Components	4-1	
Chapter Five		
IMPLEMENTATION		5-1
Introduction	5-1	
Public Support, Communication and Community Involvement	5-1	
Land Development and Preservation Codes and Programs	5-3	
Capital Improvements Programming	5-8	
Maintaining a Current Master Plan	5-8	
Appendix A		
CULTURAL FEATURES		A-1
Geography and Early History	A-1	
Transportation Network	A-2	
Land Use and Development	A-3	
Community Facilities and Services	A-4	
Appendix B		
ENVIRONMENTAL FEATURES		B-1
Geology and Topography	B-1	
Drainage and Water Courses	B-1	
Groundwater	B-2	
Vegetation	B-2	
Soils	B-3	
Climate	B-3	

Appendix C
DEMOGRAPHIC FEATURES.....C-1
Population Growth Trends and Projections C-1
Social and-Economic Characteristics C-2

Appendix D
INVENTORY MAPS.....D-1

FIGURES

FIGURE 3-1: Future Land Use Map, page 3-6

FIGURE C-1: Onondaga Township Population Growth, page C-1

The following inventory maps are contained in Appendix D

- FIGURE D-1: Regional Context
- FIGURE D-2: Public Roads
- FIGURE D-3: General Existing Land Use
- FIGURE D-4: Land Division
- FIGURE D-5: Principal Water Courses
- FIGURE D-6: Wetlands
- FIGURE D-7: Woodlands
- FIGURE D-8: Farmland Productivity

TABLES

	<u>page</u>
TABLE A-1: Selected Housing Characteristics, 2000	A-4
TABLE C-1: Population Trends & Growth Rates	C-2
TABLE C-2: Race, 2000	C-3
TABLE C-3: Age, 2000	C-3
TABLE C-4: Household Type, 2000	C-3
TABLE C-5: Commuting to Work, 2000	C-4
TABLE C-6: Employment by Industry, 2000	C-4
TABLE C-7: Income, 1999	C-4
TABLE C-8: Education Attainment, 2000	C-5

Chapter One OVERVIEW

Introduction

This Chapter provides an overview of the Master Plan, its role and importance, how it should be used, and the process followed in its preparation. It presents the framework for what follows by defining what the Master Plan is and what it is intended to accomplish. Understanding the fundamentals of the Onondaga Township Master Plan will enable the residents and officials of the Township to appreciate the role it plays in assuring the future welfare of the Township, its residents and its resources. Embracing this Plan as a vital tool in preserving and enhancing the public health, safety, and welfare of the Township is essential if this Plan is to be effective.

What is the Master Plan ?

Purpose

Just as individuals and families plan for their future well being, so must municipalities. Just as individuals may open savings accounts in order to purchase new farm equipment five years in the future, or develop plans for a larger home for a growing family, municipalities must look to the future and take specific actions to address the current and future needs of the community. Such actions may involve improvements to the roadway network, improvements to the level of emergency services, and the pursuit of new local employment opportunities.

The Onondaga Township Master Plan is a policy document that identifies how growth within the Township, and associated land development and public services, should be guided to best assure the future welfare of the community. The Master Plan can generally be described by the following key words and phrases:

FUTURE ORIENTED: The plan concerns itself with long-range planning to guide and manage future growth and land use. The plan is not only a picture of the community today, but a guide to how the community should evolve over the next ten to twenty years in response to growth and community aspirations.

GENERAL: The plan establishes broad principles and policies to address future growth, land use, and public services.

COMPREHENSIVE: The Plan is comprehensive in that it addresses all principal types of land use and the practical geographic boundaries of each.

A PLAN: The Plan is a specific tangible document which consists of both text and maps, a key portion of which presents and illustrates the Township's policies regarding its planned future land use pattern and delivery of public services.

DYNAMIC: The Plan is intended to be continually evolving in light of community aspirations, changing conditions in the Township, and new strategies to manage growth, land use, and public services.

The Onondaga Township Planning Commission, under the authority of the Michigan Planning Enabling Act, P.A. 33 of 2008, prepared this new Master Plan. Section 7(2) of the Act (MCL 125.3807) provides:

(2) The general purpose of a master plan is to guide and accomplish, in the planning jurisdiction and its environs, development that satisfies all of the following criteria:

(a) Is coordinated, adjusted, harmonious, efficient, and economical.

(b) Considers the character of the planning jurisdiction and its suitability for particular uses, judged in terms of such factors as trends in land and population development.

(c) Will, in accordance with present and future needs, best promote public health, safety, morals, order, convenience, prosperity, and general welfare.

(d) Includes, among other things, promotion of or adequate provision for 1 or more of the following:

- (i) *A system of transportation to lessen congestion on streets.*
- (ii) *Safety from fire and other dangers.*
- (iii) *Light and air.*
- (iv) *Healthful and convenient distribution of population.*
- (v) *Good civic design and arrangement and wise and efficient expenditure of public funds.*
- (vi) *Public utilities such as sewage disposal and water supply and other public improvements.*
- (vii) *Recreation.*
- (viii) *The use of resources in accordance with their character and adaptability.*

This Master Plan is not a law or regulatory document, but a "policy plan" to be implemented through, in part, zoning and other regulatory tools. For example, though the Master Plan is not a zoning ordinance, the Master Plan's recommendations and policies serve as a basis for updating the current Onondaga Township Zoning Ordinance. In fact, the Michigan Zoning Enabling Act, which provides Michigan municipalities with the statutory authority to adopt zoning regulations, stipulates that a municipality's zoning regulations "...shall be based upon a plan designed to promote the public health, safety, and general welfare, to encourage the use of lands in accordance with their character and adaptability, to limit the improper use of land, to conserve natural resources and energy,..." This Master Plan addresses this statutory requirement and ensures a strong legal foundation for the township's zoning regulations.

Elements of the Master Plan

In addition to this introductory chapter, the Onondaga Township Master Plan consists of five key components:

- 1) A discussion of important planning issues facing the Township today, and associated goals and objectives that address these issues (Chapter Two).
- 2) The planned future land use pattern for the Township (Chapter Three).
- 3) The planned future delivery of public services in the Township (Chapter Four).
- 4) Important tools for implementing the Master Plan (Chapter Five).
- 5) Background studies that provide a review of existing conditions and trends in the Township (Appendices).

Importance and Application of the Master Plan

The importance and application of the Onondaga Township Master Plan are reflected in both the long term interests of the Township and the day-to-day administration of the Township's planning and zoning program.

Long Term Interests

There are a number of interests shared by residents and officials of Onondaga Township today that can be expected to continue for years to come and be similarly shared by new future residents and Township officials. Some of these key interests include:

- Minimizing increased tax burdens.
- Protecting open spaces, natural resources, and rural character.
- Assuring appropriate land use and adequate services to protect the public health, safety, and welfare of residents and visitors.

The Onondaga Township Master Plan supports these long term interests by providing a future-oriented strategy which seeks to protect them. Intensive development without adequate public services to meet the demands of such development, as well as development which places excessive demands upon the Township's natural resources (on-site sewage disposal, potable water quality, etc.) can lead the Township into a future of tremendous social and environmental risks. Chapters Three and Four establish specific future land use and public services strategies to secure these and other long term interests.

Day-To-Day Administration

The Onondaga Township Master Plan plays an equally important role in the day-to-day planning and zoning efforts of the Township:

- Advisory Policies: The Plan is an official advisory policy statement which should be readily shared with existing and prospective landowners and developers to inform them of the long term intentions of the Township regarding land use and public services and, thus, more closely integrate development proposals with the policies of the Plan.
- Regulatory Programs: The Plan establishes a practical basis for the Township to revise, update, or otherwise prepare regulatory programs intended to assure that the policies of the Plan are implemented, including zoning and land division regulations.

- Review of Rezoning Requests: Chapter Two includes a list of Township goals and objectives that should be reviewed in light of future proposed rezoning requests to further establish a record upon which the rezoning request can be evaluated. Equally important, Chapters Three and Four provide policies regarding the planned future land use pattern and public services in the Township. These Chapters also provide valuable reference points upon which such rezoning requests should be evaluated.
- Public Services Improvements: The cost-effective use of Onondaga Township's tax dollars requires the identification of a planned future land use pattern in order to pinpoint future population centers in the Township and areas planned for commercial and/or industrial growth. While some areas in the Township may require future improvements to public services and infrastructure, such as roads and fire protection, population centers and commercial and industrial areas typically require higher levels of public services. This Plan provides the Township with the ability to prepare for and better pinpoint areas of future need, rather than always playing "catch-up" while the Township's health, safety, and welfare may be at risk. Chapters Three and Four are important in this regard.
- Intergovernmental Coordination: This Plan provides the basis for Onondaga Township to communicate effectively with its neighbors regarding both the impact of neighboring planning and zoning issues and opportunities for mutual gain through coordinated efforts in the areas of land use and public services.

How The Plan Was Prepared

During the mid 1990's, the Onondaga Township Board and Planning Commission grew increasingly concerned about the proper management of future growth and development in the Township, and the ability of its zoning regulations to assure the type of future Township character that its residents supported. The adequacy of the Township's 1977 Master Plan was questioned and the Township decided that an important first step to improve management of future growth and development was to prepare a new Master Plan. The Township sought the expertise and experience of a professional planner. A strategy with multiple tasks was developed to guide the Plan's preparation and the tasks followed a purposeful sequential process which took approximately one year.

The Planning Commission's initial efforts were directed at establishing a data base about the Township for use during the planning process. This involved a review of physical and cultural conditions in the Township including soils, topography, road network, existing land use patterns, public services, and demographic characteristics. A mail survey was also administered to gain insight into local attitudes on land use, development, and public services. Some of the dominant attitudes of the survey respondents included:

- maintain rural character.
- protect natural resources/farmland.
- limit residential development in agricultural areas.
- manage growth and development.
- commercial and industrial development is not a priority.
- discourage scattered commercial development.

The Planning Commission then directed its efforts at identifying important planning issues facing the community and established a set of goal and objective statements to address these issues and guide the policies of the Plan. Several alternative future land use patterns were then developed based upon the data collected to date, and the goals and objectives statements. The Planning Commission studied these alternatives and selected the most preferable. Based upon the preferred alternative, the Planning Commission assembled a complete draft of the Plan suitable for presentation to the residents of the community. The Planning Commission held a public hearing on the draft Plan on January 23, 2001 and the draft Plan was finalized and adopted by the Planning Commission on May 8, 2001.

In 2008, the Planning Commission initiated an update of the 2001 Plan. The process focused on updating the Plan's factual information such as the demographic data presented in Appendix C, introducing a stronger farmland preservation theme in Chapter Two (Planning Issues, Goals and Objectives), emphasizing in Chapter Three (Future Land Use Strategy) the critical role voluntary purchase of development rights programs can play in encouraging farmland preservation and designating a significant portion of the township for such a program, and introducing a new Chapter Five (Implementation) that presents important tools the township can exercise to implement the Master Plan including alternative means of protecting farmland resources. A draft of the new plan was assembled and a public hearing was held. The Planning Commission finalized the Plan and it was adopted by the Planning Commission on _____, 2009.

ONONDAGA TOWNSHIP MASTER PLAN
Draft: December 23, 2008

Throughout the development of the Plan, the township followed the procedural requirements of the Planning Enabling Act including notification of neighboring communities of the township's intent to update its master plan, and the township's subsequent solicitation for input from neighboring communities on the draft plan.

Chapter Two

PLANNING ISSUES, GOALS & OBJECTIVES

Introduction

A fundamental purpose of this Plan is to establish a basis for future land use and public services in the Township. Onondaga Township adopted the position that it wanted to be actively involved in guiding and shaping future growth and development and not allow the community to evolve by chance. To effectively plan for the Township's well being it is necessary to identify important planning issues facing the Township and long term goals and objectives.

Following is a presentation of these planning issues and related goals and objectives. This discussion is preceded by a brief overview of the Township to place the planning issues and goals/objectives in their proper perspective. A more detailed discussion of existing conditions in the Township can be found in the Appendices.

Onondaga Township Overview

Onondaga Township is a quiet rural community located in the southwest corner of Ingham County in the south-central region of Michigan's Lower Peninsula. The Township has the traditional six mile by six mile congressional area. Originally part of Aurelius Township, Onondaga Township was formerly established by an act of the Legislature on March 6, 1836. By 1930, its population reached 1,070 and its 2000 population was 2,958.

Regional access to Onondaga Township is provided primarily by U.S. 127 which passes two miles to the east in Leslie Township and connects Lansing to the north with Jackson to the south. However, the Township is located within 15 miles of both I-94 to the south and I-69 to the northwest. M-50, M-99 and M-188 provide additional circulation west of the Township within this triangular area.

The Township's local roadway network generally reflects the traditional section-line grid pattern which characterizes the majority of townships in Michigan. The principal east-west road is Bellevue Road in the southern half of the Township. Bellevue Road links the unincorporated village of Onondaga and Onondaga Township as a whole with the City of Leslie and U.S. 127 to the east. However, Kinneville Road is the only continuous east-west road across the Township except for Plains Road along its northern border. The principal north-south road is Onondaga Road in the western half of the Township. Onondaga Road is the only primary road that travels across the entire Township, linking the village of Onondaga with southern Lansing to the north and M-50 to the south. Only approximately five miles of public road in the Township is of a gravel surface.

The Township's topography can be generally described as level to gently rolling. Drainage is facilitated through an extensive network of water courses. The most dominant is the Grand River, flowing northwesterly through the western half of the Township. The Grand River is fed by numerous smaller drains, the most significant being the North Onondaga Drain which flows across the Township's northern periphery. The Grand River and Onondaga Drain, and the secondary drains that support them, collect the vast majority of runoff in the Township.

The Township's overall land use pattern reflects a low level of development and expansive areas of open spaces. Farmland, woodlands, and wetlands characterize the vast majority of the Township. Of the approximately 15,000 acres of farmland in the Township (approximately 64% of the Township area), more than 98% are used for crop production. The balance is devoted primarily to orchard and livestock farming. One can rarely travel more than a quarter mile without losing sight of expansive farm fields.

14% of the Township is characterized by wetlands and an additional 6% is comprised of upland woodlands. Wetlands are located throughout the

Township. The greatest continuous expanse of wetlands follows the Grand River north of Kinneville Road to Waverly Road near the VFW Home. This wetland corridor stretches more than 2 1/2 miles and covers more than 350 acres.

Approximately 4% of the Township area has been developed for residential, commercial, industrial, and/or related urban uses. Commercial services are limited and include a gas station/convenience store and several restaurants/taverns in the village of Onondaga, and several scattered businesses in the more outlying areas of the community. Except for the Eaton Rapids Gas Storage System facility in the northwest corner of the Township, industrial uses are limited to sand and gravel extraction operations. The 500 acre gas storage facility receives and stores natural gas for subsequent distribution. All gas storage occurs underground in natural formations and is stored under pressure.

Residential development comprises approximately 3% of the acreage in Onondaga Township. The 2000 Census recorded 1,034 dwelling units. All but 14 were single family dwellings and 23.4% of the single family dwellings were mobile homes. 32.9% of the dwelling units in the Township in 2000 were constructed during the previous 20 years and this is an indicator of the comparatively high rate of growth in recent years. The 2000 median value of the owner-occupied housing stock in the Township was \$110,200. Approximately two thirds of the residential development consists of low density strip residential development along existing county roads. The principal exception to this strip development pattern, and the principal area of more compact residential development where individual lots are served by a local road system, is Onondaga village. The village includes approximately 125 dwellings on lots generally between 8,700 and 18,000 square feet in area.

Onondaga Township is home to the country's only VFW National Home. The Home provides a full complement of services including housing, meals, health care, educational support, and recreation. Located along Waverly Road along the western edge of the Township, the facility covers approximately 650 acres although the developed portion of the facility covers approximately 50 acres and includes about 50 buildings.

There is no public sewer or water service in the Township. Sewage disposal is accommodated through septic fields, and solid waste collection is provided by private services. Police protection is provided by the Ingham County Sheriff's Department and the Township maintains an Onondaga Township Fire Department. The Township is served by five school districts but there are no school facilities actually located within the Township. Ingham County owns a 16

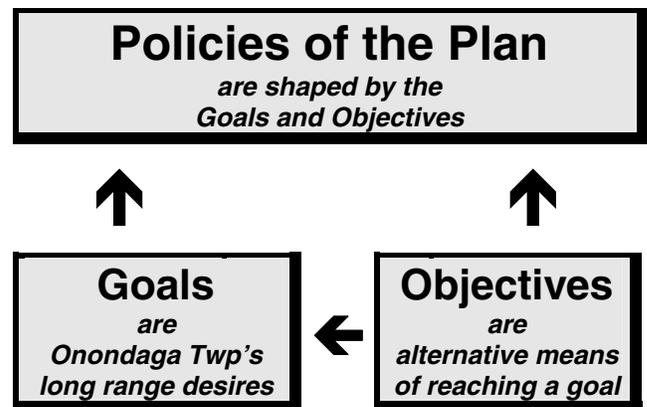
acre park along the Grand River just south of Onondaga. Natural gas service is limited to portions of Onondaga village and extends to the VFW Home.

Planning Issues, Goals & Objectives

A number of key planning issues are apparent today. These issues vary in scope but are clearly inter-related. The future quality of life and character of the Township will be largely shaped by the Township's strategy in dealing with these land use and public service issues. Each planning issue presented in this Chapter is followed by a set of goal and objective statements. Planning goals are statements that express the Township's long range desires. Each goal has accompanying objectives that are general strategies that the Township can pursue to attain the specified goal. For example, a goal of the Workhard family may be a vacation in the Upper Peninsula while two of the family's objectives may be to make additional savings deposits for the trip and visit a travel agent for suggestions and information.

The goals and objectives presented in this chapter are important for several reasons:

- The goals and objectives provide current and future residents of Onondaga Township with an overview of the intended future character of the Township.
- The goals and objectives identify and outline the basic parameters that should be used in guiding land use and public service improvements.
- The goals and objectives serve as references upon which future rezoning and land development decisions can be evaluated.



Goals, Objectives, and Policies of the Plan

The planning issues, and associated goals and objectives are divided into the following major categories:

- Growth Management and Public Services
- Community Character and Environment
- Farmland
- Residential Development
- Commercial & Industrial Development
- Roads
- Regional Coordination

The planning issues presented in the following pages are not intended to be all inclusive. They are presented as the primary issues that the community must address as it establishes a future for itself. These issues can be expected to evolve over time and, accordingly, should be reexamined periodically and modified as needed.

Growth Management and Public Services

While Onondaga Township's growth rate has varied considerably over the years, the rate has been positive during each of the past seven decades and has outpaced the County and State during the past three decades. The Township has grown from 1,070 persons in 1930 to 2,958 persons in 2000. The population grew 21% just between 1990 and 2000. It is reasonable to anticipate positive growth in the coming 20 years. The character and quality of life will be impacted by the way the Township chooses to manage future growth and development. Managed growth can minimize unnecessary loss of natural resources including farmland; preserve the Township's existing character and environmental integrity; encourage orderly land development; assure the efficient expansion of public services and expenditure of Township funds; and limit traffic hazards and nuisances.

Zoning regulations largely determine the maximum population growth potential (build-out population) of a community and the character of the development. In the case of Onondaga Township in 1999 where two acre zoning exists throughout the vast majority of the Township, the Township's build-out population approaches 20,000 persons (taking into account wetlands and future road right-of-ways). While this buildout population will surely not be witnessed in the next 20 years, the potential for excessive growth over a short or extended time period is real and hinges only on market conditions and housing demands. Such growth can have a dramatic impact upon public services, community character, natural and environmental resources, economic stability, and taxes.

Tax revenues dictate, in part, the extent and quality of public services. Even though new development can be

expected to increase the Township's tax base, the new development will place additional demands upon public services. Contrary to traditional planning wisdom and thought, recent research has shown that new development does not necessarily "pay its way," particularly as it applies to traditional single family residential development. Development patterns that minimize new public costs should be sought where practical. To this end, it is advantageous to maintain a compact form of growth and locate higher density and intensity development near or adjacent to areas currently being served with higher levels of services or anticipated to be served by services in the future. Road infrastructure is a critical consideration in this regard.

Current police and fire protection services, and the roadway network, appear to be meeting the current needs of area residents. High growth rates which may be brought on by market conditions and zoning provisions will necessitate a greater expenditure of Township funds just to maintain the current quality of public services, let alone pursue improvements.

