

Bainbridge Township



Land Use Plan

2015

Bainbridge Township

Geauga County, Ohio

Land Use Plan

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CHAPTER I

INTRODUCTION

Purpose

The purpose of this plan is to provide a firm foundation for the zoning regulations of Bainbridge Township. The plan represents a framework within which township officials may guide the future growth of the community in a balanced and orderly fashion. It is meant to supplement “Bainbridge Township Guide Plan 2000” (Estrin, 1978).

Information contained in the plan was drawn from a variety of sources. For example, demographic material was obtained from the 1970 to 2010 Census reports. Opinions regarding land use and related matters were determined from the results of a township land use and zoning survey. Environmental data were gathered from The Soil Survey of Geauga County, Ohio (Ohio Department of Natural Resources and the United States Department of Agriculture, Soil Conservation Service, 1982).

A New Approach to Planning

Land use planning in many communities primarily consists of providing the necessary service infrastructure for the appropriate development of real property. Short- and long-range planning analyses are sometimes directed toward determining the level of services and capital improvements required in order to accommodate present and expected future growth. However, existing environmental restrictions on development activity are often given a low priority or are entirely disregarded.

In urbanized areas, the concept of planning for the most cost-effective delivery of services and capital improvements may be valid. However, in more semi-rural communities, such as Bainbridge Township, the existing and potential impact of development on the environment is a significant planning issue. More specifically, the protection of environmental quality is particularly warranted where on-site septic systems and water wells are utilized. The possible adverse impacts of development on the environment may be minimized if the ability of the land to support it is carefully considered.

A recognized method for determining the possible impact of development on the environment is through a land capability analysis. A land capability analysis is the detailed assessment of the environment in terms of its ability to support various types and intensities of land use. Certain segments of a planning area may be more compatible with specific types of land uses than others. A basic element of this approach is to guide new growth into the areas where it can be most reasonably supported. The Bainbridge Land Use Plan includes a land capability analysis of the township. A thorough examination of such items as soil types, slope, ground water availability, and environmentally sensitive areas has been made. Various types of land uses have been rated with respect to their potential impact.

Plan Content

Chapter II represents an overview of background characteristics. Chapter III contains a thorough examination of the demographics for Bainbridge Township. Chapter IV consists of a land capability analysis of the community. Chapter V includes recommendations on land use related topics. Chapter VI reflects the results of two township surveys.

CHAPTER II

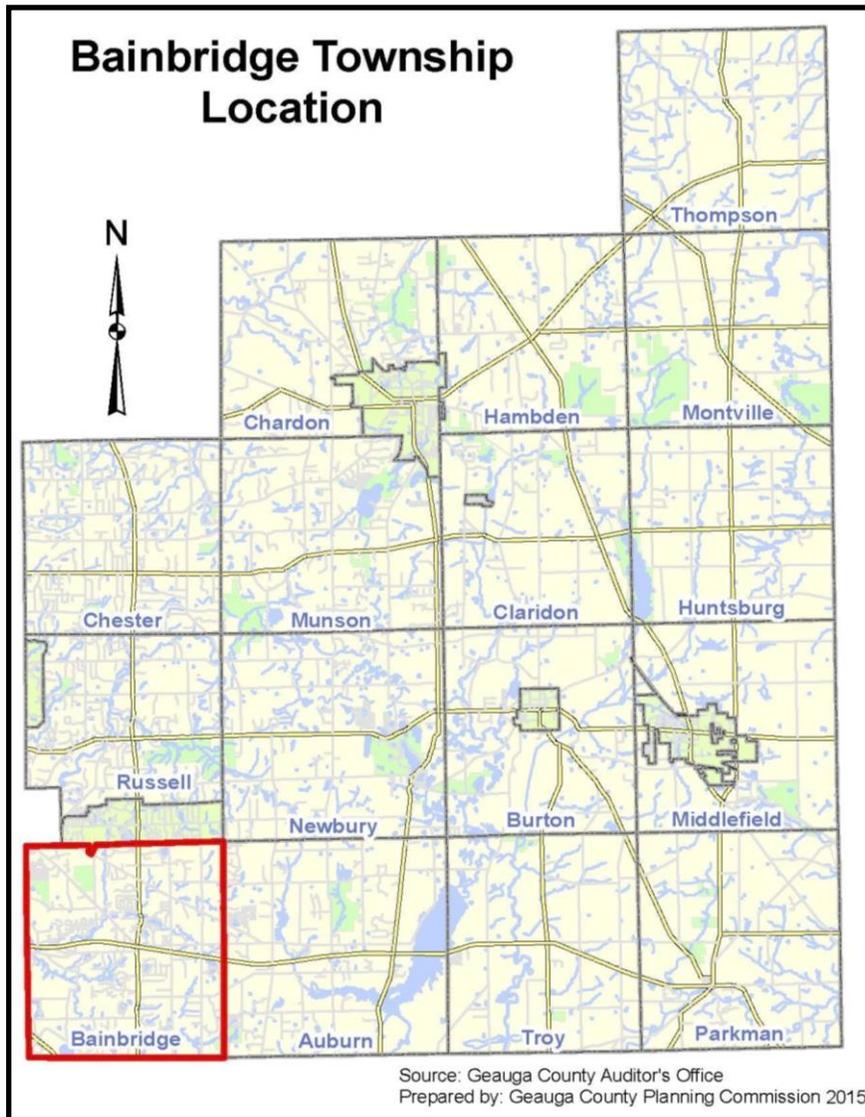
BACKGROUND

Location

Bainbridge Township is comprised of about 16,591 acres covering 25.8 square miles. It is located in the western tier of townships in Geauga County. Cuyahoga County borders it on the west, Auburn Township to the east, Portage County to the south and the Village of South Russell to the north (see Map II-1).

Despite its semi-rural setting, Bainbridge is relatively close to some large urban centers in northeast Ohio. Cleveland is approximately 25 miles to the northwest, Akron is about 35 miles to the southwest and the Warren-Youngstown area is located roughly 40 miles to the southeast. Solon and Chagrin Falls are the nearest urban centers abutting the township's western boundary line.

Map II-1



Climate

The climatic system which influences the weather in Bainbridge is known as humid continental. Typically, this system is characterized by warm, humid summers and cold winters. Higher than average levels of precipitation, especially snowfall, are due to Bainbridge's close proximity to Lake Erie. Air masses moving over the lake become saturated and often develop into snow squalls upon reaching the higher elevations. The Bainbridge area receives about 42 to 48 inches of precipitation yearly.

The average annual temperature is 49.5 degrees Fahrenheit. Temperatures range from an average yearly low of 35.5 degrees to an average high of 58.6 degrees. During the growing season the mean temperature is around 65 degrees Fahrenheit. The beginning of the season is signaled by the last frost, which typically occurs at the end of April. The first frost (about the middle of October) marks the end of the growing season, which averages approximately 167 days.