This Plan must provide a strategy for effectively shaping and guiding future growth and development in a feasible manner, consistent with the aspirations of the Township's citizenry and the opportunities and constraints presented by its natural and cultural characteristics.

GOAL: Manage future growth and development in a cost-effective fashion to assure that it is consistent with the natural limitations of the land, the availability of existing and planned public facilities and services, the protection of the Township's natural resources and rural character, and the protection of the public health, safety and welfare.

Objectives

- 1) As part of the Master Plan, prepare a future land use strategy that identifies the most appropriate use of land resources according to geographic regions of the Township.
- 2) Update the Township's zoning regulations to implement the recommendations of the Master Plan.
- 3) Preserve the Township's natural resources through a coordinated future land use strategy and related regulations which permit reasonable use of land while discouraging unnecessary destruction or loss of natural resources.
- 4) Discourage the introduction or expansion of public sewer or water in areas not designated for such growth except where the intensity of existing development requires such services, or where the public health, safety, or welfare is at risk.

- 5) Discourage public service improvements that will have the affect of encouraging excessive growth and development, or encouraging growth and development at a rate that the Township can not assure adequate public health, safety, and welfare.
- 6) Guide development into areas where public facilities and services have adequate capacity to accommodate growth and increased development, and where the provision or expansion of public facilities is cost-effective.
- 7) Prohibit new growth and development that requires levels of public facilities and services unavailable in the Township.
- 8) Wherever legally permissible, local regulations should require new developments to pay for the direct and indirect public service costs associated with that development. These costs should not be imposed on existing residents. Exceptions should be made where public interests and benefits may be at stake.
- 9) Provide regular opportunities for substantive public input on growth and development issues facing the Township.
- 10) Review and revise zoning regulations, as applicable, to assure that permitted growth and development is coordinated with the future vision for the community.
- 11) Establish effective land development review procedures to assure new land uses are designed to minimize negative impacts upon existing uses, protect important natural resources, and assure public health, safety, and welfare.

Community Character And the Environment

Protection of Onondaga Township's rural character and natural resources is very important to its residents. "*Rural character*" is a subjective quality, but is typically associated with an overall perception of limited urban development, and open spaces comprised of farmland and/or other open landscapes including woodlands, wetlands, and fields. Not only are these elements important in shaping the character of the Township, they provide vital environmental roles including wildlife habitats, flood control, water purification, groundwater recharge, and air quality. The Township has abundant natural resources and sensitive environmental features. Preservation of these resources can be very difficult because the process of encroachment can occur slowly. Substantial damage to an entire rural region and/or ecosystem frequently occurs over a long period of time.

Establishment and protection of interconnected systems of natural/environmental areas, including wetlands, woodlands, stream corridors, and open fields will provide a diverse and viable habitat for wildlife and native plants. Zoning regulations should encourage substantive protection of the Township's natural resources and rural character where large scale residential development is permitted. Multiple lot residential developments (such as platted subdivisions) void of any semblance of the previous open spaces and natural resources that characterized the development parcel detract from the community's environmental integrity and character.

Effective protection of rural character and natural resources does not require the prohibition of growth and development. Managed growth and development encourages the continuation of the Township's overall rural character and protection of its natural resources. The preservation of rural character and natural resources in the face of growth and development is dependent upon a number of factors including:

- the density of development in important resource areas;
- land division and development patterns that do not fragment natural resource systems;
- development patterns that do not disrupt the current visual character of the Township's principal road corridors; and
- site development practices that purposely incorporate open spaces, natural resources and environmental ecosystems into the development plan.

Individual properties and land uses exist within a network of adjoining and nearby properties and land uses. This weave of uses helps to establish the Township's character. A township-wide land use pattern should strive to assure compatibility between land uses. This can be accomplished by appropriately locating new land uses, managing development densities and the rate of growth; utilizing buffer areas between uses, and reviewing site development proposals to minimize land use and vehicular conflicts.

GOAL: *Preserve the dominant rural character of Onondaga Township and its environmental resources and integrity.*

Objectives

- 1) Assure that future land development be designed in scale with existing developed areas, and respect existing surroundings and the Township's dominant rural character, through reasonable standards addressing density, building size, height, and other development features.

- 2) Encourage land development that actively strives to preserve open spaces as part of a development project by incorporating on-site woodlands, wetlands, lakes, and fields and by the use of such tools as conservation easements, land trusts, and density bonuses.
- 3) Encourage the maintenance of historically significant structures and a structurally sound housing stock, and the rehabilitation or removal of blighted structures and yard areas.
- 4) Separate incompatible land uses by distance, natural features, and/or man-made landscape buffers that screen or mitigates adverse impacts.
- 5) Assure new development does not unreasonably create increases in air, noise, land, and water pollution, or the degradation of land and water resource environments including groundwater.
- 6) Development densities and intensities in environmentally important and/or sensitive areas such as wetlands and floodplains should be limited and all development should be in compliance with applicable local, county, state, and federal regulations.
- 7) Review proposed development in light of its potential impact upon groundwater resources, wetlands, woodlands, and other natural resource areas.
- 8) Encourage enrollment in the Farmland and Open Space Protection Program as a means of protecting important natural resource areas.
- 9) Educate the public about waste management and the Township's fundamental reliance upon groundwater resources for potable water and the detrimental effects of irresponsible land use and development practices.

Farmland

Onondaga Township has, historically, been a strong farming community and the community supports the continuation of its agricultural heritage. Today, approximately two thirds of the acreage in the Township is devoted to agricultural use. However it is important to note that the number of farms in the Township has declined over the years as has the total acreage devoted to farming. Farming is declining throughout Michigan. Factors encouraging disinvestment in farming include the economic environment and the fewer younger people interested in continuing in their parents' footsteps. Permitting comparatively high levels of residential development in a community's agricultural areas encourages encroachment upon farmlands and consumption of farmland acreage, increased conflicts between farm and non-farm residents, and higher property assessment values. All of these and other factors impinge on the long term economic viability of the local farming industry.

On the other hand, there are numerous conditions that support the continuation of farming in the Township. Much of Onondaga Township farmland is considered to be "prime" by the Natural Resources Conservation Service and continues to be characterized by comparatively large farm parcels. The Township's farmland resources provide important food and fiber to both local and regional populations, are an important source of income, and contribute to the stability of the local economy. The state's economic stability is directly linked to agriculture – it being the second largest industry in the state.

State legislation intended to increase the profitability of farming and create a more supportive environment for the industry is regularly debated, and has resulted in key tools such as the Open Space Preservation Act and the more recent purchase of development rights (PDR) programs. PDR enables a farmer to sell the farm's development rights to a governmental or other non-profit entity in return for a conservation easement placed on the farm. While such a program may not be viable under the sole authority and administration of Onondaga Township, the viability increases dramatically when administered on a county or greater regional/state level. The viability for such a program for Onondaga Township farmers increased significantly in 2008 when Ingham County voters approved a millage for such a program. Many local farmers in Onondaga Township view such a program as the best solution for farmland preservation since it allows the farmer to capture the development potential of their farmland without the need to actually develop the land, and without obstacles to the continuation of their farm operation. Both of these voluntary programs are described in more detail in Chapter Five.

Significantly, published studies completed during the past ten years, both in Michigan and throughout the country, have consistently demonstrated agricultural land generates more revenue than its corresponding municipal operating costs. Traditional single family residential development, on the other hand, has been consistently identified as generating less revenue than the cost to provide services.

Effective farmland preservation is dependent, in part, upon the management of both the number and size of new non-farm parcels. Excessive residential encroachment undermines the viability of farming as does fewer homes on wasteful ten acre parcels. The significant acreage still under agricultural use, comparatively large parcel sizes, and only moderate amounts of residential encroachment makes preservation of farmland resources and agriculture possible in Onondaga Township. The Plan should actively encourage the continuation of farming operations and the long term protection of farmland resources.

GOAL: *Actively encourage the continuation of local farming operations and the long-term protection of farmland resources.*

Objectives

- 1) Designate areas that support long term farming and encourage the continuation of agricultural operations through complimentary zoning provisions.
- 2) Minimize nuisance problems (destruction of crops, complaints about legitimate day-to-day farming operations, etc.) in designated agricultural areas by limiting the encroachment of incompatible land uses.
- 3) Limit the amount of non-farm residential development permitted in designated agricultural areas and, to the extent such development does occur, discourage large acreage lots that unnecessarily consume and accelerate the loss of farmland acreage.
- 4) To the extent that residential development occurs in agricultural areas, encourage such development to be placed on less productive farmland.
- 5) Encourage new development to minimize disturbances to, and the premature destruction of, farmland areas through responsible land division and site planning.
- 6) Support P.A. 116 farmland preservation agreements.
- 7) Support voluntary Purchase of Development Rights (PDR) programs administered at the county or other regional level.

Residential Development

Residential development will be the major land use change in the coming ten to twenty years. Onondaga Township is an attractive place to live for many prospective residents. The Township has abundant open spaces and an overall rural character, and is in close proximity to major employment centers, commercial centers, and regional highways. Principal limitations are largely related to environmentally sensitive areas, the ability of area soils to accommodate septic drain fields, the limited public services and the ability of the Township to meet the demands of increased residential development, and farmland preservation interests.

In support of farmland resource protection and minimizing public service costs, development densities should be linked to the natural and cultural conditions in the various areas of the Township, including soils, road infrastructure, and farmland resources. Wasteful destruction and consumption of farmland acreage should be discouraged.

Identifying residential nodes in the Township, and identifying appropriate development densities for the

various regions of the Township, should be compatible with the Township's desire and ability to expand public services and provide the necessary services to assure continued health, safety and welfare.

The average population projection for Onondaga Township in year 2020, based upon the several projection techniques presented in Appendix C (Population Growth Trends and Projections), is 3,374 persons. This growth represents an approximately 11% increase in population every ten years. Based upon a typical household size of 2.8 persons and average lot sizes ranging between one to three acres, the total acreage necessary to accommodate the additional 930 persons and 320 dwellings by year 2020 is only approximately 550 acres. However, as few as 75 dwellings on parcels of five to ten acres in size can consume this same acreage.

Unnecessarily large residential lots, such as five to ten acres or more in size, can dramatically accelerate the rate at which farmland and other undeveloped lands are converted to residential use. When these lot splits occur throughout the Township, one by one, the cumulative impact can be devastating. On the other hand, traditional one or two acre zoning across the entire Township provides for an excessive build-out population with dramatic impacts on farming, community character, taxes, and public services demands. Even 320 dwelling units on small parcels of one acre in size, inappropriately located, can undermine the long term economic viability of local farming operations.

While rural residential lifestyles are readily available in the Township, opportunities for more suburban and urban residential lifestyles face challenges. Such development frequently requires heightened levels of public services. The Township has no public sewer or water and does not benefit from proximity to an urban center from which such services could be extended. Establishing suburban and urban residential development areas can be very important as part of the Township's efforts to provide varied housing opportunities for current and future residents and limit the extent of residential encroachment into agricultural areas. Further, public studies during the past 10 years have consistently documented that multiple family development, unlike low density residential development, generally generates more municipal revenue than the cost to provide it with services.

GOAL: Accommodate new residential development in a manner which recognizes the opportunities and constraints of the Township's public services, infrastructure, and natural features; preserves the overall rural character of the Township and its farmland resources; and accommodates a range of densities and lifestyles.

Objectives:

- 1) Encourage the continued dominance of low density housing as the principal housing option in the Township and identify land areas, through planning and zoning, most appropriate for such housing.
- 2) Provide opportunities for low density residential development that allows both small and large lot sizes provided the recommended maximum development density for the project site is not exceeded. For example, a 40 acre parcel divided into three 1-acre lots and one 37-acre parcel yields a development density of one dwelling per 10 acres.
- 3) Identify limited areas in the Township where higher density residential development, including multiple family development, can be adequately accommodated. Priority should be given to locations that have, or will have, greater access to improved thoroughfares and necessary public services.
- 4) Land capacity should be an important consideration when determining appropriate development densities, and development densities should not undermine important environmental features.
- 5) Discourage strip residential development along the frontage of existing county roads to minimize traffic safety hazards and the "land-locking" of interior acreage, and encourage rural character protection.
- 6) Encourage innovative residential development that incorporates the preservation of natural resource systems and open spaces, and the preservation of the Township's rural character within the site planning process. One such initiative, where multiple lots or dwelling units are created, should include the development of only a portion of the original parcel and placing the balance of the parcel in a long term open space status.
- 7) Prohibit residential development densities in areas where public services and/or natural conditions are inadequate to support the proposed density.

Roads

As new residential and non-residential land uses are introduced into the Township, demands upon the roadway network will increase. Even low density residential development can significantly increase local traffic. This increased traffic may diminish the level of service along some of the Township's roads. Residents appear to be reasonably comfortable with current road conditions. It is important that roads are adequately maintained and improvements are coordinated with the planned future land use pattern and designated growth and development areas. Conversely, it must be recognized that road improvements may well attract new development which, in turn, will place additional demands on the roadway network.

Opportunities for successfully accommodating growth and development are heightened by the Township's improved thoroughfares and appropriate land use management can maximize their potential. The extent to which higher density and intensity land uses, including commercial and industrial, are in comparatively close proximity to key thoroughfares will minimize future maintenance costs and traffic levels along the Township's secondary roads. To this extent, Onondaga, Bellevue, and other principal roads should be carefully considered in an effort to identify a practical and beneficial future land use pattern for the community. On the other hand, the functioning of these important corridors should not be undermined by development patterns along their frontage that unnecessarily heighten congestion and traffic hazards.

The future pattern of residential lot splits and subdivisions within Onondaga Township will have an important impact upon the future quality of life within the Township. Much of the residential development in the Township today is of a strip pattern -- residences are "stripped" along the existing county road frontages. This pattern of lot splits can be debilitating to Onondaga Township because: 1) the increased number of driveways directly accessing the county roads increases the level of congestion and safety hazards along these corridors; 2) travel times are increased; and 3) the Township's previously rich rural panoramic views of woodlands, fields, and other open spaces, as seen from the roadway, are reduced to images of driveways, cars, garages, and front yards. Zoning regulations that encourage this development pattern negatively impact the effectiveness and character of the Township's roadway network.

While minimum lot width standards for zoning purposes are frequently established solely as a function of the required minimum lot area and are frequently in the range of 100 to 150 feet for lots of one to two acres in size, engineering standards suggest minimum driveway spacing far greater than these

distances to assure traffic safety. For example, according to the American Association of State Highway and Transportation Officials, safe stopping distances for roads with posted speeds of 50 miles per hour are 400 feet or more.

GOAL: *Maintain a transportation network throughout the Township which moves vehicular traffic in an efficient and safe fashion, utilizes road segments specifically designed to accommodate higher traffic flows where higher traffic levels are being generated, and is coordinated with the planned future land use pattern.*

Objectives

- 1) Identify priority road segments for maintenance and improvement based upon the planned future land use strategy and existing and projected traffic patterns, and systematically undertake these projects.
- 2) Discourage high traffic generating land uses and development patterns along the Township's secondary roads until such roads have been improved to accommodate such development.
- 3) Adopt land use and/or other regulations which minimize the potential for traffic congestion and safety hazards along adjacent roadways, including limitations on the number, size, and shape of new land divisions along county roads and the discouragement of "strip" development.
- 4) Discourage the paving of gravel roads in designated agricultural and low density residential areas.
- 5) Road improvements that will heighten growth and development pressures in areas of the Township not specified for such growth should be discouraged.

Commercial and Industrial Development

Onondaga Township has approximately seven commercial facilities located in the village of Onondaga and two additional facilities in the northeast quarter of the Township. Industrial development is limited to several sand and gravel extraction operations and the Eaton Rapids Gas Storage System facility.

Constraints on future commercial and industrial development include the lack of public sewer and water, a comparatively small population base, lack of strong public support, and competition from nearby urban centers including Leslie, Mason, Lansing, and Jackson. Perhaps the principal opportunities for new commercial and industrial development are those presented by a growing population base, improved road infrastructure in certain areas of the Township, and the existing urban character of the village of

Onondaga. It must be recognized that, like higher density housing, commercial and industrial development generally have positive impacts on a community's economic stability.

Ultimately, the viability of future commercial and industrial development within a community is directly linked, in part, to access and visibility. In this regard, Onondaga, Bellevue and similar paved primary roads should be carefully considered in the location of future commercial and industrial growth. However, the Township's road network, limited public services and population base, and overall geographic and rural setting do not support the introduction of large scale commercial developments that generate excessive traffic levels and draw from more regional populations.

The lack of extensive public services and infrastructure need not prohibit the introduction of future industrial operations that are geared more to the assembly of pre-manufactured materials rather than manufacturing operations relying upon raw materials. These "light" industrial uses, and commercial development, could improve the economic stability of the Township through increased tax revenues and employment opportunities.

To the extent that Onondaga Township accommodates future commercial or industrial development, such development should be compatible with available public services and facilities, including police protection and road infrastructure; and minimize negative impacts upon the enjoyment and use of nearby lands.

GOAL: *Provide opportunities for limited expansion of commercial and industrial uses that minimize negative impacts upon adjacent land uses, respond to the predominant rural character of the community, and are compatible with available public services and infrastructure.*

Objectives

- 1) Identify locations in the Township, through planning and zoning, considered appropriate for commercial and industrial land uses, taking into account the constraints and opportunities presented by the Township's natural features, such as topography and soils, and the availability of public facilities and services, including road infrastructure.
- 2) Recognize the importance of the Township's paved primary thoroughfares as potential opportunities for the location of new commercial and industrial uses.

- 3) Assure future commercial and industrial uses are in scale with surrounding land uses, including such features as building size and height, setbacks, and open space areas.
- 4) Discourage future commercial and industrial land uses from indiscriminately encroaching into residential and agricultural areas but rather be clustered in appropriately identified locations.
- 5) Encourage consolidated commercial nodes rather than strip commercial development patterns that undermine highway safety and the Township's rural character.
- 6) Provide opportunities for commercial uses that primarily target local day-to-day consumer needs rather than the consumer needs of more regional populations.
- 7) Require landscaping and screening measures to assure commercial and industrial uses do not adversely impact the normal use and enjoyment of adjoining land uses.
- 8) Limit industrial uses to those which are predominately characterized by assembly activities and similar "light" operations that minimize demands on public services and negative impacts upon surrounding land uses and the community as a whole.
- 9) Provide opportunities for home-based occupations within residential areas under conditions which will support the residential character, appearance, and quality of life experienced by surrounding residential properties and neighborhoods.

GOAL: *Guide future development in a manner which recognizes the position of Onondaga Township within the larger region and the effects of Onondaga Township's planning efforts and those of neighboring communities.*

Objectives

- 1) Where practical, identify a planned future land use pattern that seeks to assure compatibility among land uses along municipal borders.
- 2) Work with neighboring communities to coordinate land use planning efforts and minimize the potential for land use conflicts.
- 3) Develop a meaningful communication program with area municipalities and county agencies to discuss contemporary planning issues, local and area-wide public facilities and services needs, alternative strategies for mutually improving local public services, and land use conditions, trends, and planning strategies.

Regional Coordination

Onondaga Township exists within a regional network of communities, none of which are islands unto themselves. Eight other townships surround the Township and both Eaton Rapids and Leslie are within several miles. All can greatly benefit by cooperatively pursuing common goals in the areas of land use and public services. The four principal abutting Townships of Aurelius, Leslie, Tompkins, and Hamlin are similar in character to Onondaga. Most areas of these communities are devoted to agriculture and low density residential uses. This is particularly true of the land immediately abutting Onondaga Township. Land use planning efforts of the Township should seek to establish a land use pattern compatible with surrounding conditions provided the goals of the Township are not undermined.

Chapter Three

FUTURE LAND USE

STRATEGY

Introduction

Onondaga Township's principal planning components are embodied in the Master Plan's Future Land Use Strategy, as discussed in this Chapter, and the Public Services Strategy discussed in Chapter 4. The Future Land Use Strategy identifies the desired pattern of land use and development throughout the township. The Public Services Strategy presents policies regarding future infrastructure and public services improvements to better assure that future public services are coordinated with the planned future land use pattern, and the achievement of the Plan's goals and objectives.

The Future Land Use Strategy consists of policies regarding future land use and development in the township. Implementation of these policies rests with the regulatory tools of the township – most importantly the Onondaga Township Zoning Ordinance. The Onondaga Township Zoning Ordinance will be the primary implementation tool through appropriate changes in the provisions of the Ordinance. The township's Zoning Ordinance generally regulates the type, location, bulk, and intensity of land development throughout the township.

The township may also adopt other supporting regulatory tools to further the implementation of the policies of the Master Plan. Land division and private road regulations are very important as a means to further implement the Master Plan and the Future Land Use Strategy presented within. Land division regulations can assure efficient land division patterns, the avoidance of non-buildable lots, and adequate public access to public roads. Private road regulations can provide opportunities for road circulation networks restricted from general public use, in response to the local housing market. At the same time, these regulations assure such roads are built to minimum public health, safety, and welfare standards and are so maintained. Related ordinances and a capital improvement program, may, from time to time, be adopted or amended to carry out this Plan.

Overview of the Future Land Use Strategy

The Future Land Use Strategy establishes the planned future land use pattern throughout the township for the next 10 to 20 years. The Future Land Use Strategy calls for a land use pattern characterized predominantly by agricultural and low-density residential development, and natural open spaces including woodlands and wetlands. Opportunities for new higher density residential development are primarily limited to unincorporated Onondaga village and surrounding areas, including along certain segments of Bellevue Road and Onondaga Road. Future commercial and industrial development is generally limited to the Onondaga village area. However, no new land uses should be established, or land rezoned, unless adequate public facilities and services are available to meet the needs of the proposed uses and such development does not outpace the township's ability to effectively manage the rate of development and assure public health, safety, and welfare.

The goals and objectives presented in Chapter 2 are the foundation on which the Future Land Use Strategy is based, including:

- Environmental protection and the conservation of natural resources, including preservation of woodlands, wetlands, and streams.
- Provide opportunities for a variety of new land uses, including residential, commercial, and industrial, in a purposeful and carefully managed manner.
- Rural character preservation.
- Encourage the preservation of agricultural resources.
- Minimize public service costs.
- Insure compatibility between land uses.

The future land use pattern was established based upon an analysis of the township's natural and cultural characteristics including community attitudes,

existing roadway network, soil conditions, existing and nearby public infrastructure, and environmentally sensitive areas. The opportunities and constraints presented by these characteristics were evaluated within the context of the goals and objectives in Chapter 2 to arrive at a planned future land use pattern.

It is a basic tenet of the Future Land Use Strategy that wetland areas be preserved and protected from the negative impacts of land development. Wetlands present severe physical limitations to development and provide important environmental benefits including habitats for wildlife, flood control, groundwater recharge and discharge, and surface water purification. In addition, they provide special opportunities for passive recreation and contribute to the overall rural character of the township. Irrespective of their location within the township, wetlands should be predominantly limited to open-space and natural resource based uses, such as agriculture and wildlife management. Alteration of or disturbance of wetland environments for residential, commercial or industrial uses is strongly discouraged.

Land Use Areas

The Future land Use Strategy divides the township into three "areas" and identifies the predominant land use pattern planned for each. These land use areas collectively formulate the planned future land use pattern in the township and consist of the following:

- Agricultural Preservation Area
- Suburban Residential Area
- Mixed-Use Onondaga Village Area

It is not the intent of this Plan to identify each individual land use that should be permitted in each of these Areas. This Plan makes broad-based recommendations regarding the dominant land use(s) to be accommodated in each of the three Areas. Specific permitted land uses will be determined by the zoning provisions of the township, based upon considerations of compatibility. There may be certain existing land uses which do not fit in with the planned future land use pattern for the area in which they are located. This should not be necessarily interpreted as a lack of Township support for the continuation of such uses. Updates to the township's zoning ordinance will specify the full scope of uses permitted within each zoning district.

The approximate limits of these three Areas are illustrated in the Future Land Use Map at the end of this Chapter.

Agricultural Preservation Area

The Agricultural Preservation Area includes the vast majority of land in the Township and most of the current farms. The intent of the Agricultural Preservation Area is to provide opportunities for farming and encourage the preservation of farmland resources and the long-term viability of local farming, while also providing opportunities for low-density residential development that preserves the community's overall rural character, natural resources, and open spaces. This Area is established in recognition of the importance of agriculture and the need to encourage the preservation of farmland resources and viable farming operations. Agriculture and low-density residential development are intended to be the primary uses of land in this Area.

This Plan recognizes that farming plays an important role in the history and character of Onondaga Township, contributes important food and fiber to local and regional populations, encourages economic stability, and is an important source of income. The Agricultural Preservation Area encourages the continuation of all current farming activities as well as the introduction of new farming activities. All typical farming activities, including the raising of crops, the use of stables, silos, and barns are encouraged provided that they meet Department of Agriculture requirements for *"generally accepted agricultural land management practices."* In light of the Township's interest in maintaining the quality of life for existing households, reasonable care should be exercised in accommodating specialized agricultural operations that may have heightened impacts on surrounding land uses (such as large concentrated livestock operations).

Lands in the Agricultural Preservation Area are largely characterized by conditions that support their long term agricultural economic viability including: 1) classification by the U.S. Department of Agriculture as "prime farmland," 2) minimum parcel sizes approaching 40 acres or more; 3) limited encroachment by non-agricultural land uses; 4) enrollment in the P.A. 116 Farmland and Open Space Protection Program; and 5) adjacency to other farmland parcels considered to offer similar opportunities for long term economically viable farming operations.

An important component of the Agricultural Preservation Area is its support for and the availability of a purchase of development rights (PDR) program. PDR programs enable a landowner to voluntarily sell the development rights of a farm parcel to a governmental or other non-profit entity in return for the placing of an easement on the land prohibiting future non-farm development. PDR programs permit landowners the opportunity to realize the development value of their land without having to actually develop it. PDR results in the long-term preservation of farm-

land resources while also enabling the landowner to capture the development value of the farm.

The intended low density development in the Agricultural Preservation Area is supported by a number of factors including the lack of public sewer and water, poor soil conditions for septic systems, interest in farmland preservation and minimizing land use conflicts between agricultural operations and neighboring land uses, and the public's interest in protecting the natural resources and rural character of the township.

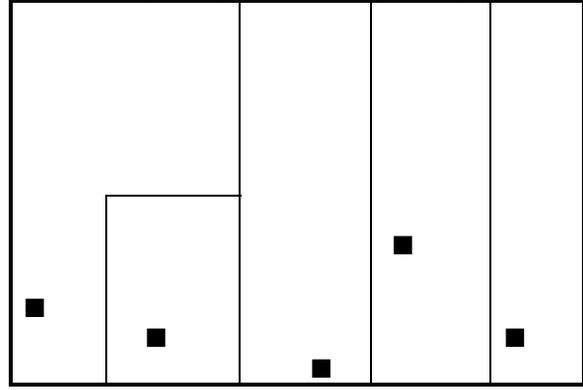
Maximum development densities of approximately one dwelling per two to five acres are recommended. This higher development density (approximately one dwelling per two acres) should be made available to landowners who pursue special development measures aimed at protecting the integrity of the township's roadway network, rural character, and farmland and/or other natural resources. Key measures should include "clustering" and the use of interior roads.

- "Clustering" is the creation of new building lots limited to one or several portions of the project parcel, and designation of the balance and the remaining portion of the parcel as open space by way of conservation easements, deed restrictions, or similar tools.
- Interior roads allow for the creation of new building lots that gain access by way of a new road into the interior of the development project, rather than such lots having direct access to the existing county road network in a strip development manner.

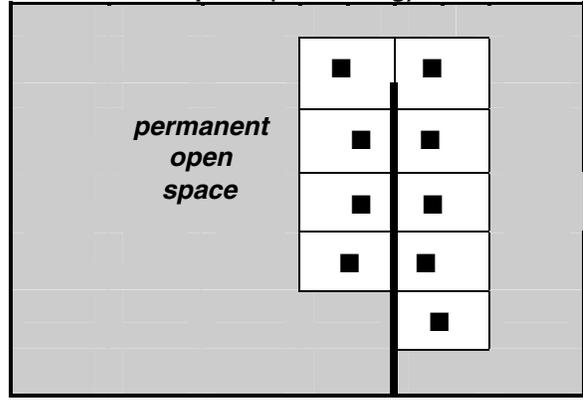
More traditional strip residential development along the township's major roads is illustrated in Example A. This is the easiest form of development but it impacts public safety due to the many driveways directly abutting the major roads and can significantly undermine the rural character of the township. Example B, illustrating the use of clustering, improves public safety along the road and more effectively preserves the existing character of the community.

While an overall low level of development is proposed for the Agricultural Preservation Area, this policy should not be interpreted as a proposal for large lot zoning (such as 5-acre parcels) across the township. This form of development undermines the township's rural character and the economic stability of farm operations, heightens the rate at which farmland is converted to alternative uses, encourages the destruction of ecosystems and natural resources, and is not an efficient use of the township's land resources.

Example A (Strip Development)



Example B (Clustering)



New residents in this Area should recognize that the traditional smells, noises, pesticide applications, and generally recognized agricultural activities associated with farming may continue on a long-term basis. The township does not consider such activities and operations as nuisances. Rather, the township supports the long-term continuation of farming in the township. Local developers and real estate agents should disclose this information to prospective buyers of land in the Agricultural - Rural Residential Area.

Suburban Residential Area

The Suburban Residential Area provides for residential development of a more suburban character than planned elsewhere in the township. This Area includes both existing residential development of a suburban character as well as vacant land where new residential development of similar character is considered appropriate.

The Suburban Residential Area extends outward from Onondaga village and, in particular, eastward along Bellevue Road, northward along Onondaga Road, and westward along Kinneville Road,. This area has

been identified to accommodate residential development at densities greater than the Agricultural Preservation Area due to, in part; 1) the provided access provided by these primary thoroughfares, including M-188; 2) the presence of existing suburban development in portions of this Area; 3) existing land division patterns that undermine farming viability; and 4) improved access to fire protection services.

Strip residential development along these county primary roads is strongly discouraged because of concerns for public safety, congestion, and rural character protection. The adoption of lot width or other zoning standards to protect the integrity of these road corridors is recommended. As discussed under "Agricultural Preservation Area," development projects that exhibit special measures (such as clustering and the use of interior roads) aimed at protecting the integrity of the township's roadway network, rural character, and natural resources should be encouraged.

Development densities of approximately one dwelling unit per one-half to one acre are considered appropriate in the Suburban Residential Area provided adequate potable water and on-site sewage disposal exists. Higher densities are considered reasonable only where public sewer is provided. Development densities approaching four or more dwellings per acre, including multiple family dwellings and mobile home parks, may be reasonable uses within the Suburban Residential Area but only after special review proceedings to determine if the project is appropriate on the specifically proposed property. Factors such as available infrastructure and public services, the surrounding land use pattern, and the specific characteristics of the property should be considered. Special concern should be directed at assuring that such higher development density projects do not result in substantial increases in traffic flow through Onondaga village during commuting periods of the day or otherwise undermine the existing and desired *small-town* character of the village.

Mixed-Use Onondaga Village Area

The unincorporated village of Onondaga currently exhibits a mixed-use character including commercial and residential development, and several public facilities. The village is the township's primary activity center and its continuation of this role is supported by the presence of several county primary roads, convenient fire protection services, an existing population base, its central location within the overall planned residential growth area, and an existing business district. The Plan recommends that the village area continue to provide opportunities for a mixture of village uses with an emphasis on residential development and the preservation of its existing small-town character.

Residential Development: Existing development densities in the village generally range from approximately two to four dwelling units per acre. Future development of similar density is considered reasonable provided public sewer is available. However, in light of the difficult traffic flow through the village and the desire to preserve the village's existing small-town character, large high-density residential development projects in the village are discouraged. In the absence of public sewer, new residential development should be limited to densities no greater than one dwelling per one-half acre. In all cases, development projects should be reviewed very closely to determine whether the proposed development density is appropriate on the particular development parcel in regard to on-site and surrounding conditions, including existing land use patterns, access, and traffic flow. To maintain a compact development pattern in the village, future residential expansion of the intensity described above should not extend more than approximately one-half mile from the village's commercial center until such time where it is demonstrated that a greater land area is necessary and appropriate.

Commercial Development: The Plan recommends that the village continue to serve as the commercial center of the township. New commercial development should be located in a compact manner in the village area and not extend more than one-quarter to one-half mile from the Onondaga/Old Plank Roads intersection. However, special care should be exercised to assure commercial expansion does not undermine the essential residential character and quality of life of nearby residences and neighborhoods. The Plan further recommends that, due to the lack of improved regional access to the village, the existing land use pattern, and the public interest in preserving the small-town character of the village, future commercial development should be oriented toward the local population base and be of such design and scale to support the village's existing character. Commercial uses which draw from a regional market area and generate comparatively high traffic levels are not considered appropriate.

Industrial Development: The Mixed-Use Onondaga Village Area is also identified as the future industrial node of the township. Industrial uses are to be accommodated west of the downtown village area near the Bellevue/Plank Roads intersection. This location is in close proximity to the village's central area, including fire protection services, yet is still of such distance to minimize land use conflicts. Industrial development should be of a light character in light of the current lack of public sewer and water and the inappropriateness of heavy truck traffic through the village. As with new commercial development, future industrial development should be of such design and

scale to support the village's existing character and the stability of nearby residences and neighborhoods.

The Plan supports the investigation of the extension of Bellevue Road west of Onondaga Road. Such an extension would improve traffic circulation in and around the village, provide increased opportunities for commercial and industrial development, and facilitate a more orderly development pattern. Should such an extension occur, the Plan recommends that the extension closest to Onondaga Road be reserved for new commercial development. The western end (near Old Plank Road) should be reserved for industrial use if there is an apparent need. The extension of Bellevue Road to Old Plank Road will require the crossing of the Grand River and wetland areas. Accordingly, such a project should be considered very carefully. In the event such a crossing is not deemed practical or desirable, the extension of Bellevue Road up to the river may still provide new and innovative opportunities for an expanded village business district.

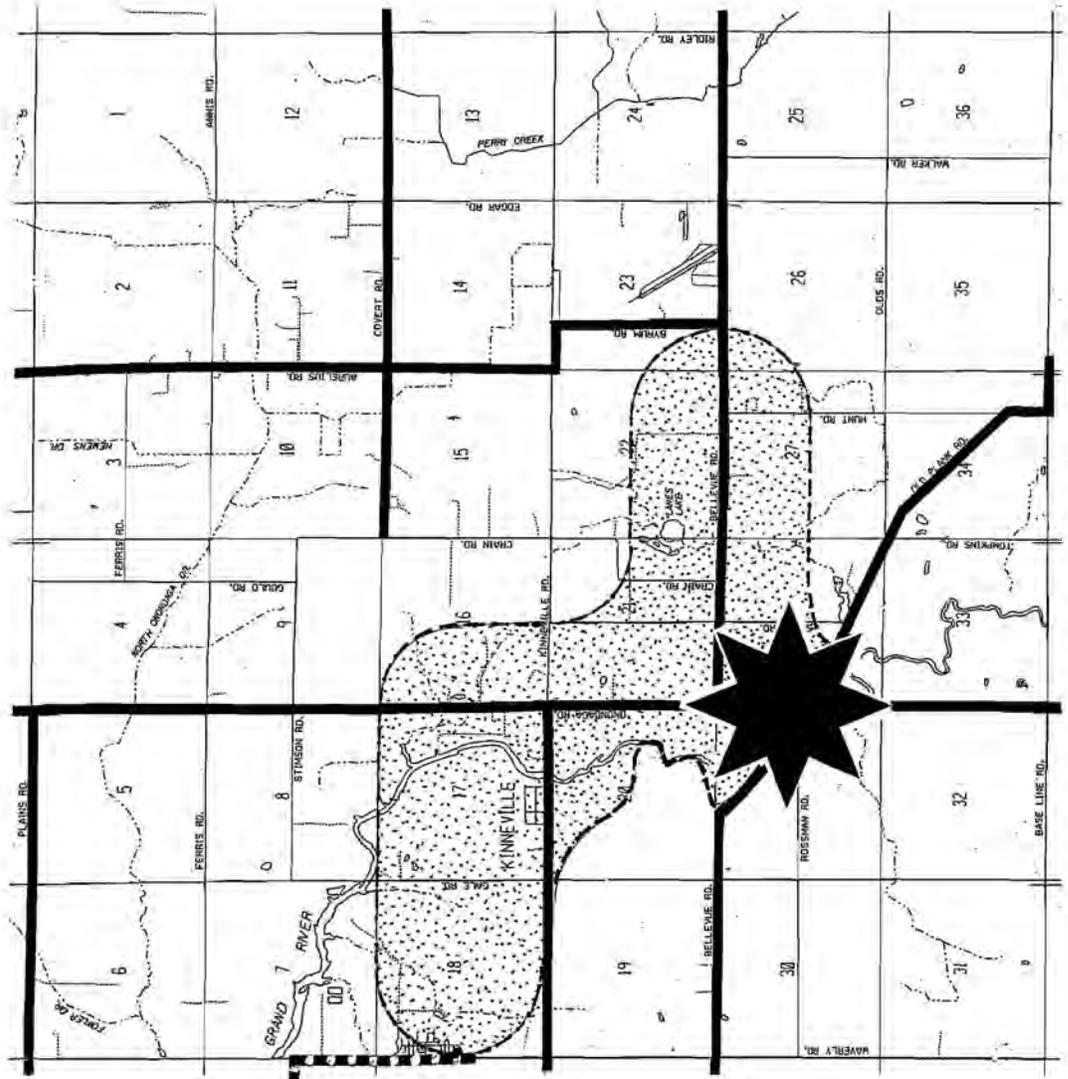
Due to the existing and proposed mixed-use character of the village, all new proposed development should be examined very carefully to determine its appropriateness in light of abutting land uses; traffic patterns, on-site conditions, and related issues. Special attention should be directed at employing measures to minimize conflicts between differing land uses. New commercial and industrial uses that are adjacent to residentially used property should be permitted only where adequate buffer yards and screening are provided to minimize negative impacts. Limitations on signage, building heights, size, bulk, and related architectural qualities should be established to better assure compatibility of new land uses with the desired character of the surrounding areas.

Phased Zoning

This Plan does not recommend the rezoning of vacant land to a more intensive zoning district except in a phased or incremental manner. For example, while the Plan may identify township areas that may be appropriate to accommodate commercial or higher density residential development, the Plan does not recommend "across the board" or immediate rezoning of such vacant land. The Plan recommends that rezoning to more intensive districts occur incrementally over time to assure the township is capable of meeting increased public service demands, managing township-wide growth and development, adequately reviewing rezoning requests as they apply to the specific subject property, assuring rezonings are in response to a demonstrated need, and minimizing unnecessary hardships upon the landowner of the property as a result of property assessments and/or resulting nonconforming uses and structures.

**ONONDAGA TOWNSHIP
 MASTER PLAN**
 Draft: 8-8-08

Figure 3-1: FUTURE LAND USE



Approx. Scale in Feet: 3,200

LEGEND

-  Agricultural Preservation Area (PDR Eligible)
-  Suburban Residential Area
-  Mixed-Use Onondaga Village Area
-  State Highway
-  County Primary
-  County Local

See Chapter Three for description of each Area

Chapter Four

PUBLIC SERVICES STRATEGY

Introduction

The Future Land Use Strategy discussed in Chapter Three describes the planned pattern of land use throughout the township. The Public Services Strategy consists of policies regarding improvements to the township's delivery of individual public services. These policies formulate the manner by which, and conditions upon which, future public service improvements are to be made. Public services and related infrastructure include sewage disposal and potable water, roads and highways, police and fire protection, recreation, and general government services. As the character and feasibility of land development is directly influenced by the extent to which public services are available, the Public Services Strategy works hand-in-hand with the Future Land Use Strategy and is a critical element of the township's efforts to manage and guide future growth and development.

An important principle of the Public Services Strategy is that no new development should occur in the township unless public services are adequate to meet the needs of that new development.

The Public Services Strategy calls for a future public services pattern not very different from the current pattern. It is proposed that most of the township receive limited expansion of public services. Most expansion is proposed to occur near Onondaga village and surrounding areas.