History

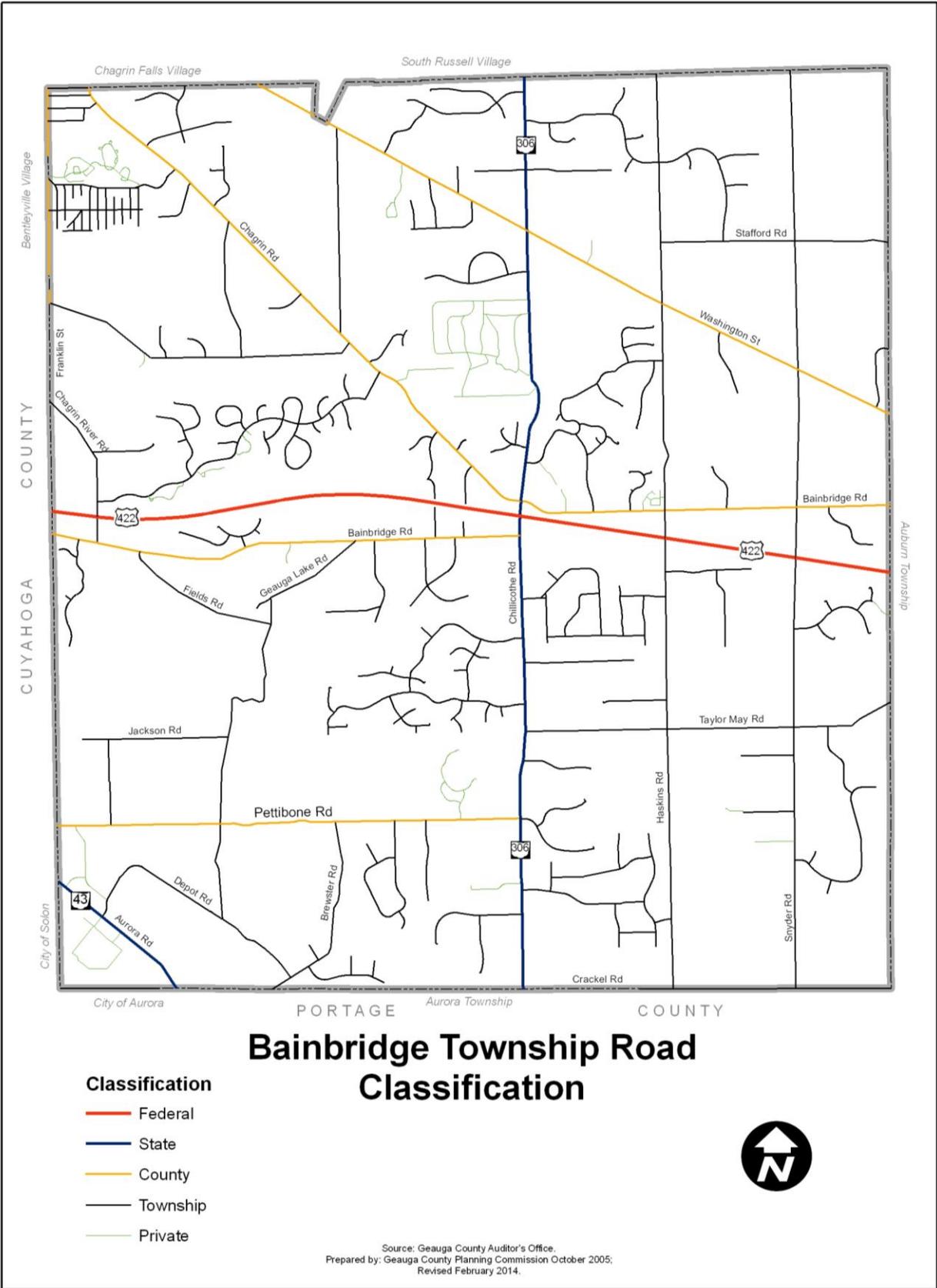
Bainbridge Township was originally a part of the area known as the "Connecticut Western Reserve." The Colony of Connecticut, between the period of 1630 to 1662, claimed title to the land. On September 2, 1795, Connecticut sold 3,000,000 acres off of the easterly end of the Western Reserve to Joseph Howland, Oliver Phelps, Moses Cleveland and 45 other members of the Connecticut Land Company for \$1,200,000. Joseph Howland and associates joined in a deed of trust on September 5, 1795, to John Caldwell, John Morgan, Jonathan Brace, and their heirs and assigns as trustees conveying to them the 3,000,000 acres with the power to survey, plat and sell the land. The officers of the land company decided on a method of subdividing their property in April, 1796. The adopted plan was to divide the region east of the Cuyahoga River into townships five miles square. Many of these townships were subsequently split into sections one mile square, while others were divided into tracts and each tract carved up into lots.

Chillicothe Road, the oldest road in the township, was surveyed in 1801 by Edward Paine. In the early part of 1811, David McConoughy bought 100 acres of land in the southeast corner of the township and built a log cabin. In 1823, John Fowler and family settled in Bainbridge and he was elected the first justice of the peace. In 1866, the trustees bought what was then a Methodist church and used it for the town hall. The Geauga Lake area was settled about 1826 and the Geauga Lake Amusement Park was started in 1884.

Transportation

Bainbridge Township has a fairly extensive public road system, which includes township, county, and state routes. It also contains one of only three U.S. routes that pass through the county. According to the County Engineer's Office, there are approximately 112.41 miles of roadway in the township. More specifically, there are 84.42 miles of township roads, 17.20 miles of county roads, and 11.79 miles of state and federal highways. This does not include private road mileage (see Map II-2).