Individual Public Service Components

Roadway Network

Issues: As new residential and non-residential land uses are introduced in the township, demands upon the roadway network will increase. The additional residential development anticipated in this Plan, despite its overall low density, will result in higher traffic levels. This increased traffic may lessen the level of service along some of the township's roads. Con-

versely, it must be recognized that road improvements may well attract new development which, in turn, will place additional demands on the roadway network. The Public Services Strategy seeks to assure that the township's roads are adequately maintained, and improvements are coordinated with the planned future land use pattern and the designated growth and development areas.

The township's roadway infrastructure currently fulfills its function fairly well. This is due, in large part, to the existing low development density throughout most of the township and the paved surfaces of nearly all road segments. However, traffic circulation within Onondaga village can be congested due to the necessity to go through the village to maintain east-west movement along Bellevue Road. This condition can be expected to worsen as the community continues to grow.

Policies:

- 1) Greatest priority for road improvements will be assigned to those road segments whose current conditions present imminent danger to the public health and safety. Such dangerous conditions include roadway impasses and flooding.
- 2) Functional classification of roads will dictate the priority of improvements when all other conditions are generally equal. The functional importance of the roads in the township, from highest to lowest, is as follows: 1) county primary roads, particularly those segments servicing the Future Land Use Strategy's Suburban Residential or Mixed-Use Onondaga Village Area; 2) county local roads, particularly those segments servicing the Future Land Use Strategy's Suburban Residential or Mixed-Use Onondaga Village Areas, but excluding roads in a platted subdivision or similar neighborhood developments; and 3) minor roads, such as local neighborhood roads in platted subdivisions.
- 3) The extension of Bellevue Road west of Onondaga Road should be investigated to determine the feasibility and approximate costs of crossing

the Grand River and associated wetlands. Such an extension could improve existing and future traffic flow through the village without undermining the economic stability of the village's business district, and expand commercial development opportunities.

infrastructure, should occur in a phased and incremental manner so that an overly large geographic area will not be intensely developed at a rate beyond the township's ability to effectively manage the rate of growth and development.

Sewage Disposal and Potable Water

Issues: There is no public sewer or water service in Onondaga Township. Residents rely upon private wells and septic systems for potable water and sewage disposal. Improperly operating septic systems can contaminate potable groundwater resources, lakes and streams. This poses a public health threat. As land development densities increase, so does the need for public sewer and water. Industrial, commercial, and higher density residential land uses generally have greater sewage disposal and potable water needs than can often be met by traditional on-site facilities. Failure to provide adequate sewer and water facilities to these land uses can lead to severe health and environmental problems, while the premature provision of these services can lead to accelerated and unmanaged growth and development. Many of the township soils present severe limitations to on-site sewage disposal. This condition highlights the critical relationship between land use, development intensities, and on-site sewage disposal and potable water. The Public Services Strategy does not suggest public water or expanded public sewer is necessary in the near future.

Policies:

- 1) All on-site sewage disposal and potable water facilities will be constructed and maintained in accordance with the requirements and standards of the Ingham County Public Health Department, Michigan Public Health Department, and other applicable local, county, state or federal agencies.
- 2) If public sewer and water services are not available, no new land uses or land development projects will be permitted unless regulations regarding on-site sewage disposal and potable water facilities are fully complied with.
- 3) Any future decision by the township to provide public sewer and/or water services is to be based on an in-depth analysis of all available options, including services provided through cooperative agreements with neighboring municipalities.
- 4) Any public sewer and water services introduced or expanded in the township will be in response to a public health threat and, to the greatest extent possible, such service will be limited to the Mixed-Use Onondaga Village Area.
- 6) Any future introduction or expansion of a public sewer and/or water service area, and associated

Stormwater Management

Issues: As more of the township's land surface is covered by buildings and other impermeable surfaces associated with new development, the quantity of storm water runoff is increasing. The vegetated landscape that previously absorbed and slowed much of the water associated with storms is replaced by urban surfaces. Unless specific preventive measures are taken, this condition encourages flooding, soil erosion, sedimentation and pollution of area water resources. Though these conditions originate from site-specific circumstances, their impact can extend to adjacent properties and more regional areas including other communities within the same watershed. Storm water management aims to minimize flood conditions, and control the quality and quantity of runoff which is discharged into the watershed system (streams, rivers, wetlands, lakes, etc.) from a development site.

Policies:

- 1) Increased quantities of runoff which occur as a result of property development will be detained on site, if necessary, to avoid placing excess demand on the capacity of the storm water system into which the runoff would otherwise be discharged.
- 2) Proposed land uses will not be permitted if the level of service currently provided by existing storm water management infrastructure and/or existing drainage patterns will be decreased, unless necessary improvements to such infrastructure or natural drainage courses are first made.
- 3) All new and existing land uses must comply with all county, state, and federal regulations regarding storm water management and soil erosion, including the regulations of the Ingham County Drain Commissioner.
- 4) Development within the 100-year floodplain will be discouraged and under no conditions shall development be permitted that will increase or otherwise exacerbate flood conditions.

Emergency Services and Administrative Facilities

Issues: As community growth and land development increases, so does the demand for emergency services and facilities for housing local governmental administrative activities and operations. It is important that the township assure that adequate fire and police protection services are available to existing and future residents and property. Administrative facilities maintained by the township must be adequate for carrying out its administrative activities. Specific standards to evaluate the level of police and fire protection in Onondaga Township do not exist because of the many variables that affect these needs. The comparatively limited commercial, industrial, and high-density residential development in the township reduces the need for the higher level of police and fire protection typically associated with a geographically smaller and more urbanized community of similar population size.

Commonly referenced standards regarding fire protection suggest a maximum service radius from a fire station in low density residential areas of approximately 3 miles, and approximately 3/4 to 2 mile service radius in commercial, industrial, and high density residential areas. The Future Land Use Strategy's Mixed-Use Onondaga Village Area and Suburban Residential Area generally fall within the recommended distances of fire stations. However, there are portions of the township that are not within the recommended range, particularly in the north central and northeast regions of the township.

Policies:

- 1) The township will require the provision of fire protection infrastructure (wells, water lines, etc.) for all new developments which are of such size and density that on-site infrastructure is considered critical. On-site fire protection infrastructure will generally be considered necessary for platted subdivisions and condominium subdivisions that concentrate building sites in close proximity.
- 2) To prevent emergency services deficiencies; the township will continually monitor police and fire protection needs and service, and explore improving service levels. Considerations for expansion of services should include the expansion of joint services with neighboring municipalities (including the introduction of additional fire stations in the township).
- 3) The township will continue to meet the basic governance needs of its citizens in the township Hall facility in Onondaga village until a demonstrated need for improved service and/or facilities is identified and adequate financial resources are available. Priority shall be given to the expansion of the existing Hall. The Hall's current central lo-

cation within the community, its proximity to anticipated areas of development, and comparative ease of access make it a particularly attractive location.

Recreation

Issues: Onondaga Township recognizes that the well being of its residents is affected by the availability of recreation opportunities. The township further recognizes that the type and availability of nearby recreational facilities are important. Demands for recreational opportunities increase with population growth. Available land for recreational purposes decreases as housing and other land uses consume more of what was open space and potential outdoor recreation land. Recreational lands must be purposefully set aside and appropriately located within the community.

Recreation standards adopted by the Michigan Department of Natural Resources (Table 5-1) suggest that the township, with a population of approximately 3,000 persons, is lacking in some recreational opportunities including local parkland acreage, playgrounds, ballfields, picnic facilities, and more. The standards identify the minimum number of suggested recreation facilities, by facility type, based on a community's population. These standards are presented as guidelines and not as absolute "*hard and fast rules.*" Future township growth may aggravate these deficiencies. However, the extent to which residents are satisfied with the current level of recreational opportunities is not clearly understood at this time. A survey of resident attitudes specifically addressing recreation issues in the township has not been undertaken.

Policies:

- 1) The township will determine, approximately every five years, the extent to which area residents are satisfied with recreation opportunities in the township by the use of surveys, public meetings, and/or interviews.
- 2) Should sufficient public sentiment warrant, the township will pursue the development of a MDNR-approved five year action plan which will provide a specific action plan aimed at providing needed Township facilities and enable the township to compete for state and federal recreation government monies.
- 3) The township will strive to provide recreation facilities in a manner that recognizes the particular recreation needs expressed by its residents.
- 4) The township will adopt incentives to encourage the provision of open space and recreation areas within future development projects.

**Table 4-1
 MICHIGAN RECREATION OPPORTUNITY STANDARDS**

TYPE of RECREATION OPPORTUNITY	MDNR STANDARD^(a)
Local Park Land (acres)	10/1,000
Archery Ranges (b)	1/50,000
Ballfields (c)	1/3,000
Outdoor Basketball Courts (c)	1/5,000
Bicycle Trails (miles)	1/40,000
Golf Courses (b)	1/25,000
Indoor Ice Rinks	1/50,000
Outdoor Ice Rinks-Art.	1/20,000
Picnic Areas (tables)	1/200
Playgrounds (c)	1/3,000
Rifle Ranges (b)	1/50,000
Shotgun Ranges (b)	1/50,000
Sledding Hills (c)	1/40,000
Soccer Fields (c)	1/20,000
Outdoor Swimming Pools	1/40,000
Outdoor Tennis Courts (c)	1/4,000
Boat Launches (parking)	1/400
Campgrounds (campsites) (d)	1/150
Cross-Country Ski Trails (miles)	1/5,000
Fishing Access (feet)	1,000/1,000
Fishing Piers	1/100,000
Hiking Trails (miles)	1/5,000
Horseback Riding Trails (miles)	1/20,000
Nature Areas (areas)	1/50,000
Nature Trails (miles)	1/20,000
ORV Areas (acres)	1/7,500
ORV Trails (miles)	1/10,000
Land Open to Snowmobiling (acres)	10/1,000
Snowmobile Trails (miles)	1/3,000
Swimming Beaches	1/25,000

- (a) Units/population.
- (b) Includes private clubs and commercial establishments.
- (c) Does not include facilities on school grounds.
- (d) Includes commercial facilities.

Source: Michigan Department of Natural Resources, 1986,
 Building Michigan Recreation Future, Appendix B, pages 100-101

Chapter Five

IMPLEMENTATION STRATEGIES

Introduction

This Master Plan establishes a strategy for growth, development and preservation in Onondaga Township. The Plan is comprised of graphic and narrative policies intended to provide basic guidelines for making reasonable, realistic community decisions. It establishes policies and recommendations for the proper use of land and the provision of public services and facilities. The Plan is intended to be used by local officials, by those considering private sector developments, and by all residents interested in the future of the township. The Plan is a policy document. As a policy document, the Plan's effectiveness is directly tied to the implementation of its policies through specific tools and actions.

The completion of the Plan is one part of the planning process. Realization or implementation of the goals, objectives and policies of the Plan can only be achieved by specific actions, over an extended period of time, and through the cooperative efforts of both the public and private sectors.

Implementation of the Plan may be realized by actively:

- 1) Ensuring knowledge, understanding, and support of the Plan by township residents, and the continued communication with and involvement of the citizenry.
- 2) Regulating the use and manner of development through up-to-date reasonable zoning controls, subdivision regulations, and building and housing codes, and other regulatory tools.
- 3) Providing a program of capital improvements and adequate, economical public services to accommodate desirable land development and redevelopment.

The purpose of this Chapter is to identify implementation tools and where applicable, specific actions to be pursued.

Public Support, Communication and Community Involvement

Citizen participation and understanding of the general planning process and the specific goals, objectives and policies of the Plan are critical to the success of the township's planning program. Understanding and support of the Plan by local citizens can greatly enhance its implementation. This enhancement may be found in citizen support for bond proposals, special assessments, zoning decisions, and development proposals.

In order to organize public support most effectively, the township must emphasize the necessity of, and reasons for long-range planning and the development of the Master Plan. The Township must encourage citizen participation in on-going community planning efforts.

Specific actions to be undertaken to encourage public understanding and support of the township's planning program, and the continued communication with and involvement of the citizenry, are as follows.

- 1) Ensure that copies of the Master Plan are readily available for viewing at the Township Hall.
- 2) Post the Future Land Use Map of the Master Plan in the Township Hall where it is clearly visible.
- 3) Post a copy of the Master Plan on the township's web site.
- 4) Post a regularly updated listing of current events pertaining to planning and zoning matters in the township.
- 5) Make copies of the Plan readily available to the general public.
- 6) Through public notices, the Township's newsletter, Township Hall postings, and other means, apprise residents of meetings that will address development and public service improvement proposals as the projects move through each stage of review and deliberation.

- 7) Periodically hold special meetings for the specific purpose of discussing the township's planning efforts and providing residents with the opportunity to share concerns and suggestions.
- 8) Include in the township's newsletter, articles that discuss the Township's planning efforts and land use decisions currently under deliberation.
- 9) Post a township newsletter at the Township Hall and other public sites for public viewing.
- 10) Encourage Neighborhood Watch programs in each neighborhood to promote cooperation and communication.

Land Development and Preservation Codes and Programs

Zoning Ordinance

A zoning ordinance is the primary tool for implementing a Master Plan. A zoning ordinance regulates the use of land. A zoning ordinance generally divides a community into districts and identifies the land uses permitted in each District. Each district prescribes minimum standards that must be met such as minimum lot area, lot width, and building setbacks.

Since 2006, zoning regulations for Michigan communities are adopted under the authority of the Michigan Zoning Enabling Act, P.A. 110 of 2006. The purpose of zoning, according to the Act, is to (in part): *"regulate the use of land and structures; to meet the needs of the state's citizens for food, fiber, energy, and other natural resources, places of residence, recreation, industry, trade, service, and other uses of land; to insure that use of the land shall be situated in appropriate locations and relationships; to limit the overcrowding of land and congestion of population, transportation systems, and other public facilities."*

The Township first adopted zoning regulations more than 30 years ago, and has periodically updated its zoning provisions to address changing conditions and policies. With the adoption of this Master Plan, the township's zoning ordinance should again be carefully reviewed to identify amendments that may be beneficial to implement the policies of the Plan and facilitate efficient day-to-day zoning administration.

Adoption of zoning regulations by the Township Board provides the legal basis for enforcement of zoning provisions. The ultimate effectiveness of the various ordinance requirements, however, is dependent upon the overall quality of ordinance administration and enforcement. If administrative procedures are lax, or if enforcement is handled in an inconsistent, sporadic manner, the result will be unsatisfactory. The Planning Commission, Township Board, and staff are

responsible for carrying out zoning/development related functions including the review of development plans and site inspections, community/developer liaison, and other functions. Each of these functions can require a substantial investment of time. Adequate staff levels and/or consulting assistance are necessary to ensure that these essential day-to-day functions are met and appropriate development is facilitated.

Zone Plan: The following pages present a Zone Plan for the Township. The Zone Plan establishes a foundation for the township's zoning regulations. The Zone Plan is comprised of four elements.

- 1) Critical Components of the Onondaga Township Zoning Ordinance
- 2) Overview of Zoning Districts
- 3) Zoning District Site Development Standards
- 4) Farmland and Natural Resources Protection

Zone Plan, Part One – Critical Components of the Onondaga Township Zoning Ordinance. The following identifies important general elements that the Onondaga Township Zoning Ordinance should incorporate to ensure its ease of use and effectiveness in advancing the goals, objectives and policies of the Master Plan:

- 1) *Procedural Matters:* The Zoning Ordinance should include clear step-by-step provisions addressing procedural matters such as the application for and issuance of zoning permits prior to construction, application procedures and approval standards for special land uses, application procedures and approval criteria for amendments to the Zoning Ordinance's regulations including the zoning map, application procedures and approval standards for matters before the Zoning Board of Appeals such as variance requests and appeals of administrative decisions, and violation and enforcement procedures.

The zoning permit application procedures should include the requirement for the submittal of a site plan illustrating proposed alterations and improvements to a parcel. Such a plan is critical in assisting local officials determine if the development complies with all standards of the Zoning Ordinance and if it is designed to encourage compatibility with surrounding land uses.

- 2) *District Provisions/Special Land Uses:* The ordinance should include a clear and comprehensive presentation of zoning districts including the purpose, authorized uses, and site development standards for each district. To this end, the districts should differentiate between uses authorized "by right" versus as "special land uses."

Uses permitted by right are the primary uses and structures specified for which a particular district has been established. An example may be a dwelling in a residential district. Special land uses are uses that have been generally accepted as reasonably compatible with the primary uses and structures within a district. However, because of its particular character, a special land use may present potential injurious effects upon the primary uses within the district or is otherwise unique in character, and it may not be appropriate in certain situations or on certain parcels. These unique or special circumstances may be a result of traffic, noise, or visual or operational characteristics, which if unmitigated could result in significant public or private nuisance. As a result, these uses require special consideration in relation to the welfare of adjacent properties and to the township as a whole. An example may be a kennel in a residential district. Special land uses require a heightened level of scrutiny in their review and officials are afforded greater discretion in determining whether a particular special land use is appropriate on a particular site.

Special land uses should be permitted in appropriate locations only, based on standards and review procedures established in the township's zoning ordinance. Approval should not be indiscriminate and conditions should be imposed (as applicable) to minimize impacts on surrounding lands. This Plan strongly discourages the approval of special land uses for disruptive commercial or industrial activities in residential areas, under the guise of "home occupations." These uses undermine the character of residential neighborhoods, the quality of life for current and future residents, and property values.

- 3) *Site Development Standards:* In addition to the standards presented in the Zoning Ordinance for each district, such as minimum lot area and width, the ordinance should include standards addressing other and more general fundamental site development issues such as off-street parking and loading to ensure adequate facilities are provided on a development site and are of adequate design, access provisions to ensure all properties are accessible including in the case of emergency vehicles, landscaping and screening provisions intended to ensure new development (commercial, industrial, institutional, etc.) is compatible with surrounding conditions and supportive of the desired rural character of the community, sign regulations to ensure local signage does not contribute to traffic safety hazards, visual clutter, confusion for vehicle drivers, visual blight, and decreased property values, and environmental safeguard provisions to ensure new development minimizes disturbances to the township's natural resources.

- 4) *Nonconformities:* The Zoning Ordinance should address lots, uses and structures that are nonconforming due to changes to the zoning ordinance, and the extent to which such lots, uses and structures can be replaced, expanded, enlarged, or otherwise altered.
- 5) *Site Condominium Regulations:* The Zoning Ordinance should address site condominiums. Site condominiums come in many forms, but they typically involve residential developments that look identical or nearly identical to platted subdivisions. The principal differences between the two is that while privately owned lots comprise the entirety (or near entirety) of a platted subdivision, site condominiums are comprised of privately owned (or rented) building envelopes where there are no legal lot lines and substantial portions of the subdivision are commonly owned. Site condominiums are not comprised of "lots" in the traditional sense. Zoning regulations must clearly address this form of development and correlate site condominium development with "lot" regulations to ensure such development is subject to the same standards as otherwise applicable to other residential development of similar physical character (platted subdivisions).
- 6) *Compliance with Current Law:* The Zoning Ordinance's provisions must comply with current law to ensure its validity and the ability of officials to enforce the Ordinance. The Township Zoning Act, under which Onondaga Township adopted its first zoning regulations, was repealed in 2006 and replaced by the Zoning Enabling Act (Public Act 110). The township's zoning regulations should be coordinated with the Zoning Enabling Act and periodically updated to address any subsequent changes to the law.

Zone Plan, Part Two – Overview of Recommended Zoning Districts and Relation to Future Land Use Strategy/Map. Table 5-1 presents guidelines for the presentation of zoning districts in the Onondaga Township Zoning Ordinance to implement the Future Land Use Strategy presented in Chapter Three including the Future Land Use Map.

Zone Plan, Part Three – Zoning District Site Development Standards. Table 5-2 presents guidelines for basic site development standards for zoning districts to implement the Future Land Use Strategy presented in Chapter Three including the Future Land Use Map.

**Table 5-1
 Overview of Recommended Zoning Districts and Relation to Future Land Use Strategy/Map**

The following table presents guidelines for the presentation of zoning districts in the Onondaga Township Zoning Ordinance, within the context of how the suggested districts and the Master Plan's Future Land Use Strategy (including Future Land Use map) relate on one another and the principal types of uses envisioned for each district. All secondary uses identified in the table, or others specified in the Zoning Ordinance, should be subject to comprehensive review to determine if the proposed use is appropriate on the subject site based on, in part, compatibility with surrounding land uses, environmental conditions, road infrastructure, and public services.