Map II-2

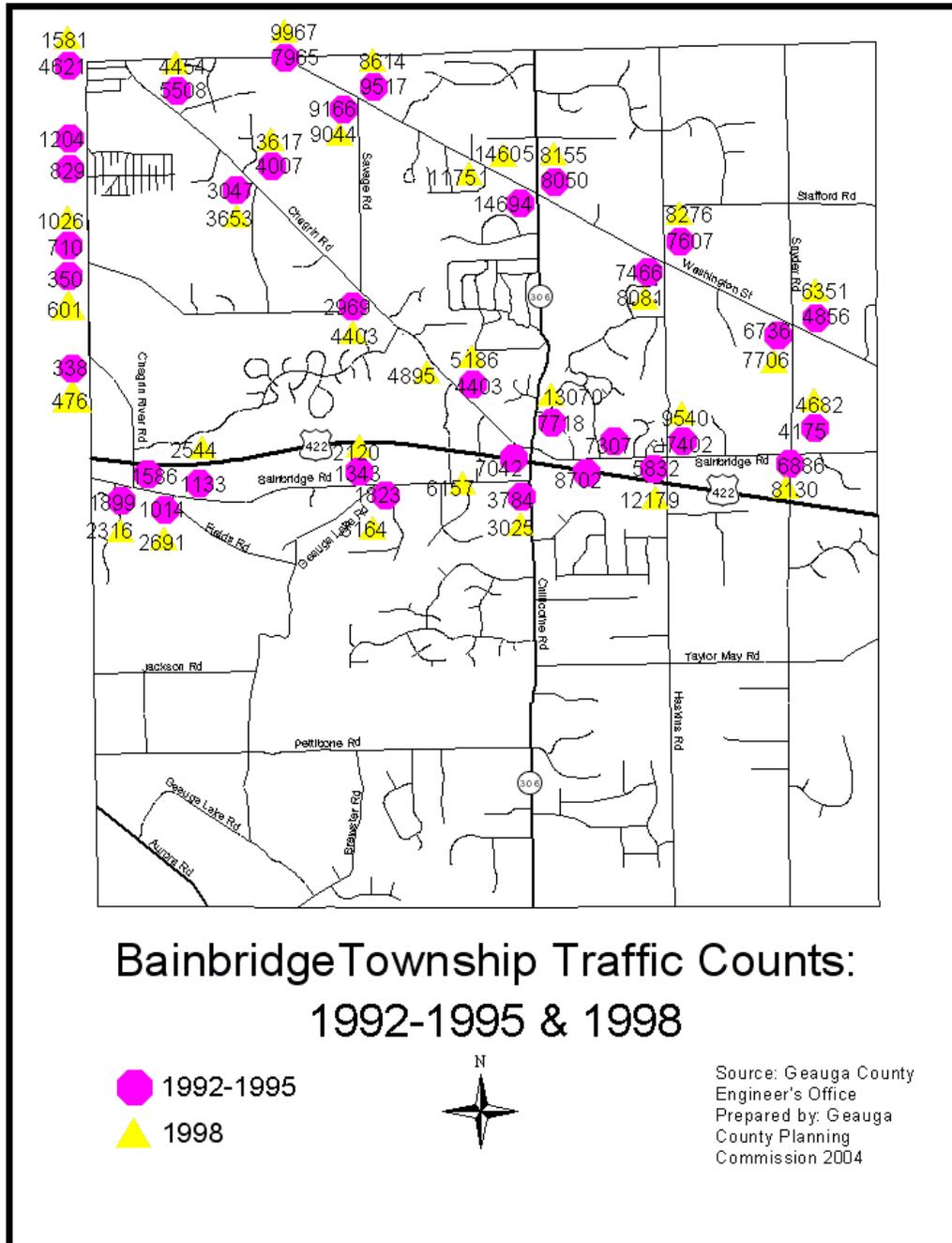


Traffic Volume

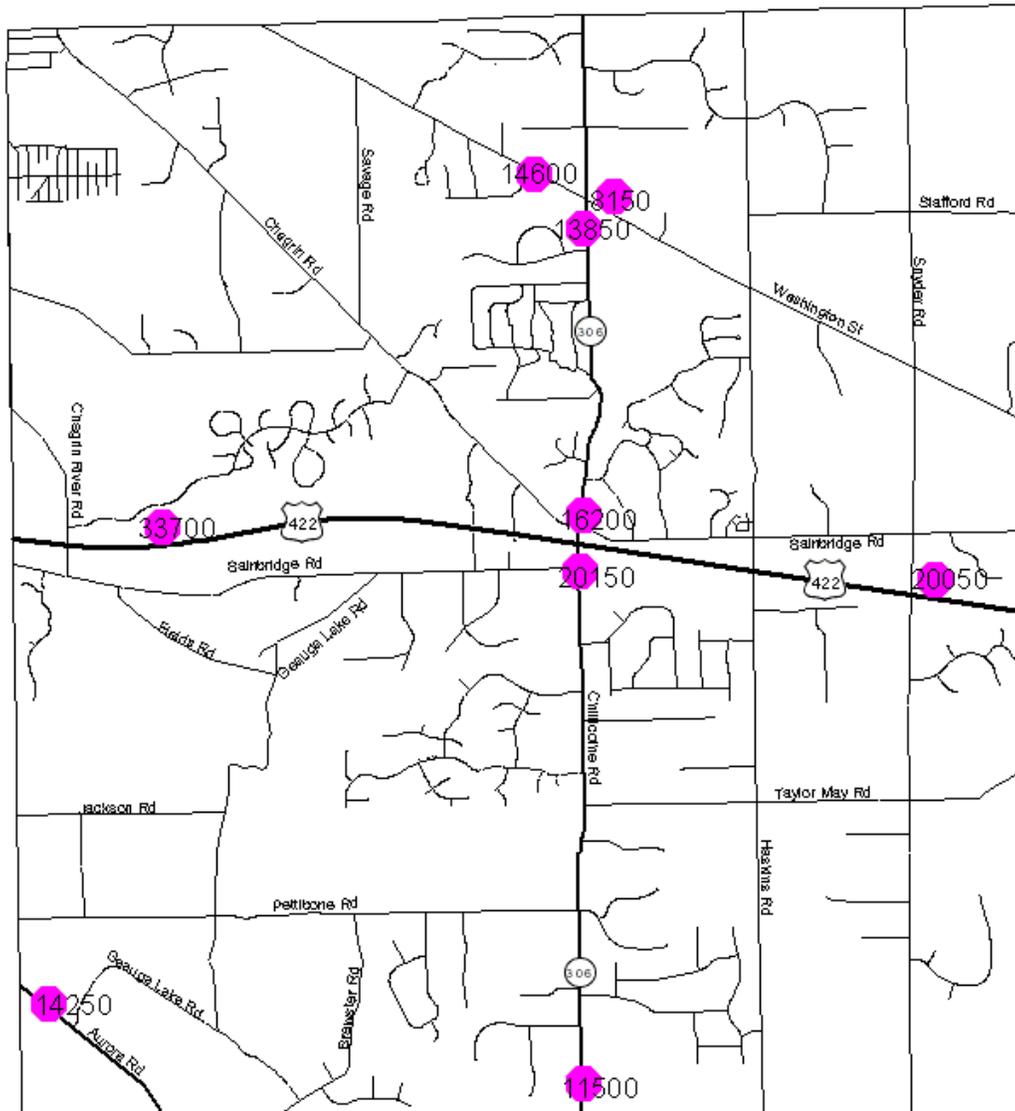
In selected years, traffic counts were taken by the County Engineer's Office and the Ohio Department of Transportation at various points throughout the township (see Maps II-3, II-4, and II-5). The figures shown on the maps represent the number of vehicles which passed the counting points within a 24 hour period.

A review of the counts, where comparisons can be made, reveals that in most cases overall traffic volume has steadily increased. This trend is expected to continue in the future.

Map II-3



Map II-4



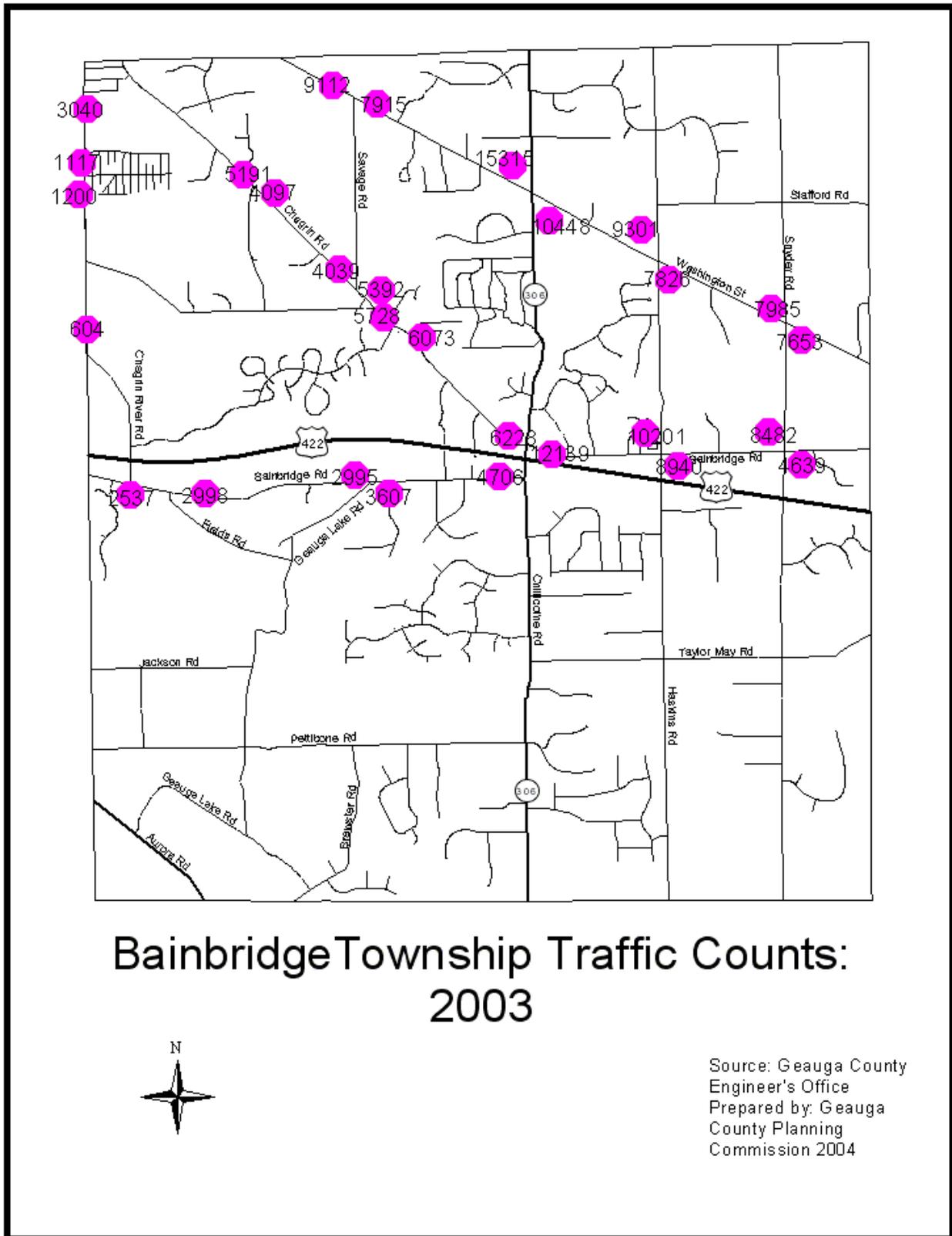
**Bainbridge Township Traffic Counts:
1999 - 2002**

● 1999-2002



Source: Geauga County
Engineer's Office
Prepared by: Geauga
County Planning
Commission 2004

Map II-5



Accident Data

Table II-1 details the township accident and fatality data for 1993 through 2000. This information has been obtained from the Ohio Department of Public Safety. The average number of accidents in Bainbridge during this period was 315 per year. In a comparison of the accident totals over this time span (1995-2000) with the other townships, Bainbridge is ranked first overall (see Table II-2 and Figure II-1).