Zoning District (example names)	Primary Relationship to Master Plan's Future Land Use Map	Primary Intended District Uses	Examples of Intended Secondary District Uses
<u>AR</u> Agricultural Residential	Implements the Agricultural Preservation Area	Generally limited to agriculture, single family residences, and conservation-based uses such as nature preserves.	Generally limited to uses that support and enhance farm uses or residential areas such as schools, religious institutions, recreation facilities, medical services, and funeral homes, or uses that are uniquely compatible with the environmental and/or rural character of the Area such as kennels, stables, bed and breakfasts, and hunt clubs.
<u>R-1</u> Low Density Residential	Implements the Suburban Residential Area, in the absence of sewer.	Generally limited to single family residences, and conservation-based uses such as nature preserves.	Generally limited to uses that support and enhance residential areas such as schools, religious institutions, recreation facilities, medical services, and nursing homes, or uses that are uniquely compatible with the environmental and/or rural character of the Area such as golf courses and bed and breakfasts.
<u>R-2</u> Medium Density Residential	Implements (in part) the Suburban Residential Area, primarily where sewer is present.	Generally limited to single and two-family residences.	Generally limited to uses that support and enhance residential areas such as schools, religious institutions, recreation facilities, medical services, and nursing homes.
<u>R-3</u> High Density Residential	Implements (in part) the Suburban Residential Area, primarily where sewer is present.	Generally limited to single and two-family residences.	Generally limited to uses that support and enhance residential areas such as schools, religious institutions, recreation facilities, medical services, and nursing homes.
<u>R-MHC</u> Manufactured Housing Community	Implements (in part) the Suburban Residential Area, primarily where sewer is present.	Manufactured housing communities (also referred to as mobile home parks)	Generally no particular secondary uses anticipated.
<u>C-1</u> Local Commercial	Implements (in part) the commercial component of the Mixed-Use Onondaga Village Area.	Generally limited to retail, office and personal service uses that cater to the needs of township's residents, visitors, and nearby populations.	Generally limited to other commercial uses geared toward local needs such as gas stations, vehicle repair shops, mini-storage facilities, funeral homes, indoor recreation, and medical services.
<u>I-1</u> Light Industrial	Implements (in part) the industrial component of the Mixed-Use Onondaga Village Area.	Industrial uses of a comparatively "light" character such as printing and publishing and assembly of electrical appliances.	Generally limited to more marginal light industrial uses such as building materials sales yards, junk yards, sawmills, and monument stone production.

**Table 5-2
Zoning District Site Development Standards**

The following table establishes guidelines for the basic site development standards of the zoning districts intended to implement the Future Land Use Strategy presented in Chapter Three (including the Future Land Use Map). The standards in the table are presented as a realistic plan for each district, with recognition that conditions may suggest variations from the standards presented below such as exceptions to the height standards for special buildings and structures as in the case of farm buildings and communication towers, exceptions to the setback standards where neighboring properties may suggest more stringent standards such as in the case of a new commercial building adjacent to a residential lot or district, and exceptions to lot width standards depending upon the nature of the road providing access. It is also recognized that conditions may surface that suggest the need for divergences from the table's guidelines to resolve conflicts or otherwise ensure the public health, safety and welfare. All guidelines presented below are approximate and serve as a framework for detailed standards in the Zoning Ordinance.

Zoning District	Minimum Lot Area	Minimum Lot Width and Frontage	Maximum Building Heights	Maximum Lot Coverage	Minimum Yard Setback		
AR Agricultural Residential	2 acres	220 ft.	35 ft.	25%	25' to 50' based on type of road	30 ft.	50 ft.
R-1 Low Density Residential	1 acre	200 ft.	35 ft.	25%	25' to 50' based on type of road	15 ft.	35 ft.
R-2 Medium Density Residential	<u>Without Sewer:</u> Sfd: 20,000 sq. ft. Tfd: 30,000 sq. ft. <u>With Sewer:</u> Sfd: 13,000 sq. ft. Tfd: 22,000 sq. ft.	<u>Without Sewer</u> Sfd: 80 ft. Tfd: 100 ft. <u>With Sewer</u> Sfd: 65 ft. Tfd: 85 ft.	35 ft.	30%	25' to 50' based on type of road	10 ft.	30 ft.
R-3 High Density Residential	<u>Without Sewer:</u> Sfd: 20,000 sq. ft. Tfd: 30,000 sq. ft. <u>With Sewer:</u> Sfd: 5,000 sq. ft. Tfd: 10,000 sq. ft.	<u>Without Sewer</u> Sfd: 80 ft. Tfd: 100 ft. <u>With Sewer</u> Sfd: 50 ft. Tfd: 70 ft.	35 ft.	35%	25' to 50' based on type of road	10 ft.	30 ft.
R-MHC Manufactured Housing Community	10 acre project parcel	330 ft. project parcel	Conformance with Rules and Regulations of the Michigan Manufactured Housing Commission				
C-1 Local Commercial	20,000 sq. ft.	100 ft.	35 ft.	50%	25' to 50', based on type of road	30 ft.	30 ft.
I-1 Light Industrial	20,000 sq. ft.	100 ft.	35 ft.	50%	25' to 50', based on type of road	30 ft.	30 ft.

Sfd = single family dwelling; Tfd = two family dwelling; sq. ft. = square feet

Zone Plan, Part Four – Farmland and Natural Resources Preservation Tools. Farmland and natural resources preservation is an important theme of this Master Plan. While the previous elements of the Zone Plan begin to establish a strategy for such preservation interests, there are also other critical tools that are available to implement this component of the Plan. Some of the most effective tools are summarized below and are included into the Zone Plan as reasonable options for the pursuit of farmland and natural resources preservation.

Purchase of Development Rights (PDR): Purchase of Development Rights (PDR) is a land protection tool that pays landowners to protect their farmland from development. PDR is a voluntary and non-regulatory program through which a government agency, or private nonprofit organization, buys development rights from landowners in exchange for limiting development on the land in the future. This limitation is typically in the form of a conservation easement. The land can not be developed for the term of the easement (usually, conservation easements are permanent). The buyer of the development rights typically pays the landowner the difference between the land's value as open space/farmland and its development value (its value without the development restrictions). PDR can be financially advantageous to the agricultural landowner since good farmland, which is typically cleared, well-drained, and relatively flat, is often highly valued for its development potential. Advantages of PDR programs include the opportunity for landowners to realize the development value of their land without having to actually develop it, and such a program enables communities to target areas to be preserved in perpetuity for farming or other open space. A disadvantage may arise if financing the cost of the development rights purchases requires public support and such support is not strong.

Transfer of Development Rights (TDR): Transfer of Development Rights (TDR) programs allow increased development in areas that a community has designated for development in return for preservation of places a community wants to protect. TDR is often used for agricultural and/or open space protection, although it can be used to protect any important resource. Generally established through a local zoning ordinance, a TDR program can protect farmland or significant natural areas by shifting development from those areas to areas that are planned for residential and commercial growth. When the development rights are transferred from the "sending" property, the sending property is then restricted to agricultural or conservation use by a conservation easement, and the "receiving" land can be developed at a greater density than generally allowed under the community's zoning ordinance. In a TDR program, local governments approve transactions and monitor easements. An advantage of TDR is that the local community

need not be involved in the financing of the development rights purchase/transfer since it is an agreement between the willing landowners. A disadvantage is that there may be limited public support for permitting increased development densities in the planned development/receiving area to facilitate the transfer.

Farmland Agreements: The Farmland and Open Space Preservation Act (PA 116 of 1974, as amended) enables a farm owner to enter into a development rights Agreement with the State. The Agreement is designed to ensure that the land remains in an agricultural use for a minimum of 10 years and ensures that the land is not developed in a non-agricultural use. In return for maintaining the land in an agricultural use, the land owner is entitled to certain income tax benefits, and the land is not subject to various special assessments such as for sanitary sewer and water. The specific tax benefit under a Farmland Agreement is a function of the property tax assessed against the farm and the income of the landowner. Farmland Agreements must be for a minimum of 10 years and may be extended.

Clustering/Planned Residential Development/Open Space Preservation Development: These three phrases are used interchangeably to describe a more innovative alternative to residential development than that frequently associated with large lot "rural sprawl," which consumes open space and creates lots that are too small for farming or meaningful habitat protection. This development approach requires new construction to be located on only a portion of the development parcel than would normally occur, and with lots that are smaller than normally required, thereby enabling the remaining open space to be permanently protected under a conservation easement. As much as 50% or more of a site may be preserved in its existing natural or farmed state, with individual house lots occupying the remaining acreage. Clustering can save infrastructure costs by reducing the length of roads and utility lines in new developments. Clustering provisions typically allow the same overall amount of development that is already permitted although density incentives can be provided. This development alternative can facilitate the preservation of special natural resources and environmental ecosystems and, where the acreage is of sufficient size and of appropriate arrangement, farming.

Overlay Zones: An overlay zone in a Zoning Ordinance is a separate district that "lies" upon one or more other districts of the Zoning Ordinance, or parts of other districts, and provides an additional layer of regulation. This additional layer of regulation is typically established to address a special condition or situation that may apply to the districts below the overlay zone. For example, overlay zones are sometimes used to regulate development in sensitive environmental areas including floodplains, steep

slopes and wooded areas. Overlay zoning can be an effective tool for protecting specific resources from development pressures. However, such regulations increase the complexity of zoning provisions and administration, and should be considered primarily in the case where the issue(s) of concern cannot be adequately addressed by the underlying district(s).

Planned Unit Developments (PUDs): “Planned unit development” provisions in a Zoning Ordinance typically permit a more flexible form of development that normally permitted by the district in which the site is located or the other districts established in the Ordinance. PUDs are expressly authorized by the Zoning Enabling Act with the intent to facilitate development that, in part, encourages innovation in land use and variety in design, layout, and type of structures constructed; achieves economy and efficiency in the use of land, natural resources, energy, and the provision of public services and utilities; encourages useful open space; and provides better housing, employment, and shopping opportunities. PUDs can be treated as special land uses or as separate zoning districts requiring a rezoning, or as an overlay district. PUDs are sometimes used as a means to facilitate residential cluster development discussed above, but are more frequently used to facilitate development that provides a mix of housing units and nonresidential uses in one unified site design. The specific PUD provisions of an Ordinance dictate the character and scope of development that may occur under such a development process.

Density Incentives: The provision of density incentives can significantly encourage desirable forms of development. A developer’s profit margin is frequently linked to the number of home sites that can be accommodated on the site. The number of home sites sold affects the extent to which development costs are offset, including the cost of the land, road infrastructure, utilities, and site amenities such as landscaping, trails and other recreational elements. The increased density that a community may offer to individuals pursuing a specific form of development, such a cluster development, may well be the deciding factor for some to undertake such projects, particularly if the cluster form of development is more complex or requires a lengthier review and approval process.

Subdivision and Land Divisions Ordinances

When a developer proposes to subdivide land, the developer is, in effect, planning a portion of the township. To ensure that such a development is in harmony with the Master Plan, the subdivision or re-subdivision of residential and nonresidential land must be adequately reviewed. A subdivision ordinance establishes requirements and design standards for the development of plats including

streets, blocks, lots, curbs, sidewalks, open spaces, easements, public utilities, and other associated subdivision improvements. The Land Division Act, P.A. 571 of 1996, as amended, provides the authority for municipalities to adopt local ordinances to administer the provisions of the Land Division Act including the platting of subdivisions.

With the implementation of a subdivision ordinance, there is added insurance that development will occur in an orderly manner and the public health, safety and welfare will be maintained. For example, subdivision regulations can help ensure developments are provided with adequate utilities and streets, and appropriately sized and shaped lots. Adopting a local ordinance addressing the creation of subdivisions can encourage a more orderly and comprehensive manner for the review and approval of subdivision plats.

Of equal importance is the adoption of a “land division ordinance.” While a subdivision ordinance addresses unified residential developments of multiple units (plats), nearly all of the residential development in Onondaga Township during the past 30 years has been incremental land divisions for the purpose of establishing individual home sites. A land division ordinance assures that these incremental divisions meet certain minimum zoning ordinance standards such as lot area and width. The Land Division Act referenced above also provides municipalities with the authority to adopt a land division ordinance. Such an ordinance can ensure consistency in review and approval practices.

Other Special Purpose Ordinances

While zoning and subdivision regulations are the most frequently used tools for the regulation of land use and development, the control of land use activities can extend beyond their respective scopes. Special purpose rules and regulations can complement zoning and subdivision regulations and further the implementation of the Master Plan. Such ordinances may address matters pertaining to noise, public nuisances, outdoor assemblies, junk, and many other activities. Township officials should evaluate its current special purpose ordinances and determine what new ordinances, and/or amendments made to current ordinances, may be beneficial to further implement the Master Plan.

Capital Improvements Programming

The use of capital improvements programming can be an effective tool for implementing the Master Plan and ensuring the orderly programming of public improvements. In its basic form, a Capital Improvements Program (CIP) is a complete list of all proposed public improvements planned for a six year period (the time span may vary), including costs, sources of funding, location, and priority. It is a schedule for implementing public capital improvements that acknowledges current and anticipated demands, and recognizes present and potential financial resources available to the community. The CIP is not intended to encourage the spending of additional public monies, but is simply a means by which an impartial evaluation of needs may be made.

The CIP outlines the projects that will replace or improve existing facilities, or that will be necessary to serve current and projected land use development within a community. Advanced planning for public works through the use of a CIP ensures more effective and economical capital expenditures, as well as the provision of public works in a timely manner. Few communities are fortunate enough to have available at any given time sufficient revenues to satisfy all demands for new or improved public facilities and services. Consequently, most are faced with the necessity of determining the relative priority of specific projects and establishing a program schedule for their initiation and completion.

This Master Plan does not recommend significant increases in public services or infrastructure at this time, and includes no recommendations for the introduction of public sewer or water. However, as the township grows and increased demands for public services and infrastructure improvements surface, the benefit of capital improvement programming may be particularly applicable in Onondaga Township.

Maintaining a Current Master Plan

Successful implementation of desired policies requires the maintenance of a current Master Plan. The Master Plan should be updated periodically. The Plan must be responsive to community changes if it is to be an effective community tool and relied upon for guidance. Periodic review of the Plan should be undertaken by the Planning Commission, Township Board, and other officials to determine whether the Plan continues to be sensitive to the needs of the community and continues to chart a realistic and desirable future. Community changes that may suggest amendments to the Plan include, but need not be limited to, changing conditions involving available infrastructure and public services, growth trends, unanticipated and large-scale development, and changing community aspirations. The importance of maintaining a current Plan is reflected in the Planning Enabling Act's requirement that a Planning Commission review its Master Plan at intervals not greater than five years to determine whether amendments or a wholly new Plan is necessary. Important questions that should be asked during a review of the Plan should include, at a minimum:

- 1) Does the Plan present valid and current inventory data (Appendices)?
- 2) Does the discussion of planning issues and goals/objectives (Chapter Two) continue to be appropriate for the township today and, if not, what additions, deletions or other revisions should be considered?
- 3) Does the Future Land Use and Public Services Strategies (Chapters Three and Four) continue to reflect preferred strategies to address development, preservation and public services and, if not, what revisions should be considered?

Amendments to the Plan, or the preparation of a wholly new Plan, should follow the minimum procedures delineated in the Planning Enabling Act in addition to measures the township believes will enhance the planning process. The township should seek substantive community input on possible revisions during the early stages of deliberations.

Appendix A

CULTURAL FEATURES

Geography & Early History

Onondaga Township is located in the southwest corner of Ingham County in the south-central region of Michigan's Lower Peninsula. The Township has the traditional six mile by six mile congressional area typical of most townships in southern Michigan. Principal surrounding townships are Aurelius to the north, Leslie to the east, Tompkins to the south (Jackson County), and Hamlin Township to the west (Eaton County).

There are numerous small incorporated villages and cities towns within ten miles of Onondaga Township including Mason, Leslie, Springport, and Eaton Rapids. Mason is the largest with a population of approximately 7,300 and is located 10 miles northeast. The nearest of these communities and located two miles to the east along U.S. 127, Leslie has a population of approximately 2,100. Lansing is the nearest urban center with a population greater than 50,000 (approximately 120,000 persons). Agriculture dominates the landscape both within Onondaga Township and between these communities.

Approximate distances between Onondaga Township and some of the major regional urban centers are: 1) Lansing, 15 miles north; 2) Detroit, 70 miles east; 3) Ann Arbor, 40 miles southeast; 4) Jackson, 15 miles southeast; and 5) Grand Rapids, 70 miles northwest.

Initially inhabited by Indians, the first settler to arrive in Onondaga Township was Oliver Booth from Gaines, New York. Arriving in 1834, Mr. Booth purchased all of what is now Section 29 including the land upon which the village of Onondaga sits. Originally part of Aurelius Township, Onondaga Township was formerly established by an act of the Legislature on March 6, 1836. The first Township elections were held at the house of Barney Johnston in April of 1838. Amos Steele was elected the Township's first Supervisor by a majority of 17 votes. John Sherman, a descendant of Oliver Booth, subsequently platted a portion of the northeast quarter of Section 29 in 1870 and the village of Onondaga was born. Four years later, Grove Baldwin platted additional land in the southeast quarter of the same Section and other additions followed. A post office was established in

Onondaga in 1844. The community's first principal store was established by John Sherman in 1867 in Onondaga, offering general goods for sale.

In 1849, five years prior to the platting of Onondaga, Stephen Van Kinney from Nova Scotia purchased land on the Grand River one and one half miles north of Onondaga and platted the community of Nova Scotia. Though formally platted under the name of Nova Scotia, the community is commonly referred to as Kinneville after its founder. Initial development included a grist-mill and saw-mill along the Grand River, and a hotel and a grocery store. Onondaga and Nova Scotia were the original population centers of the Township and they continue to be the principal settlement areas of the Township.

TRANSPORTATION NETWORK

Regional Access

Regional access to Onondaga Township is provided primarily by U.S. 127 which travels two miles to the east in Leslie Township and connects Lansing to the north with Jackson to the south. However, the Township is located within 15 miles of both I-94 to the south and I-69 to the northwest. M-50, M-99 and M-188 provide additional circulation west of the Township within this triangular area. M-188 from Eaton Rapids abuts a portion of the Township's northwest boundary where the highway terminates at the VFW National Home. This highway network provides comparatively good accessibility to and from the Township (see Figure D-1).

Local Roadway Network Pattern

Onondaga Township's local roadway network generally reflects the traditional section-line grid pattern which characterizes the majority of townships in Michigan. Except for M-188 which is under the jurisdiction of the State, and a number of roads under private ownership (recorded as private easements), the balance of the Township's roadway network is comprised of roads under the jurisdiction of the Ingham County Road Commission (see Figure D-2).

In compliance with the requirements of Michigan Act 51 of 1951, the Ingham County Road Commission (ICRC) classifies all roads under its jurisdiction as either primary roads or local roads. Primary roads are considered the most critical in providing regional circulation throughout the County. The classification of roads in the Township by the ICRC has important financial implications regarding maintenance and improvements. Under Michigan law, townships have no responsibility for funding road improvements and maintenance. On the other hand, while the ICRC must maintain and improve primary roads at their own expense, state law limits the participation of Road Commissions to no more than 50% for improvements to local roads. In reality, there are very few counties in Michigan where local townships are not actively involved in funding road improvements. Onondaga Township must fund 50% of all costs associated with improvements to local roads. The ICRC is responsible for local road maintenance.

Roads within the Township which the ICRC classifies as “primary” include:

- Onondaga Rd.
- Aurelius Rd.
- Byrum Rd.
- Plains Rd., west of Onondaga Rd.
- Covert Rd., east of Aurelius Rd.
- Kinneville Rd., west of Onondaga Rd.
- Kinneville Rd., betw. Byrum & Aurelius Rds.
- Bellevue Rd.
- Old Plank Rd.
- Base Line Rd., betw. Hunt & Rives Eaton Rds.

All other roads in the Township under the jurisdiction of the ICRC are classified as “local.” There are 23.5 miles of “primary” road and 37.4 miles of “local” road. Only approximately five miles of the Township’s road network is unpaved and these unpaved segments are limited to local roads.

The principal east-west road is Bellevue Road in the southern half of the Township. Bellevue Road links the village of Onondaga and Onondaga Township as a whole with the City of Leslie and U.S. 127 to the east. However, Kinneville Road is the only continuous east-west road across the Township except for Plains Road along its northern border. The principal north-south road is Onondaga Road in the western half of the Township. Onondaga Road is the only primary road that travels across the entire Township, linking the village of Onondaga with southern Lansing to the north and M-50 to the south. Gale Road, one mile west of Onondaga Road, is classified as a local road and also provides continuous movement from the Township’s northern to southern border.

The ICRC has been recording 24-hour traffic counts throughout the County for many years. A review of the counts recorded during the years 1996, 1997, and 1998 reveals that nearly all road segments in the Township experienced less than 1,000 car trips per day and some roads, such as Gould and Ferris Roads, experienced less than 150 trips per day. As might be expected, the highest recorded traffic counts were along Onondaga, Kinneville, and Bellevue Roads. Traffic counts along Onondaga Road between Base Line Road and just north of Kinneville Road ranged from 1,300 to 2,400 – the higher counts being registered north of Bellevue Road. Traffic counts ranged between 1,100 and 1,300 along Kinneville Road between Onondaga and Waverly Roads. Traffic counts ranged between 930 and 1,000 along Bellevue Road between Onondaga and Waverly Roads.

Land Use & Development

Onondaga Township's overall land use pattern shows a comparatively low level of development and expansive areas of open spaces (see Figure D-3). The vast majority of the Township is farmland and, to a lesser degree, woodlands and wetlands. Approximately 4% of the Township area has been developed for residential, commercial, industrial, and/or related urban uses. A review of some of the more significant characteristics of land use and development within the Township follow.

Agriculture

Of the approximately 15,000 acres of farmland in the Township (approximately 64% of the Township area), more than 98% are used for crop production. The balance is devoted primarily to orchard and livestock farming. One can rarely travel more than a quarter mile without losing sight of expansive crop fields. Some of the more common crops are corn, soy beans and hay. Agricultural lands are located in nearly all areas of the Township except where precluded by wetlands, woodlands, or urban development. Onondaga Township is an agricultural community within an agriculturally dominated County.

In an effort to better protect the State’s farming interests, Michigan adopted P.A. 116 of 1974 which provides a program whereby farmers can enroll their properties to gain property tax relief, provided the farmland is maintained in agricultural/open space use. There were approximately 4,800 acres, or approximately 20% of the Township’s total farmland acreage, enrolled in the Farmland and Open Space Preservation Program in 1997. Approximately 25% of this acreage is located in Sections 31 through 36.

Residential Development and Land Division

Residential development comprises approximately 3% of the acreage in Onondaga Township. The 2000 Census recorded 1,034 dwelling units. All but 14 were single family detached dwellings and 23.4% of the single family dwellings were mobile homes. The Census did not record any buildings housing more than 2 dwelling units. Highlands Incorporated provides juvenile institution services for boys and girls and the 2000 Census recorded 72 institutionalized juveniles. The facility is located in Section 28 off of Plank Road. Of the 1,034 dwelling units in 2000, 3.7% were vacant and 89.0% of the occupied units were owner-occupied as opposed to renter-occupied.

The 2000 Census reported that 41.8% of the dwelling units in the Township were constructed between 1940 and 1979, and 25.3% were constructed prior to 1940 (see Table B-1). Thus, 32.9% of the dwelling units in the Township in 2000 were constructed during the previous 20 years and this is an indicator of the comparatively high rate of growth through 2000. The median construction year for housing units in 2000 was 1974. This reflects a younger housing stock when compared to the county (1962) and state (1960) as a whole. The 2000 median value of the owner-occupied housing in the Township was \$110,200.

Approximately two thirds of the residential development consists of low density strip residential development. This development pattern involves the striping of residences along the Section roads throughout the Township, such as Onondaga Road, with each dwelling gaining direct access to these roads. This strip development pattern is particularly noticeable along such road segments as Edgar Road between Plains and Ferris Roads, and Bellevue Road just east of Onondaga Road.

The principal exceptions to this strip development pattern, and the principal areas of more compact residential development where individual lots are served by a local road system which collects and carries traffic to the Township's general circulation network, include:

- the unincorporated village of Onondaga consisting of approximately 125 dwellings on lots generally between 8,700 and 18,000 square feet in area.
- the Nova Scotia community consisting of approximately 50 dwellings on lots generally between 8,700 and 18,000 square feet in area.
- a mobile home community of approximately 45 dwellings on Edgar Road, north of Bellevue Road.
- the Grand River View plat off of Onondaga Road in Section 17, consisting of approximately 25 dwellings on lots generally between 15,000 and 20,000 square feet in area.

The Elk Ridge plat in Section 19, consisting of 12 lots and platted in 1998, was the first subdivision platted in many years and has lots of approximately one to one and half acres in size.

Since its early history, the vast majority of the Township's acreage has been divided into parcels approaching 80 acres or more in size. This is a reflection of the historical and continuing agricultural base of the Township and the number of farm residences associated with active agricultural operations. However, as the Township has grown over the years, land division for residential development has increased. Beginning in the late 1960's, the Township has witnessed a considerable increase in land divisions and the proliferation of comparatively smaller parcels of two to 20 acres in size. Today, every Section is characterized by one or more small acreage divisions and numerous Sections are now dominated by this land division pattern (see Figure D-4). An example of this phenomenon is illustrated by the lot split evolution which has occurred in Section 4 of the Township. 13 parcels comprised Section 4 in 1967, ranging in size from approximately 2 to 160 acres. In 1997, this Section was comprised of approximately 32 parcels ranging in size from approximately 2 to 75 acres.

Commercial and Industrial Development

Commercial development in Onondaga Township is primarily located in or near the community of Onondaga. There are approximately seven commercial facilities in this area including a repair garage, tractor repair service, fire investigation service, gas station/party store, and two bar/restaurants. A grain elevator was recently destroyed by fire. Two other commercial operations are located in the northeast corner of the Township consisting of a trucking terminal on Aurelius Road and a radiator repair service on Plains Road.

There are several industrial facilities in the Township although nearly all of the industrial acreage is of an "open space" character. A gravel extraction operation is located in the central region of the Township along Onondaga Road and a second extraction operation is located on Baseline Road in the southeast corner of the Township. The largest industrial facility is the Eaton Rapids Gas Storage System facility on Waverly Road in Section 7. This facility, owned by the American Natural Resource Company, receives and stores natural gas for subsequent distribution. All gas storage occurs underground in natural formations and is stored under pressure. The facility occupies approximately 500 acres and public access is closely monitored.

TABLE A-1
Selected Housing Characteristics, 2000

DWELLINGS	ONONDAGA TOWNSHIP	INGHAM COUNTY	STATE OF MICHIGAN
Year Built (%)			
Since 1980	32.9%	21.7%	25.2%
1940 to 1979	41.8%	60.2%	57.8%
Before 1940	25.3%	18.0%	16.9%
Median Year	1974	1962	1960
Vacant	3.7%	5.6%	10.6%
Median Value	\$110,200	\$98,400	\$115,600
Median Rent	\$628	\$542	\$546

Source: 2000 U.S. Census

Community Facilities & Services

Township Administration

Onondaga Township is governed by a five member Township Board. Township offices are located in the Township Hall on Baldwin Street in Onondaga. The Hall includes a large meeting room, restrooms, storage room, and several offices for Township officials. Following a fire, the Township Hall was rebuilt in 1948.

The Township operates two cemeteries and one private cemetery. Onondaga Cemetery is located on Rossman Road on the west side of Onondaga, and Lanes Cemetery is located on Bellevue Road east of Tompkins Road.

State and Federal Facilities

The Michigan Department of Natural Resources (DNR) owns and maintains a small game area on the north side of the Grand River in Sections 7 and 8 covering approximately 200 acres. In addition to hunting, the facility is available for hiking and boat launching.

Onondaga Township is home to the country's only VFW National Home, established in 1925. The VFW National Home provides housing and support services to children whose custodian cannot provide an adequate home for the child and the parent or grandparent of the child was a member in good standing of the Veterans of Foreign Wars or Ladies Auxiliary. The Home provides a full compliment of services including housing, meals, health care, educational support, and

recreation. Located along Waverly Road along the western edge of the Township, the facility covers approximately 650 acres although the developed portion of the facility covers approximately 50 acres and includes about 50 buildings. Current enrollment at the Home is approximately 95 children.

Sewage Disposal and Potable Water

There is no public sewer or water service in the Township. Except for the VFW Home, Township residents rely upon individual on-site potable water and sewage disposal, or other alternative means. The VFW Home employs a community (public) septic system to service the facility.

Emergency Services

Police protection is provided by the Ingham County Sheriff's Department. There is no special funding by the Township for these services and they are provided "on demand." Fire protection is provided by the Onondaga Township Fire Department. The six-bay fire station is located in Onondaga and consists of approximately 26 firefighters. Funding for the service is through a one mill levy and the fire fighters are paid for each call they respond to. Onondaga Township is part of a County wide mutual aid program. While Fire Department personnel may administer emergency medical services during an emergency, the Department is not authorized to provide transport services. The Township annually contracts with the Leslie Ambulance Company to provide transport services.

Natural Gas and Electricity

Natural gas service is not available in Onondaga Township. Consumers Power Company and Tri-County Electric Company provide electrical service throughout the Township.

Education

Onondaga Township is served by five public school districts: Leslie; Eaton Rapids; Mason; Northwest; and Springport. None of these school districts operate an educational facility within the Township's borders.

Recreation

The County operates and maintains a single recreational facility – Baldwin Park. This park is approximately 16 acres located just south of Onondaga on Onondaga Road along the Grand River. Baldwin Park includes picnic tables and grills, a picnic shelter, and a ballfield.

In addition to this park, several basketball courts have been erected on the grounds of the Fire Department in Onondaga.

Appendix B

ENVIRONMENTAL FEATURES

Geology & Topography

During the Paleozoic era of geological history, Ingham County and the state as a whole was inundated by successive warm, shallow seas during which large amounts of sediment were deposited. These deposits were subsequently lithified to form bedrock. Onondaga Township sits upon Saginaw Formation bedrock of the Pennsylvanian system and consists of sandstone with interbedded shale, limestone, coal and gypsum. The Ice Age brought four successive continental glaciers across the Great Lakes area. As these ice sheets moved southward from Canada, they scoured and abraded the surface of the land leaving behind deeper valleys and more rounded hilltops. The advancing glaciers carried large quantities of rock materials scraped and gouged from the land's surface. These materials were then deposited during the melting of the ice to form drift materials covering the bedrock below. While the depth to bedrock exceeds 800 feet in some parts of Michigan, the depth of the drift layer in Onondaga Township is typically 50 feet or less. Onondaga Township is one of the comparatively few Lower Peninsula townships that exhibits exposed bedrock and is present in its northwest corner.

The Township's topography can be generally described as level to gently rolling. The vast majority reflects grades of 3% or less, with some land areas exhibiting continuous level to nearly level topography, such as along Ferris and Crain Roads. Far less common, yet still visually evident, are areas where the topography approaches grades of 5% but generally not exceeding 10%. These more rolling areas are frequently located along the edges of the Grand River bottomlands and in association with other drainage courses. The Township generally falls in elevation as one travels in a northwesterly direction. The total change in elevation from the lowest to highest point is approximately 125 feet. The lowest elevation in the Township is approximately 885 feet above sea level and is found along the Grand River in the northwest corner of the Township. The highest elevation, approximately 1010 feet above sea

level, is located along Tompkins Road between Gale and Onondaga Roads along the Township's southern border, and in the Middle of Section 1.

Drainage & Water Courses

Drainage is facilitated through an extensive network of water courses. (see Figure D-5). The most dominant is the Grand River. Originating in Jackson County to the south, the Grand River flows northwesterly through the western half of Onondaga Township and into Eaton County. The river ultimately drains into lake Michigan in Grand Haven. The southern segments of the river in Onondaga Township are approximately 100 feet in width, and widen to 200 – 300 feet before flowing onto Hamlin Township. The Grand River is fed by numerous smaller drains, the most significant being the North Onondaga Drain which flows across the Township's northern periphery before flowing into the Grand River in Hamlin Township. The Grand River and Onondaga Drain, and the secondary drains that support them, collect the vast majority of runoff in the Township.

Lands abutting or in close proximity to drainage courses, including streams, ponds, and lakes, are subject to flood conditions where the drainage courses do not have the capacity to accommodate the rate of runoff from a single rainfall or numerous rainfalls over a relatively short period of time. Serious flooding has not been a common occurrence in Onondaga Township. However, Onondaga and the regional area have had several serious floods during the past 100 years. Most significant of these was the flood of 1947 where the river crested in Eaton Rapids at 9.1 feet above flood stage. News accounts suggest that 25% of the Ingham County roads were impacted by the flood and the Kinneville Road bridge was closed to traffic. Flood waters frequently extended more than 800 feet from the banks of the river. Flooding was most prevalent in the Kinneville area and south to the Township line. The U.S. Army Corps of Engineers prepared a Flood Plain Information report on the Grand River in

1969 and, as part of that study, identified the flood boundaries of a flood condition likely to occur at an average frequency of once in 100 years. (see Figure D-5)

It should be noted that though Onondaga Township may be relatively free of any regular threat of flooding, improperly managed land development practices can impact flood conditions both in the Township and in communities downstream.

Groundwater

As runoff flows across land surfaces and travels through drainage courses, a portion of the runoff seeps into the ground and collects in great quantities in the underlying soils and deeper bedrock. These reservoirs of water are referred to as aquifers and serve as the sources of drinking water for nearly all residents of Onondaga Township.

The water drawn from the Saginaw Formation aquifer is considered to be of very good quality although comparatively high levels of nitrate have been observed in some instances. Aquifers can be “confined” or “unconfined” systems. Confined systems have an impermeable soil layer (typically clay) above them which acts to confine the aquifer and protect the aquifer from contaminants seeping into the subsurface above the confining soil layer, such as petroleum products, fertilizers, and improperly disposed household liquids. Unconfined systems do not have this protective layer of clay soil and are much more prone to contamination. The comparatively high nitrate levels observed in some locations in the Township suggest that the Township is characterized to some extent by *unconfined* aquifer systems.

Vegetation

Vegetative cover in Onondaga Township is comprised largely of crop land, accounting for approximately 64% of the Township area. The principal exceptions are those areas otherwise characterized by wetlands, woodlands, or residential development and its associated lawn areas.

There are approximately 3,275 acres of wetlands in the Township, comprising 14% of its landscape. The wetlands are located throughout the Township and range from less than one acre to 60 acres or more in size. The greatest continuous expanse of wetlands follows the Grand River north of Kinneville Road to Waverly Road near the VFW Home. This wetland corridor stretches more than 2 1/2 miles

and covers more than 350 acres. The predominant wetland type is lowland hardwood such as ash, elm, and red maple and accounts for nearly 84% of all wetlands. There are also pockets of shrub, emergent and aquatic bed wetlands and, to a far lesser extent, lowland conifers. Wetlands present severe building and on-site sewage disposal limitations due to soil instability, soil saturation, and standing water. Wetlands play a key environmental role including flood control, runoff purification, groundwater recharge, and wildlife habitats. (see Figure D-6)

Upland woodlands account for approximately 1,375 acres or 6% of the Township area. Woodlands are sparsely scattered throughout the Township and are characterized nearly entirely by upland hardwoods. (see Figure D-7)

The network of woodland and wetlands is important in light of the vital role these resources play in flood control, runoff purification, groundwater recharge, wildlife habitats, recreational opportunities, and supporting the rural character of the Township. As wetlands are environmentally sensitive resources, degradation or pollution of a wetland area can have a destructive impact upon wetlands and related woodland resources distances away due to the often network character of these resources. Wetlands present severe environmental and physical constraints for land development.

Soils

The U.S. Department of Agriculture, Natural Resources Conservation Service, has prepared a soil survey for Ingham County. The survey reveals that the predominant soils are sand and muck soils, including loamy sands. The character of soils can have a profound impact upon the suitability of future uses of land in regard to groundwater contamination, buckling and shifting of foundations and roads, erosion, on-site sewage disposal, and agricultural productivity.

The Natural Resources Conservation Service has identified specific individual soil units throughout the County based upon the characteristics of the upper soil layers (approximately five feet in depth) and this provides a reliable basis for Township planning purposes.

According to the Natural Resources Conservation Service, approximately two thirds of the Township presents severe limitations to septic systems due to ponding, poor soil filtration characteristics and/or soil wetness. Those soils which present only mod-

erate or slight limitations to septic tank absorption fields are scattered throughout the Township in a marbled pattern. The only Sections characterized by soils presenting moderate or slight limitations over 50% or more of their area are Sections 6, 12, 21, and 28. Soils which present septic system limitations can often be overcome with specially engineered septic systems at additional costs.

The Ingham County Health Department is responsible for issuing permits for on-site sewage disposal. A permit will not be issued unless all county requirements have been met. A primary concern is the soil's ability to absorb and break-down the leachate from the septic drain fields before it reaches underground water supplies. This can be particularly troublesome where soils are characterized by wetness and poor percolation rates. Under typical conditions, sites approaching two acres generally provide an area to meet the Health Department's requirements for effective septic systems, including a back-up area should the initial drain field fail. Sites approaching one acre must meet more stringent standards and may not be able to do so due to soil conditions. Development of this density may well require a public sewer system.

It should be noted that while a site may be classified by the Natural Resources Conservation Service as presenting a limitation to septic systems and building construction, on-site investigation may show the classification to be less than fully accurate and/or show that the deeper soils (more than five feet deep) present differing characteristics than the upper layer soils and thus, varying limitations. On-site investigations should be carried out before specific land development projects are initiated.

While the area soils present primarily severe limitations to septic drain fields, approximately 97% of the Township is classified by the Natural Resources Conservation Service as either "prime farmland", "unique farmland," or "additional farmland of local importance." The Natural Resources Conservation Service has classified certain soils in Ingham County as being "*prime farmland*" soils in that they are, under proper management, particularly well suited to food, feed, forage, fiber, and oilseed crops and are capable of producing sustained high yields. Nearly two thirds of the Township is characterized as "prime farmland" (see Figure D-8).

Climate

The climate of Onondaga Township can be classified as mild. Based upon data collected by the Department of Agriculture between 1947 and 1976 in East Lansing, the average daily temperature is 47.4° F. By comparison, the average daily temperature in Sault St. Marie in the Upper Peninsula is 39.7° F. The average summer temperature is 68.9° F and the highest recorded temperature of 102° F occurred in July of 1934. The average winter temperature is 24.9° F and the lowest recorded temperature of -33° F occurred in February of 1875. Average yearly precipitation is 29.84 inches and average yearly snowfall is 39.4 inches. June is typically the wettest month with an average of 3.64 inches.

Because the day-to-day weather is controlled by the movement of pressure systems across the nation, this area seldom experiences prolonged periods of hot, humid weather in the summer or extreme cold during the winter. The lake effect, so noticeable in many areas of Michigan, is limited in the Onondaga Township regional area. However, the prevailing westerly winds blowing over Lake Michigan often produces cloudiness which extends across Michigan's entire Lower Peninsula, modifying fall and early winter temperatures. Weather conditions change gradually between the seasons. The climate of Ingham County as a whole is favorable for the growth of most farm crops cultivated in Michigan.

Appendix C DEMOGRAPHIC FEATURES

POPULATION GROWTH TRENDS & PROJECTIONS

Onondaga Township's population has been rising steadily for the past 70 years. The Township's population grew from 1,070 persons in 1930 to 2,958 in 2000 (see Figure C-1). The 70 years have witnessed ten-year growth rates of at least 6.3%. Growth rates of approximately 21% were experienced in the 1930's, 1960's, and 1990's. The growth witnessed in the 1990's occurred at the same time the County's population decreased as a whole (largely due to the population loss in the City of Lansing). Except for the past ten years, Ingham County as a whole has experienced continuous growth since 1930. Still, the Township's growth rate has strongly surpassed that of Ingham County since 1960. While the County's population increased by 32.2% during the past 40 years, the Township's has increased by 80.6%. The Township comprised approximately 0.9% of the total County population in 1930 and 1.1% in 2000. The Township's rising population has increased population density. The Township's population density was 30 persons per square mile in 1930 and increased to 82 persons per square mile in 2000.