Table II-1

Number of Accidents: 1993 – 2000
Bainbridge Township

<u>Year</u>	<u>Total Accidents</u>	<u>Fatal Crashes</u>	<u>Injury Crashes</u>	<u>Pedestrian Involvement In Crashes</u>
1993	296	0	91	1
1994	297	0	102	0
1995	325	1	88	0
1996	335	4	92	0
1997	324	3	87	0
1998	309	1	87	2
1999	342	0	83	0
2000	293	0	74	1
<i>Total</i>	<i>2,521</i>	<i>9</i>	<i>704</i>	<i>4</i>

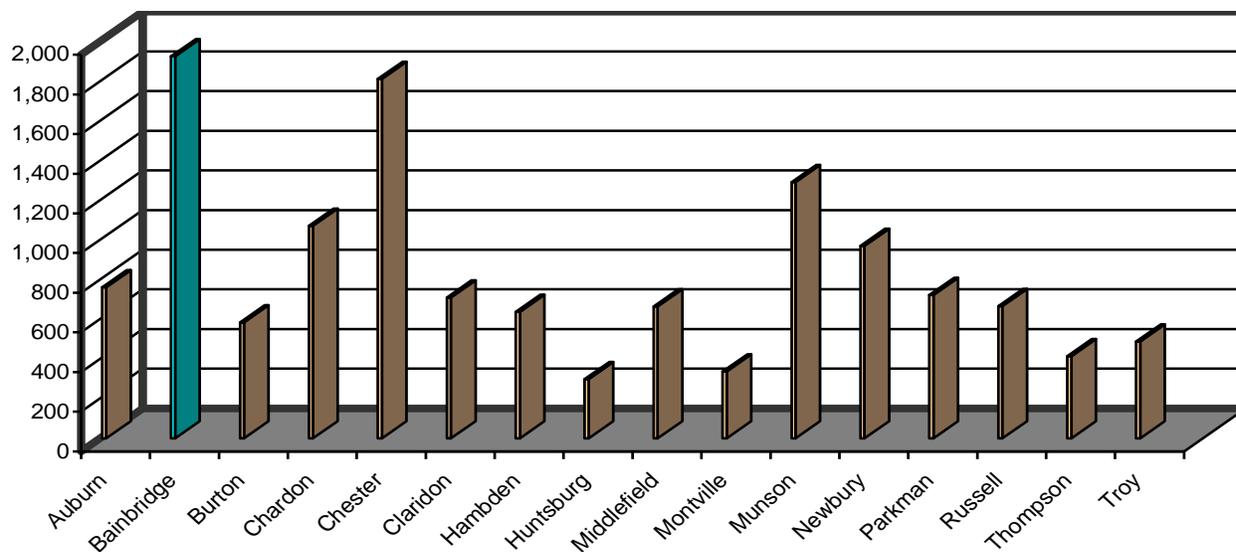
Source: Ohio Department of Public Safety

Table II-2
Number of Accidents by Township: 1995 – 2000
Geauga County

<u>Community</u>	<u>1995</u>	<u>1996</u>	<u>1997</u>	<u>1998</u>	<u>1999</u>	<u>2000</u>	<u>6 Year Total</u>	<u>Ranking</u>
Auburn	108	131	120	120	138	145	762	6
Bainbridge	325	335	324	309	342	293	1,928	1
Burton	99	84	98	92	100	113	586	12
Chardon	161	187	177	157	181	210	1,073	4
Chester	317	337	334	268	275	283	1,814	2
Claridon	124	138	118	115	105	110	710	8
Hambden	104	122	118	105	101	89	639	11
Huntsburg	43	34	44	43	65	70	299	16
Middlefield	120	86	114	108	110	127	665	10
Montville	55	43	69	60	54	57	338	15
Munson	224	197	217	199	217	239	1,293	3
Newbury	185	157	149	135	162	183	971	5
Parkman	118	107	115	113	147	124	724	7
Russell	97	120	110	89	130	122	668	9
Thompson	74	63	78	59	80	61	415	14
Troy	92	77	79	65	76	100	489	13
Total	2,246	2,218	2,264	2,037	2,283	2,326	13,374	

Source: Ohio Department of Public Safety

Figure II-1
Number of Accidents by Township: 1995 – 2000
Geauga County



Source: Ohio Department of Public Safety

Public Services

Fire protection for the township is provided by the Bainbridge Township Fire Department. The department's membership as of 2015 numbered fifty-four fire persons, and all of them are registered Emergency Medical Technicians (EMT's). Thirty-eight members of the department are paramedics and there are three rescue squads. The fire equipment is located in the firehouse on Chillicothe Road, just south of Bainbridge Road. The equipment includes one pumper, one rescue pumper, one 100' aerial ladder truck, one tanker, and five utility vehicles.

Police protection is provided by the Ohio State Highway Patrol, the Geauga Sheriff's Department, and the Bainbridge Township Police Department. The Highway Patrol is primarily concerned with traffic safety on the state routes. The township police department is responsible for law enforcement throughout the community. The Sheriff's Department provides services as necessary. The Bainbridge Township Police Department, as of 2015, consists of the chief, one lieutenant, three sergeants, one detective sergeant, one detective, eleven full-time patrolmen (two are K-9 handlers), six dispatchers, one administrative assistant, one records clerk, three unmarked cruisers, and ten marked cruisers.

The only available public transportation system in the township is offered by the Geauga County Transit Program. Service is provided on a demand-responsive basis.

The nearest local airport open to the public is the Geauga County Airport located in Middlefield Township. Cleveland Hopkins International Airport, in Cuyahoga County, is only a 30 minute drive away.

Maintenance on township roads is handled by the township's road department. The department's twelve full-time employees are responsible for snow removal and general upkeep of township roads. Designated state routes are addressed by the Ohio Department of Transportation, District 12, and the county roads are maintained by the County Engineer's Department.

There are physicians' and dentists' offices located in Bainbridge Township and the adjacent communities of Chagrin Falls and Solon. Hospital care is provided by Hillcrest Hospital and UHHS Geauga Hospital in Claridon Township. Outpatient service is offered by Solon Medical Campus in Solon.

Utilities

Bainbridge residents and businesses receive electrical power through lines maintained by the First Energy Company. For the most part, telephone "land line" service is provided by Windstream Communications. The Dominion East Ohio Gas Company provides pipelines for natural gas service to various segments of the community. Bainbridge residents have an array of service providers to choose from with respect to utilities.

The Northeast Ohio Areawide Coordinating Agency (NOACA) was charged under Section 208 of the Federal Clean Water Act to prepare a regional water quality plan in conjunction with local officials known as Clean Water 2000. This plan addresses wastewater treatment issues and nonpoint source pollution management. As part of the Clean Water 2000 Plan, a facility planning area has been delineated in Bainbridge (see Map II-6). Sanitary sewer service is restricted to the areas within the boundaries shown on the map. All areas outside the service plan boundaries must be served by on-site treatment facilities, unless a documented health issue is found.

A large portion of the community's sewage treatment needs are handled by individual on-site septic systems. These systems are privately maintained. Located within the township off of Chagrin River Road is the county owned and operated McFarland Creek Sewage Treatment Plant. This regional plant has a 1.2 million gallon per day treatment capacity.

Water is generally obtained through private on-site wells. However, there are central supply facilities which service the Bainbrook, Canyon Lakes, Tanglewood, and Lake Lucerne residential subdivisions as well as Knowles Industrial Park and the commercial zone along East Washington Street (see Map II-7).