Estimating future population growth can provide important insight into identifying future land use and public services needs. Projecting the growth of a community's population over a prescribed period of time is not an exact science. The many unpredictable factors that can affect growth make any projections somewhat speculative. By using several projection techniques, a range of growth estimates can be generated and this is most useful.

The current trend approach assumes that the Township will continue to grow at a rate similar to that which occurred between 1990 and 2000 (21.0% every ten years). The historical trend approach assumes the Township will grow at a rate reflective of the Township's average growth rate between the years 1930 and 2000 (15.7% every ten years). The ratio trend approach assumes the Township will continue to grow at a rate that maintains the current proportion of the County population (1.1% in 2000), and relies on the Department of Management and Budget's county population studies. They project Ingham County's population to be very steady over the next 20 years with limited growth. The average of the resulting projections yields a population of 3,361 in year 2010 and 3,790 in year 2020.

FIGURE C-1
Onondaga Township Population Growth
(according to U.S. Census)

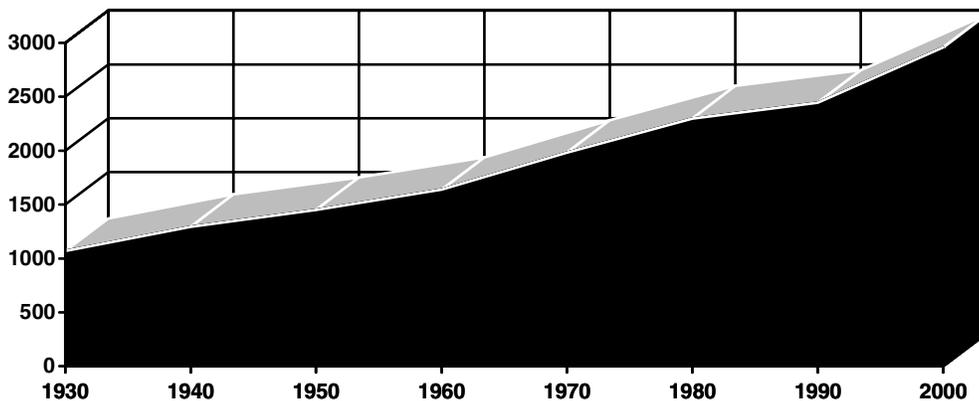


TABLE C-1
Population Trends & Growth Rates
 (growth rates indicated by "%")

YEAR	ONONDAGA TOWNSHIP		INGHAM COUNTY		STATE of MICHIGAN	
1930	1,070		116,587		4,842,325	
1940	1,293	20.8%	130,616	12.0%	5,256,106	7.9%
1950	1,450	12.1%	172,941	32.4%	6,371,766	17.6%
1960	1,638	13.0%	211,296	22.2%	7,823,194	18.6%
1970	1,981	20.9%	261,039	23.5%	8,881,826	11.9%
1980	2,299	16.1%	275,520	5.6%	9,262,078	4.1%
1990	2,444	6.3%	281,912	2.3%	9,295,297	0.4%
2000	2,958	21.0%	279,320	-0.9%	9,938,444	6.9%

Source: U.S. Census Bureau

SOCIAL and ECONOMIC CHARACTERISTICS

The following summarizes social and economic demographic characteristics of Onondaga Township. Additional demographic information is contained in the tables that follow.

The 2000 Onondaga Township population showed a more homogeneous racial population than the County and State as a whole. 95.4% of the Township population was white (see Table C-2). The 2000 median age of 34.7 years reflects a population that is approximately 4 1/2 years older than that of the county as a whole and only slightly younger than the county (see Table C-3). The proportion of the Township population under 18 (30.6%) was 31% greater than the county (23.4%) and 19% greater than the state (25.7%). The proportion over 65 (7.1%) was somewhat less than the county as a whole and almost one-half that of the state. Like the nation, the Township's residents are maturing. Its 2000 median age of 34.7 years reflects a 19.6% increase over the 1990 median age of 29.0 years.

The 2000 Census recorded 993 households and 802 families. The average household size was 2.91 persons. Of all the households in the Township, 68.4% included a married-couple. This percentage was significantly higher than that for the County and State as a whole. Two-thirds of the non-married family households were headed by a female householder, a somewhat smaller portion as compared to the County and State. Approximately one of every five households in the Township was a non-family household in 2000 – approximately 50% lower than the county's rate and 33% lower than the State's (see Table C-4).

According to the 2000 U.S. Census, 67.1% of the employed Onondaga Township work force was employed in Ingham County. Approximately 95.1% of the employed Onondaga Township work force commuted by private vehicle to their place of employment, approximately 13.5% of which commuted by way of a car pool. Average commute time for all workers in 2000 was 29 minutes, compared to 20 minutes for the county as a whole and 24 minutes for the state. These numbers show a Township population working further from home than that of the County and State as a whole. This is largely a result of the limited employment opportunities in the Township and the greater opportunities in Lansing, Jackson and other nearby metropolitan centers. 3.4% of the Township work force worked at home in 2000. (see Table C-5).

The unemployment rate in Onondaga Township during 2000 was 3.5%, falling between that of Ingham County (2.9%) and Michigan (3.7%) as a whole. The four most dominant employment industries for Onondaga Township workers in 2000 were: 1) education, health, and social services; 2) manufacturing; 3) construction; and 4) retail trade. These four industries accounted for 59.5% of all Township workers' employment. Approximately one of every three workers was employed in either the education, health, and social services industry or manufacturing industry. The 3.8% of workers employed in agriculture, forestry and fisheries industries was three to five times the rate for the county and state.

ONONDAGA TOWNSHIP MASTER PLAN
Draft: December 23, 2008

The income characteristics of the Township's workers in 2000 generally placed the workers in a competitive position with the County and State as a whole (Table C-7). The Township's median household income of \$52,216 was 17% – 28% higher than those of the county and state, while the Township's per capita income of \$18,981 was 10% – 14% lower than those of the county and state. The Township's families below the poverty level (5.6%) was 24% – 33% lower than the county and state as a whole.

The 2000 U.S. Census revealed Onondaga Township residents had somewhat less formal training than the County and State as a whole. 89.6% of all Township residents 25 years of age or more had received at least a high school diploma, compared to 88.1% and 83.4% for the state and county respectively. The Township's 10.5% of persons receiving a bachelor's or higher degree was approximately one-half the proportion for the state as a whole and approximately one-third of that of the county (see Table C-8).

TABLE C-2
Race, 2000
 (by percent)

RACE	ONONDAGA TOWNSHIP	INGHAM COUNTY	STATE of MICHIGAN
White Alone	95.4	79.5	80.2
Black/African American Alone	0.3	10.9	14.2
American Indian, Alaska Native Alone	0.3	0.5	0.6
Asian Alone	0.0	3.7	1.8
Native Hawaiian/Pacific Islander Alone	0.1	0.1	0.0
Some Other Race Alone	1.9	2.4	1.3
Two or More Races	1.9	3.0	1.9

Source: 2000 U.S. Census

TABLE C-3
Age, 2000

(By Percent, except where otherwise noted)

AGE	ONONDAGA TOWNSHIP	INGHAM COUNTY	STATE OF MICHIGAN
Less than 20yrs.	32.9	28.9	29.0
20 - 44 yrs.	36.3	41.6	36.3
45 - 64 yrs..	23.6	20.0	22.5
65 yrs. or more	7.1	9.4	12.3
Median Age	34.7 yrs.	30.4 yrs.	35.5 yrs.

Source: 1990 U.S. Census

TABLE C-4
Household Type, 2000
 (by percent)

HOUSEHOLD TYPE	ONONDAGA TOWNSHIP	INGHAM COUNTY	STATE OF MICHIGAN
Married-couple family	68.4	43.0	51.4
Other family:	12.4	15.8	16.6
(Male householder)	(4.2)	(3.7)	(4.1)
(Female householder)	(8.2)	(12.1)	(12.5)
Non-family household	19.2	41.3	31.9

Source: 2000 U.S. Census

ONONDAGA TOWNSHIP MASTER PLAN
Draft: December 23, 2008

TABLE C-5
Commuting to Work, 2000
 (employed persons at least 16 years of age, by percent)

PLACE OF, AND DISTANCE TO WORK	ONONDAGA TOWNSHIP	INGHAM COUNTY	STATE OF MICHIGAN
Drive Alone (car, truck, van)	82.3	78.9	83.2
Car Pool (car, truck, van)	12.8	9.8	9.7
Public Transportation	0.0	2.7	1.3
Walked	1.6	5.2	2.2
Other Means	0.0	1.1	0.7
Worked at Home	3.4	3.0	2.8
Average Commute Time	28.9 min.	20.1 min.	24.1 min.

Source: 2000 U.S. Census

TABLE C-6
Employment by Industry, 2000
 (employed persons 16 years and older, by percent)

OCCUPATION	ONONDAGA TOWNSHIP	INGHAM COUNTY	STATE of MICHIGAN
Education, health, and social services	17.7	27.3	19.9
Manufacturing	17.6	10.4	22.5
Construction	12.3	4.9	6.0
Retail trade	11.9	10.9	11.9
Public administration	10.7	8.7	3.6
Professional, scientific, management, administrative, waste management, and other services	9.7	12.7	12.6
Transportation, warehousing, and utilities	6.6	3.1	4.1
Agriculture, forestry, fishing, hunting, and mining	3.8	0.7	1.1
Finance, insurance, and real estate	3.6	6.4	5.3
Art, entertainment, recreation, accommodations, and food services	2.6	9.4	7.6
Wholesale trade	2.6	2.7	3.3
Information	0.9	2.7	2.1

Source: 2000 U.S. Census

TABLE C-7
Income, 1999

INCOME CHARACTERISTIC	ONONDAGA TOWNSHIP	INGHAM COUNTY	STATE OF MICHIGAN
Median household income	\$52,216	\$40,774	\$44,667
Median family income	\$57,500	\$53,063	\$53,457
Per capita income	\$18,981	\$21,079	\$22,168
Families below poverty level	5.6%	8.3%	7.4%
Persons below poverty level	9.0%	14.6%	10.5%

Source: 2000 U.S. Census

TABLE C-8
Highest Level of Education Attainment, 2000
 (for persons 25 years of age, by percent)

HIGHEST EDUCATION ATTAINMENT	ONONDAGA TOWNSHIP	INGHAM COUNTY	STATE of MICHIGAN
Less Than 9th Grade	4.2	3.3	4.7
9th to 12th, no diploma	6.2	8.6	11.9
High School Diploma	41.7	23.4	31.3
Some college, no degree	29.4	24.1	23.3
Associates Degree	8.0	7.7	7.0
Bachelor's Degree	6.9	18.5	13.7
Graduate/Professional Degree	3.6	14.4	8.1
High school graduate or higher	89.6	88.1	83.4
Bachelor's degree or higher	10.5	33.0	21.8

Source: 2000 U.S. Census

Appendix D

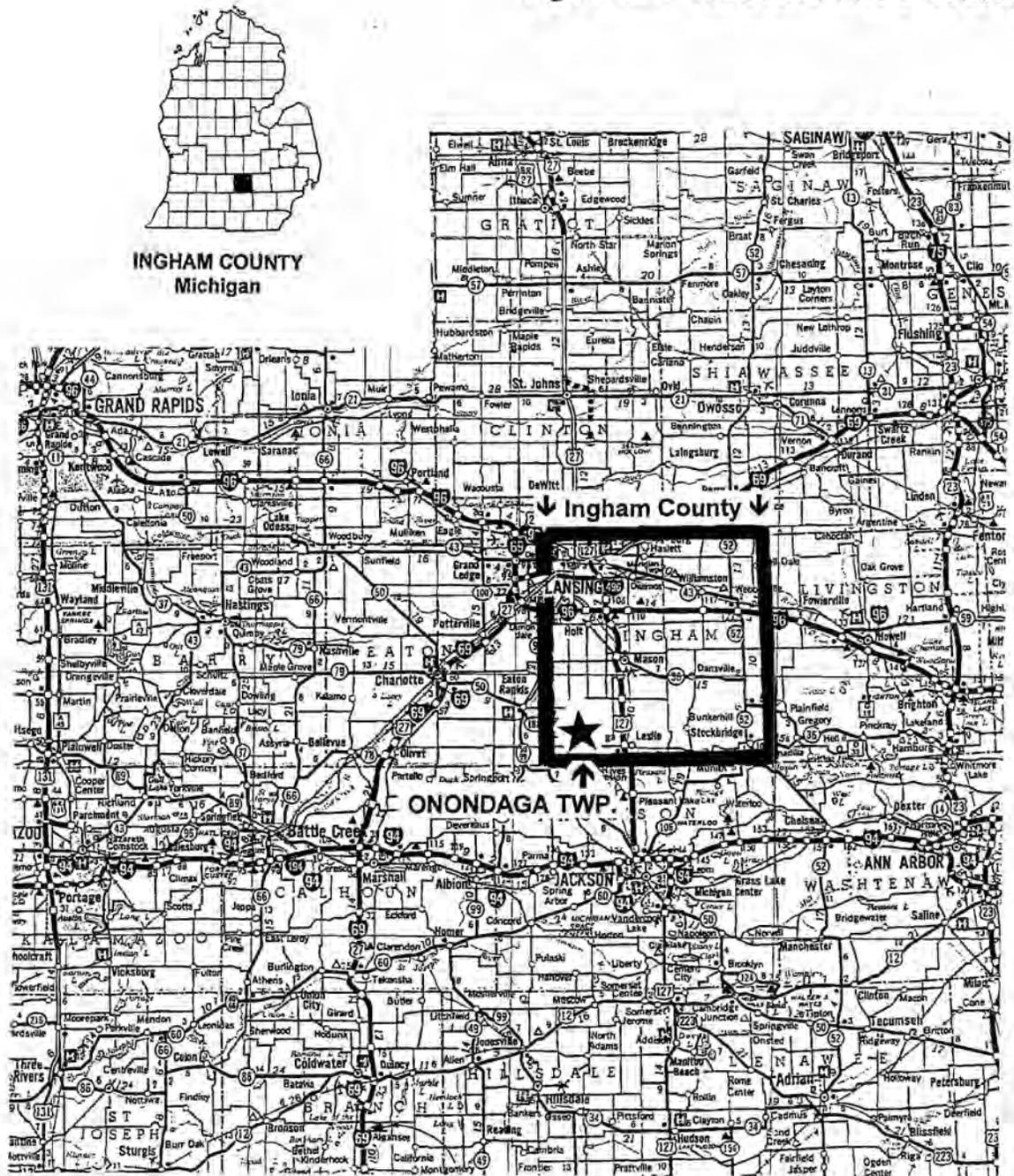
INVENTORY MAPS

- FIGURE D-1: Regional Context
- FIGURE D-2: Public Roads
- FIGURE D-3: General Existing Land Use
- FIGURE D-4: Land Division
- FIGURE D-5: Principal Water Courses
- FIGURE D-6: Wetlands
- FIGURE D-7: Woodlands
- FIGURE D-8: Farmland Productivity

ONONDAGA TOWNSHIP MASTER PLAN

Draft: 9-6-08

Figure D-1: REGIONAL CONTEXT



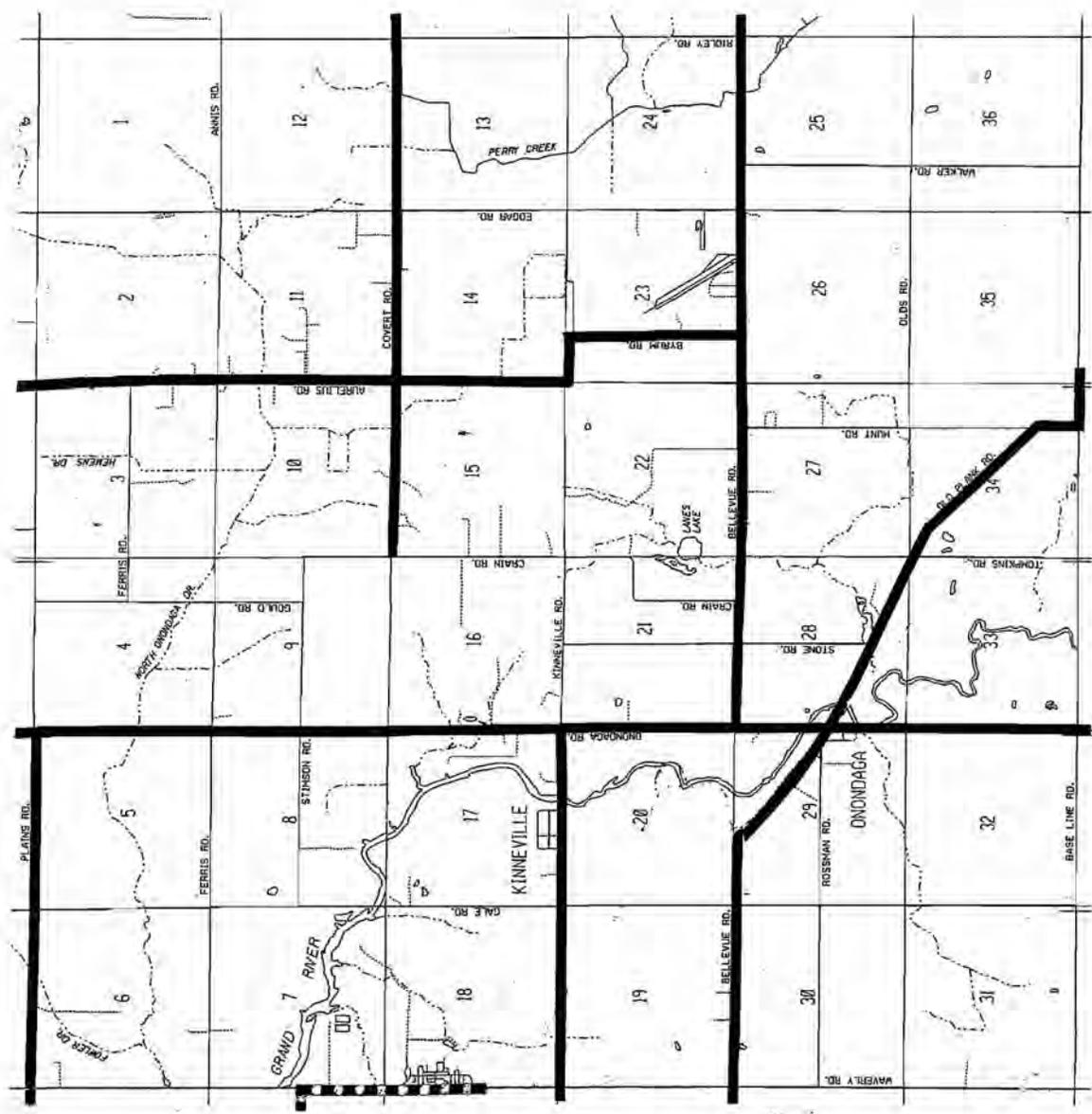
**ONONDAGA TOWNSHIP
 MASTER PLAN**
 Draft: 9-8-08

Figure D-2: PUBLIC ROADS

Information Source
 Ingham County Road Commission



- LEGEND**
-  State Highway
 -  County Primary
 -  County Local



**ONONDAGA TOWNSHIP
 MASTER PLAN**
 Draft: 9-9-08

**Figure D-3: EXISTING LAND USE
 (GENERAL)**

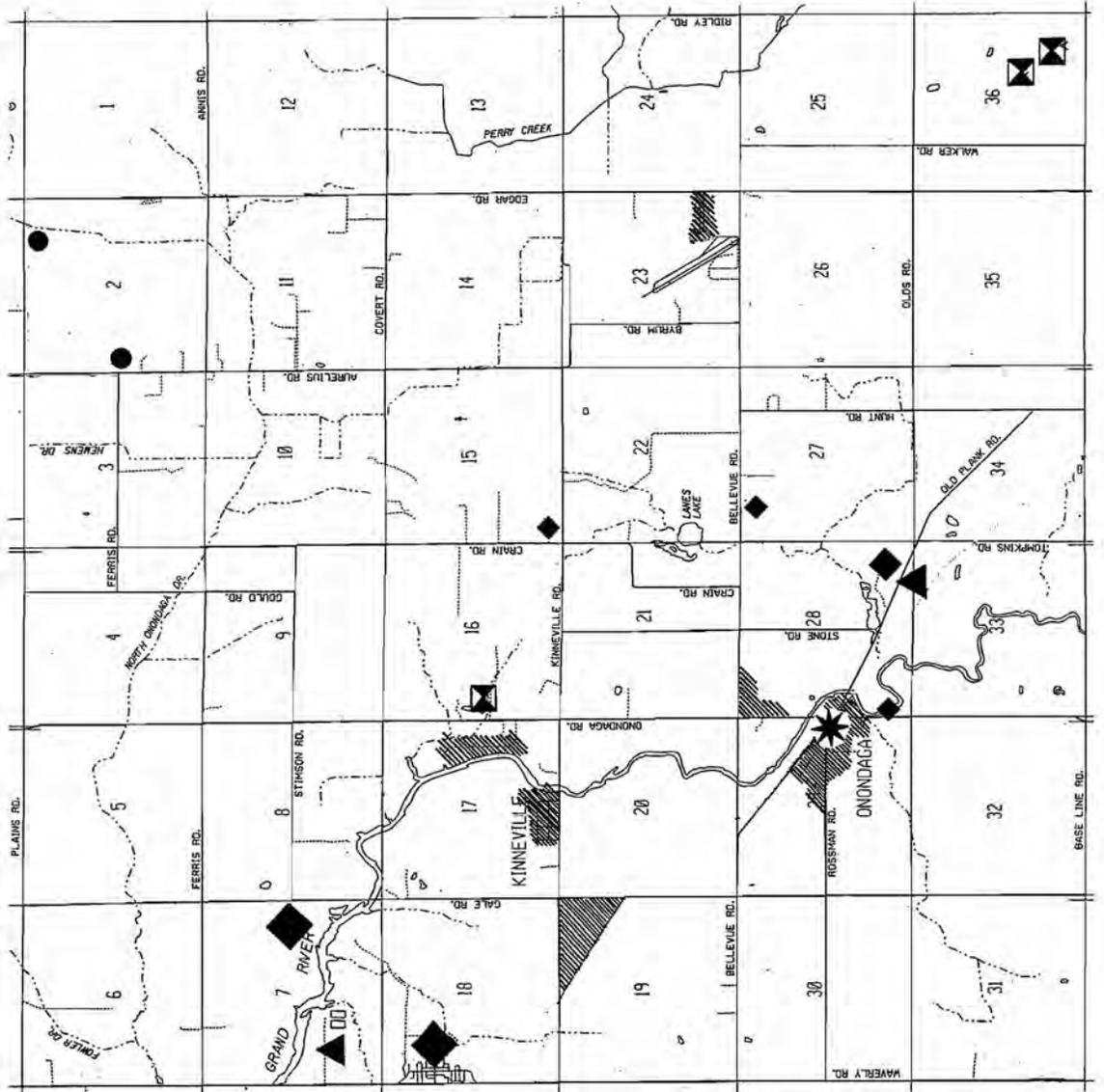
Information Source
 Michigan Information Resource System, 1978,
 Michigan Department of Natural Resources,
 and windshield survey.