Garbage disposal service is offered by privately owned and operated firms.

Education

Auburn Township and Bainbridge Township form the Kenston School District. There are four schools which serve the entire district. These include: Timmons Elementary (grades preschool-3), Kenston Intermediate School (grades 4-5), Kenston Middle School (grades 6-8), and Kenston High School (grades 9-12). Enrollment figures for the 2013-2014 school year reveal a total of 3,057 students.

There is one principal for each of the four schools. Timmons Elementary has fifty teachers and 776 students. Kenston Intermediate has 33 teachers and 478 students, Kenston Middle School has 56 teachers and 754 students and Kenston High School has 80 teachers and 1,049 students.

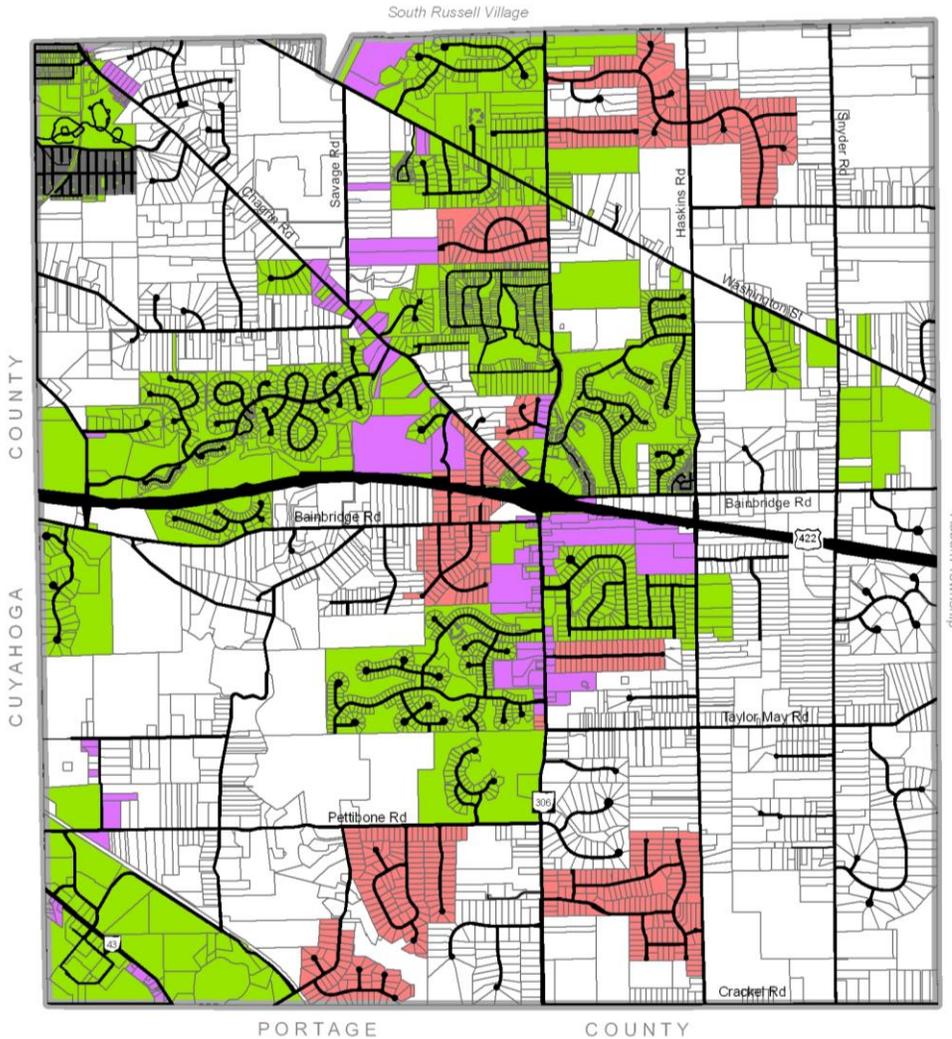
Recreation

There are several public parks situated in Bainbridge Township. The township owns and maintains three of these parks. Centerville Mills (the former YMCA camp) is situated on Crackle Road east of Route 306. River Road Park is on Chagrin River Road across from the McFarland Creek treatment plant. Settlers Park is located on Haskins Road just south of Route 422. Frohring Meadows Park is a county park situated on Savage Road. Wild Water Kingdom water park is located on the south east end of Geauga Lake, is divided between Bainbridge Township and the City of Aurora and is the most active and visible outdoor public recreation facility located in the township. There is one 18-hole golf course in the community. Other outdoor recreation is generally limited to privately held facilities which may offer putt-putt golf, tennis, fishing, swimming, and boating.

Map II-6

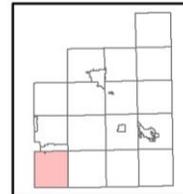
**Community Plans for Wastewater Treatment in Geauga County, Ohio
Bainbridge Township**

Northeast Ohio 208 Water Quality Management Plan



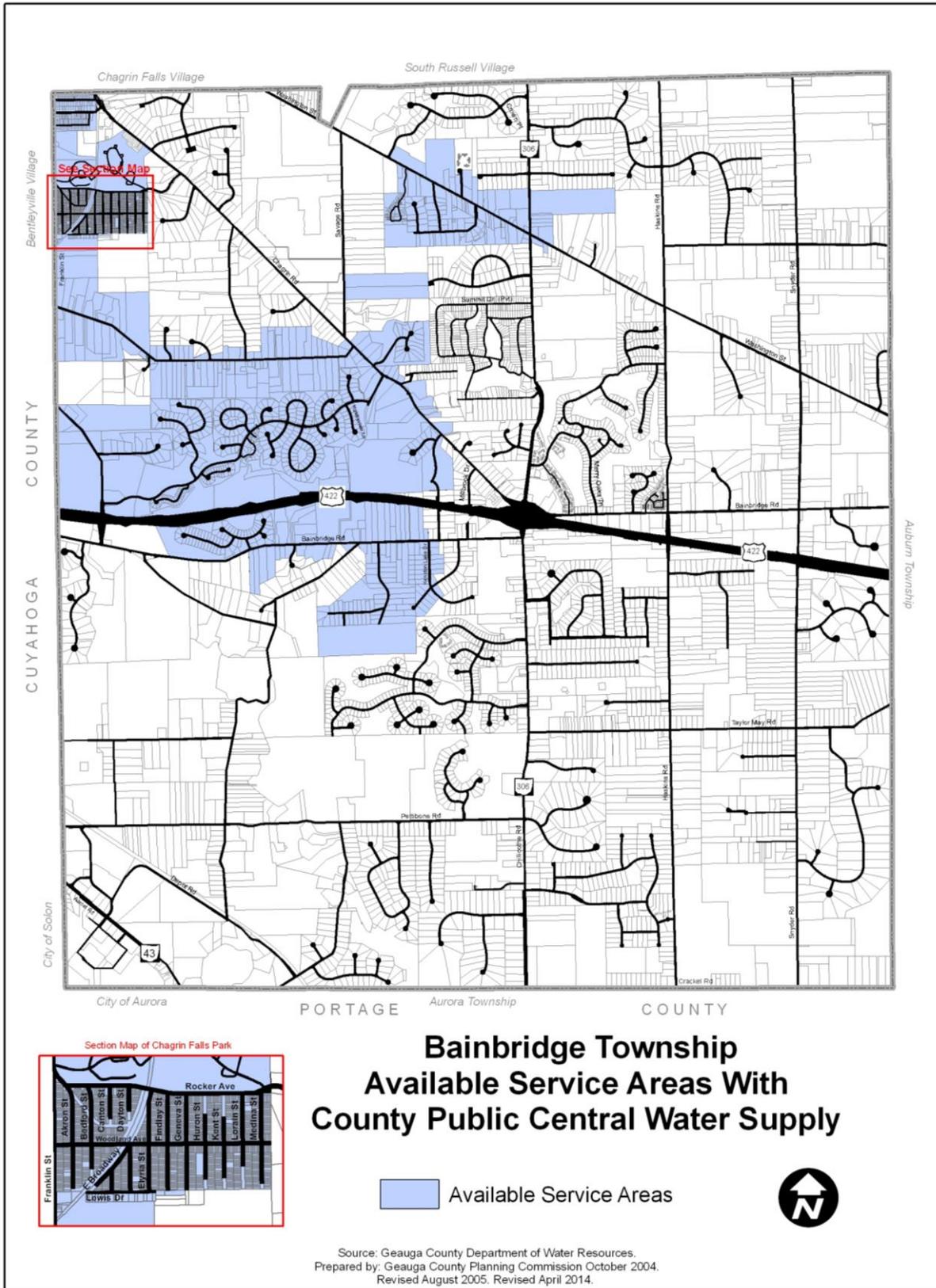
Service: Acreage (percent)

- Existing Sewers: 4,559.09 acres (27.5%)
- Future Consideration: 1,339.89 acres (8.1%)
- May Be Sewered: 630.42 acres (3.8%)
- No Service: 10,046.39 acres (60.6%)



Source: Bainbridge Township Board of Trustees May 5, 2008, November 21, 2012, April 23, 2013, and November 25, 2013 & Board of County Commissioners May 20, 2008, December 13, 2012, May 7, 2013, and February 25, 2014 & Geauga County Department of Water Resources.
Map produced by the Geauga County Planning Commission, 2004.
Revised July 2005, February 2006, May 2006, October 2006, September 2007, June 2008, May 2013, June 2013, February 2014.
For reference purposes only.

Map II-7



Existing Land Use

An existing land use map of the township was prepared using aerial photography (2000) and a windshield survey conducted by the County Planning Commission staff (see Table II-3 and Map II-8). The map was further verified by the zoning inspector. Table II-1 offers a detailed breakdown of the various types of existing land uses found in the community and the percentage of land area that such uses occupy.

Approximately 27% of the land in the township is vacant. Over 40% of the land is in residential use followed by agricultural (7%) and roads (6%).

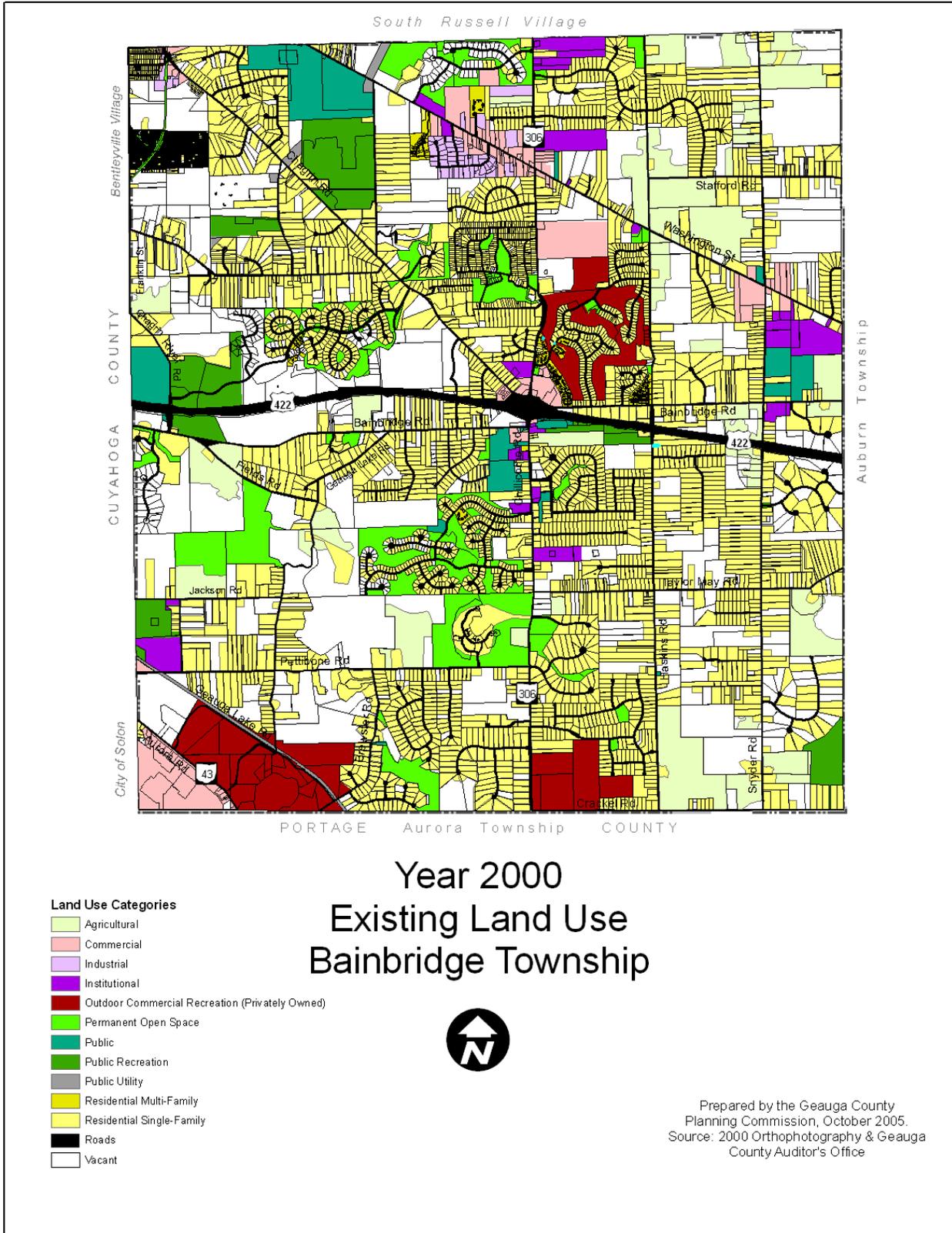
Table II-3

Existing Land Use: 2000
Bainbridge Township

<u>Land Use</u>	<u>Acres</u>	<u>% of Township</u>
Agricultural	1,160.14	6.99%
Commercial	455.27	2.74%
Industrial	94.01	0.57%
Institutional	296.34	1.79%
Outdoor Recreation (privately owned)	670.24	4.04%
Permanent Open Space	813.09	4.90%
Public	381.91	2.30%
Public Recreation	419.49	2.53%
Public Utility	47.33	0.29%
Residential Multi-Family	80.36	0.48%
Residential Single-Family	6,646.23	40.06%
Roads	990.42	5.97%
Vacant	4,536.17	27.34%
Total	16,591.00	100.00%

Source: Aerial Photograph (2000)

Map II-8



Existing Bainbridge Township Zoning

The majority (90%) of the township is zoned for single family residential use. Table II-4 and Map II-9 reflect the prevailing zoning districts for the community.

Table II-4

Existing Zoning Bainbridge Township

<u>Zoning Classification</u>	<u>Land Area</u> <u>(Acres)</u>	<u>% of Township Area</u>
R-3A: Rural Residential	6,531.19	39.4%
R-5A: Rural Open Residential	8,478.47	51.15%
CB: Convenience Business	208.67	1.26%
PO: Professional Office	34.01	0.21%
MUP: Mixed Use Planned Unit Development	513.54	3.1%
LIR: Light Industry Restricted	130.94	0.79%
APP: Active Public Park	150.35	0.91%
PPP: Passive Public Park	527.70	3.18%
Total	16,574.87	100.00%

Source: *Bainbridge Township Zoning Map, 2014*

There are two residential zoning districts in the township: R-3A and R-5A. In the R-3A zone, the minimum lot size is 3 acres and in the R-5A zone the minimum lot size is 5 acres per dwelling unit.

The minimum lot size in the Commercial Business (CB) zoning district is 1 acre. Permitted uses in the district are primarily professional offices and retail businesses. The following areas are zoned for commercial purposes in the township: at the intersection of S.R. 306 and Washington Street (“McFarland Corners”) extending west along both sides of Washington Street and at the intersection of S.R. 306 and Chagrin and Bainbridge Roads (“Tanglewood”).