Approx. Scale In Feet: 3,200

LEGEND

- Farmland and natural areas, and scattered large lot residences (generally 2 acres or more in size)
- Urban and suburban residential areas, including subdivisions.
- Onondaga Village, consisting of public, commercial, and residential uses.
- Commercial
- Industrial
- Extractive
- Public/Semi-Public



**ONONDAGA TOWNSHIP
MASTER PLAN**

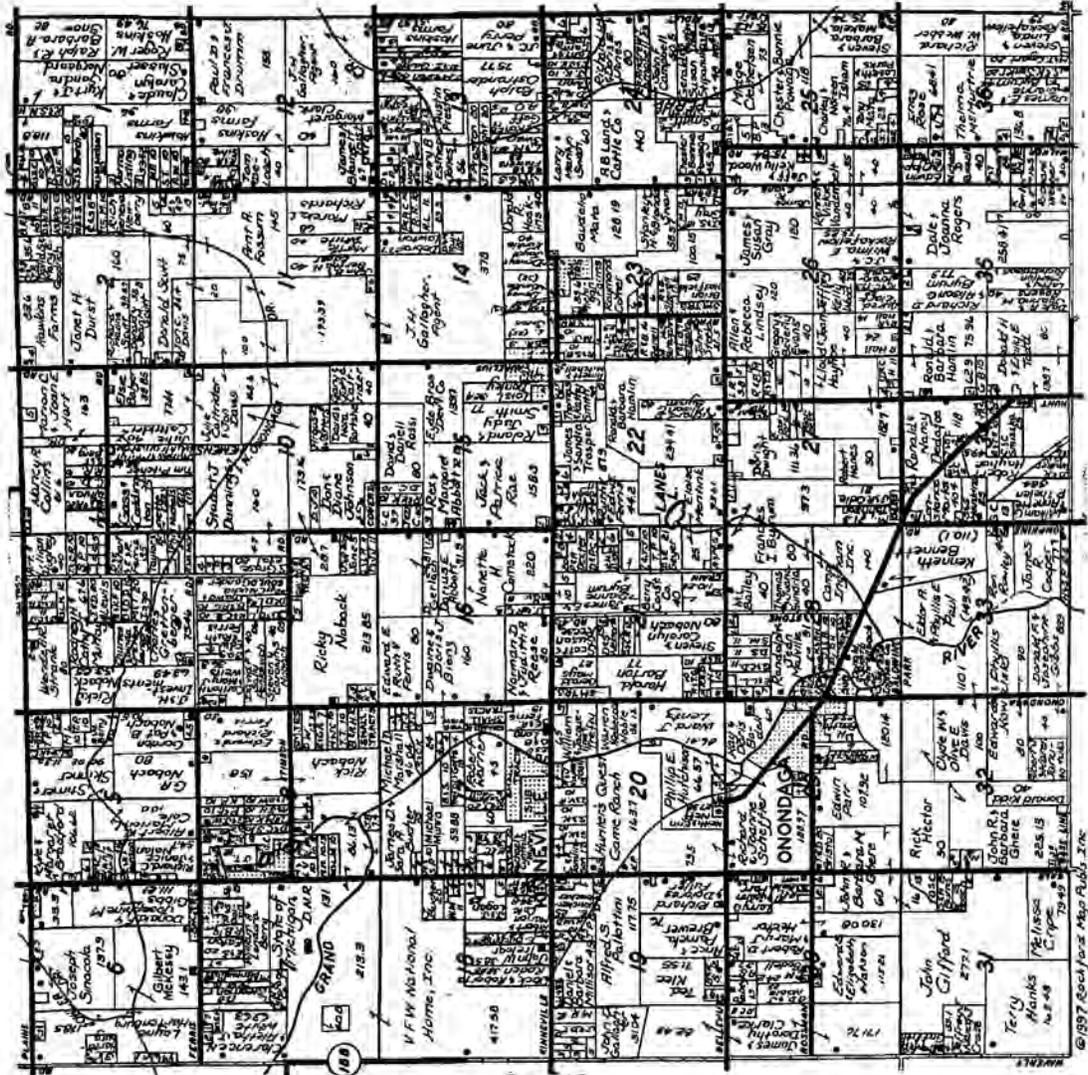
Draft: 9-6-08

Figure D-4: LAND DIVISION

Map Source
Rockford Map Publishers, Inc., 1997

North ↑

Approx. Scale in Feet: 3,200



**ONONDAGA TOWNSHIP
 MASTER PLAN**
 Draft: 9-6-08

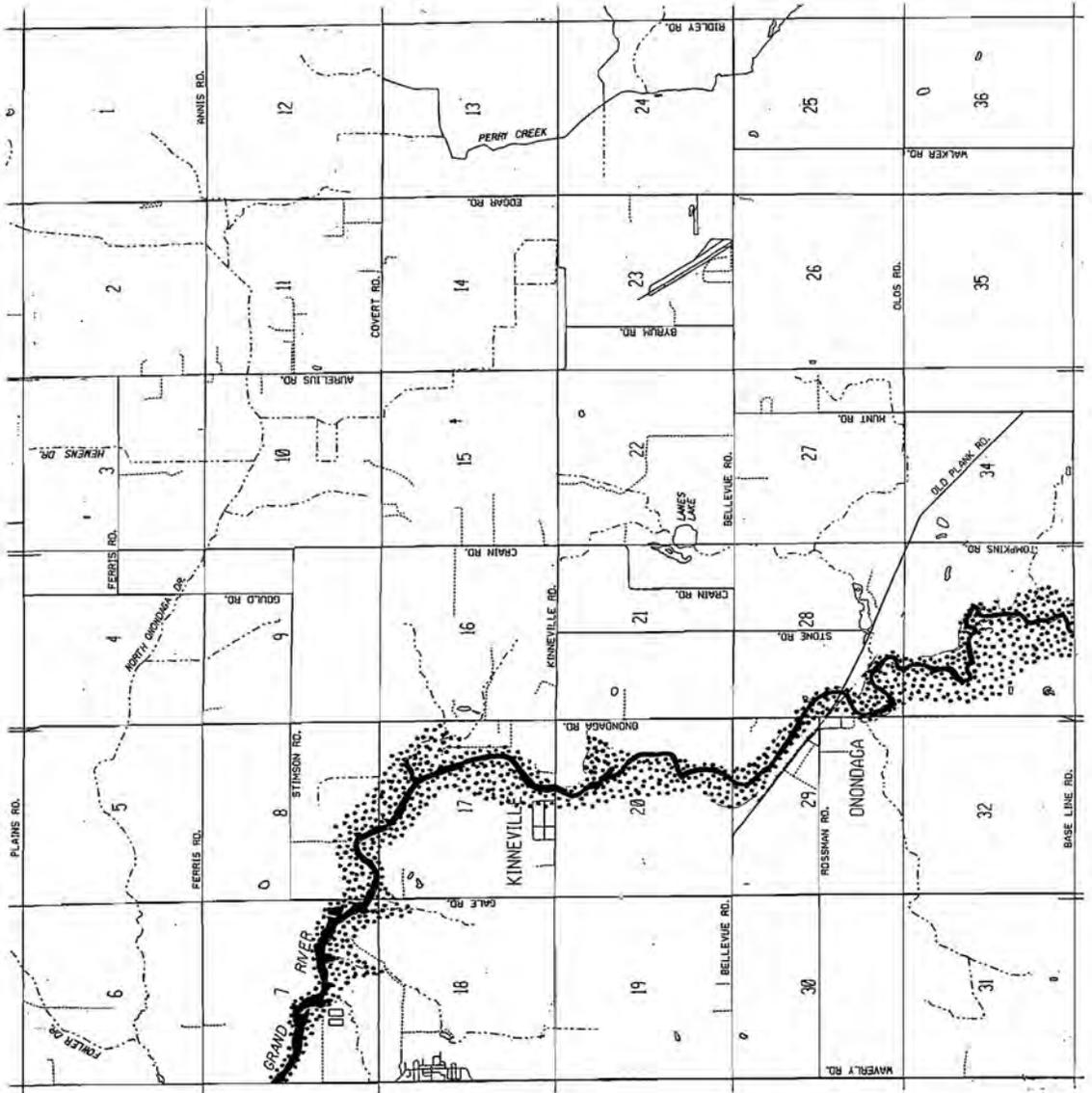
**Figure D-5: PRINCIPAL
 WATER COURSES**

Map Source
 Michigan Information Resource System, 1978,
 Michigan Department of Natural Resources,
 and U.S. Army Corps of Engineers, 1969

North ↑
 Approx. Scale in Feet: 3,200

LEGEND

-  Grand River
-  Streams
-  Intermittent Streams
-  100 Year Floodplain

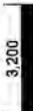


**ONONDAGA TOWNSHIP
MASTER PLAN**
Draft: 9-5-08

Figure D-6: WETLANDS

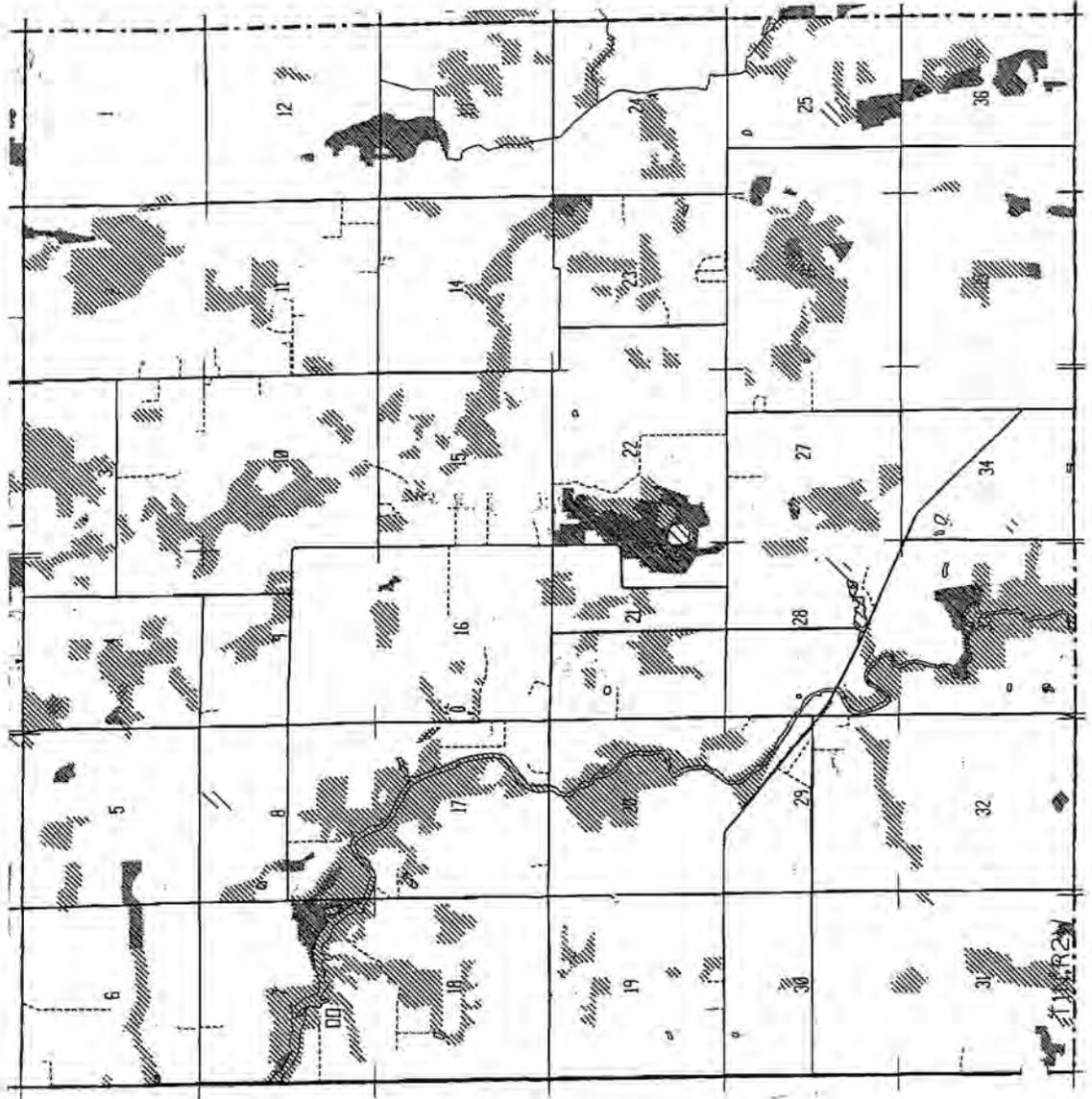
Map Source
Michigan Information Resource System, 1976,
Michigan Department of Natural Resources.



Approx. Scale in Feet:  3,200

LEGEND

-  Open Water
-  Shrub, Emergent, Aquatic Bed
-  Lowland Hardwood
-  Lowland Conifer



**ONONDAGA TOWNSHIP
MASTER PLAN**
Draft: 9-6-08

Figure D-7: WOODLANDS

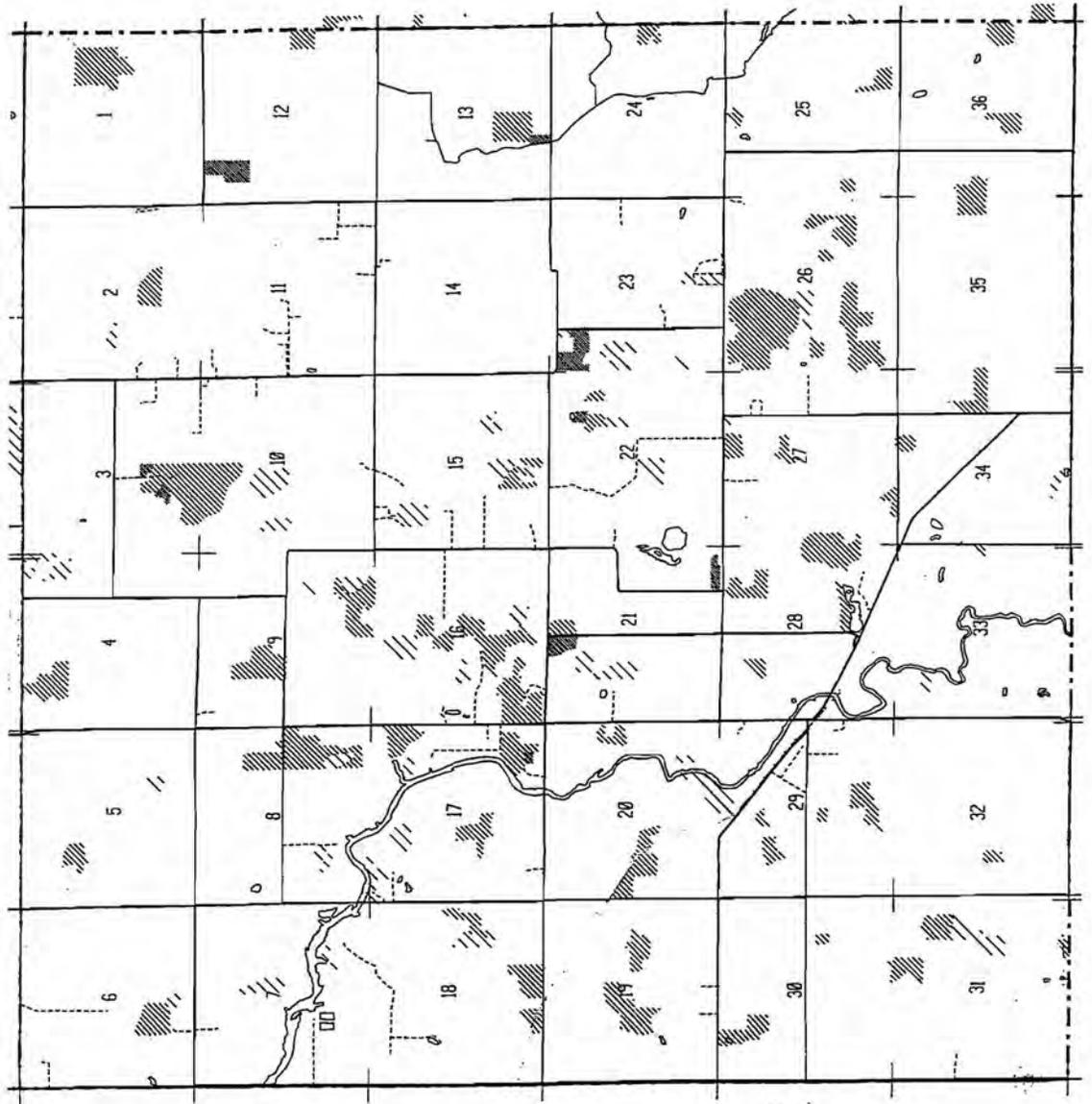
Map Source
Michigan Information Resource System, 1976,
Michigan Department of Natural Resources.



Approx. Scale in Feet: 3,200

LEGEND

-  Upland Hardwoods
-  Aspen and Birch
-  Upland Conifers



**ONONDAGA TOWNSHIP
 MASTER PLAN**
 Draft: 9-6-08

**Figure D-8: FARMLAND
 PRODUCTIVITY**

Information Source
 Natural Resources Conservation Service,
 U.S. Dept. of Agriculture



Approx. Scale in Feet: 3,200

LEGEND

Areas predominantly classified as "prime farmland."

Areas predominantly classified as "additional farmland of local importance"

Areas not classified as farmland

Note: Land need not be actually farmed to be classified according to its productivity.