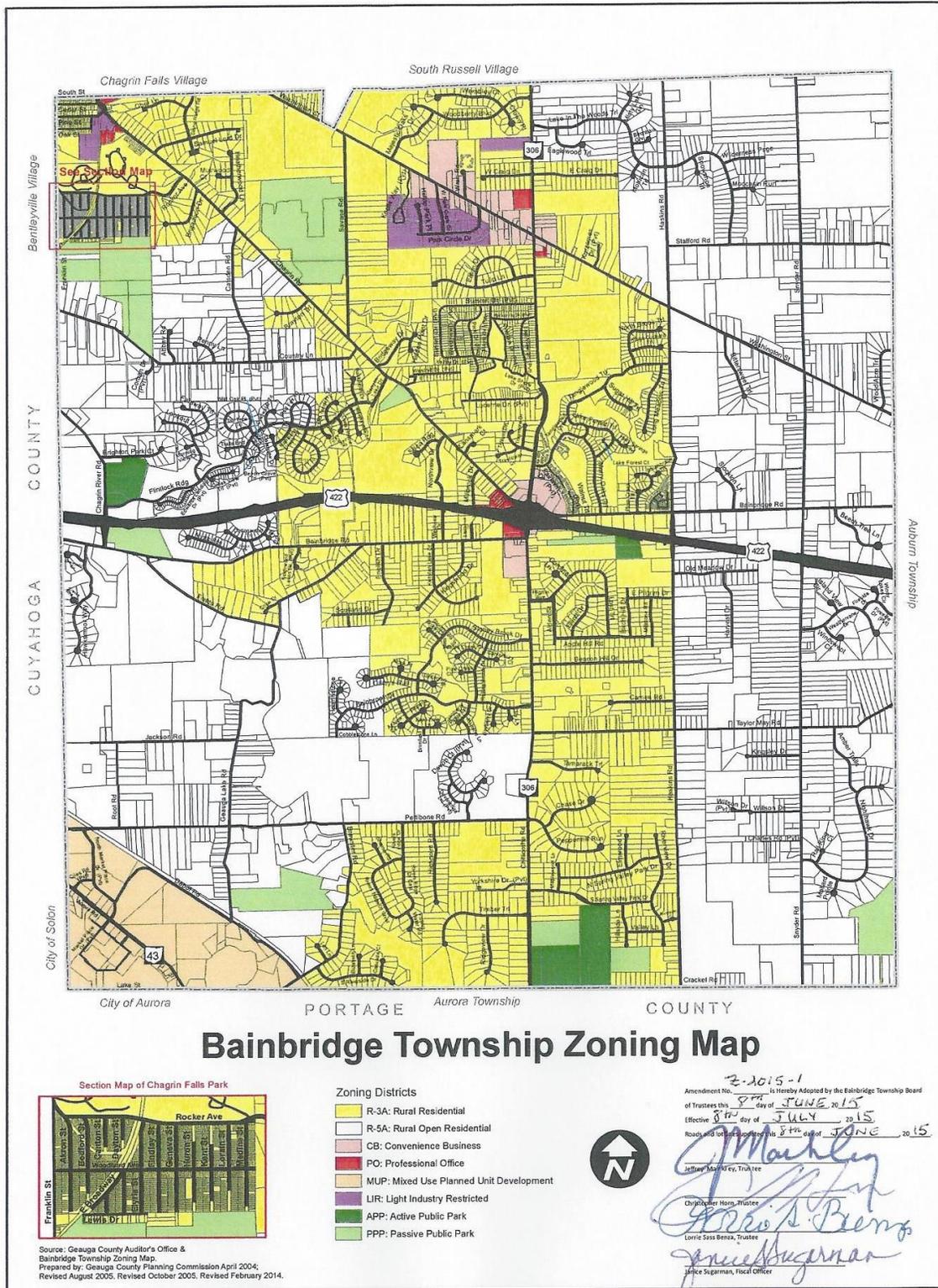
The Professional Office (P-O) zones are currently situated at the extreme northwest section of the township along Chagrin Road, near the northwest and southeast corners of the intersection of Chillicothe Road (S.R. 306) and Washington Street, and along the north and south sides of U.S. 422 near the west side of S.R. 306. The P-O zone is meant to act as a transition area between more intensive commercial/light industrial uses and residential development. The minimum lot size in the P-O zone is 2 acres. Only office related uses are permitted.

There are three areas zoned for Light Industrial Restricted (LIR) purposes in the township. One location is situated just west of the intersection of S.R. 306 and Washington Street. A second site is on the west side of S.R. 306 across from Lake in the Woods Trail. The third area is located in the northwest corner of the township on the south side of Chagrin Road.

Two park districts are included on the zoning map: Active Public Park (APP) and Passive Public Park (PPP). The affected land is held by the township.

Lastly, the Mixed Use Planned Unit Development (MUP) Zone is situated in the extreme southwesterly corner of the township. The area includes about 514 acres.

Map II-9



Existing Township Zoning in Geauga County

In relation to the other townships in Geauga County, Bainbridge's percentage of land zoned for residential purposes ranks it ninth (90.55% or 15,009.66 acres). Comparing land area zoned for both commercial (1.47% or 242.68 acres) and industrial (0.79% or 130.94 acres) use, Bainbridge is ranked eleventh in the county (see Table II-5 and Map II-10).

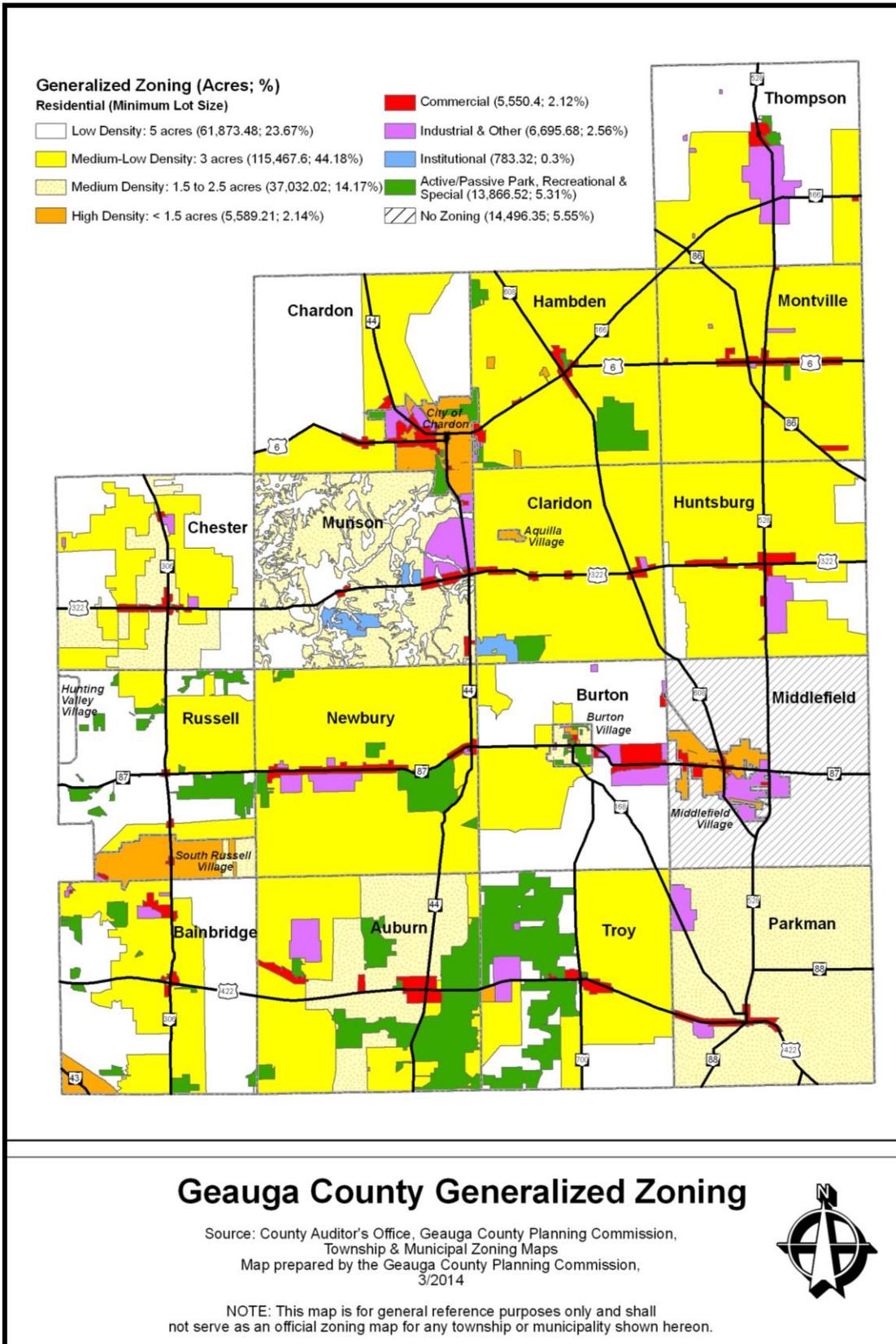
Table II-5

Residential, Commercial, and Industrial Zoning Districts by Township: 2014
Geauga County

<u>Township</u>	<u>Residential Zoned Acres</u>	<u>% of Twp.</u>	<u>Commercial Zoned Acres</u>	<u>% of Twp.</u>	<u>Industrial Zoned Acres</u>	<u>% of Twp.</u>
Auburn	13,995.57	73.14%	575.53	3.01%	483.63	2.53%
Bainbridge	15,009.66	90.55%	242.68	1.47%	130.94	0.79%
Burton	13,850.70	92.63%	522.56	3.49%	578.59	3.87%
Chardon	14,461.86	98.95%	152.71	1.04%	0.00	N/A
Chester	14,669.97	97.30%	267.74	1.77%	132.05	0.88%
Claridon	13,589.80	94.07%	241.31	1.67%	32.36	0.22%
Hambden	12,972.90	90.19%	281.33	1.96%	41.36	0.29%
Huntsburg	14,726.40	94.15%	400.44	2.56%	514.72	3.29%
Montville	15,140.53	96.13%	509.35	3.23%	61.62	0.39%
Munson	14,818.47	89.94%	291.40	1.77%	892.31	5.42%
Newbury	15,925.40	87.15%	558.59	3.05%	539.19	2.95%
Parkman	16,413.91	95.12%	337.20	1.95%	504.76	2.93%
Russell	10,884.80	87.91%	45.52	0.38%	0.00	N/A
Thompson	15,032.09	91.15%	188.79	1.14%	1,170.77	7.09%
Troy	11,632.87	70.52%	218.09	1.32%	413.22	2.51%

Source: *The Geauga County Planning Commission (2014)*
Geauga County Auditor's Office (2012)

Map II-10



CHAPTER III

DEMOGRAPHICS

Introduction

The primary emphasis of this chapter will be on developing a demographic profile of Bainbridge Township. This profile will be used in conjunction with the topics in other chapters to formulate recommendations for the land use plan. Demographic information is a fundamental factor in determining the framework of a community. As a result, it is a basic element of land use planning and decision-making.

For additional information concerning the U.S. Census visit:

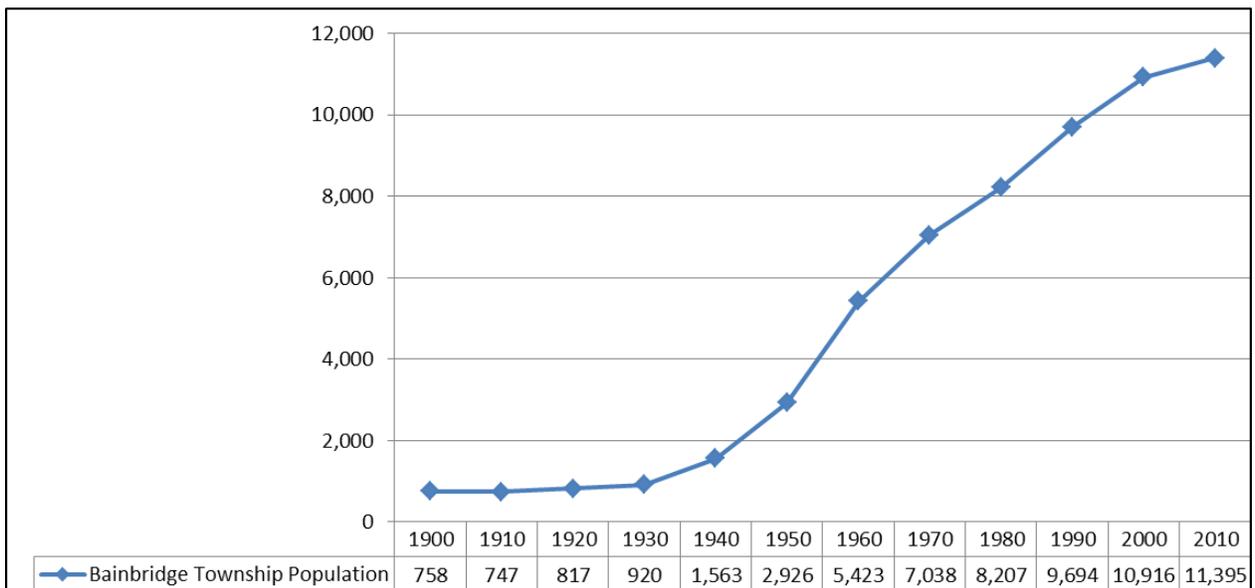
<http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml>.

Population

Over the years, population growth in Bainbridge Township was not dramatic until around 1950. As reflected in the following figure, it has increased from 758 persons in 1900 to 11,395 individuals in 2010.

Figure III-1

Population Growth: 1900 – 2010
Bainbridge Township



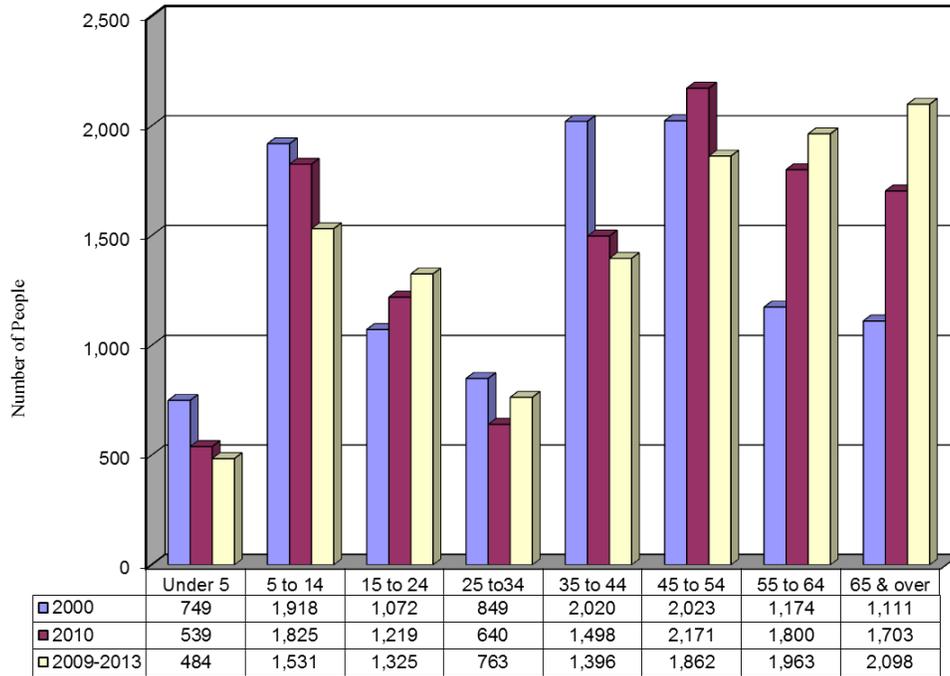
Source: U.S. Census Bureau

Population by Age Group

The following figure reflects population by age group (see Figure III-2). Bainbridge is experiencing an aging population--the highest percentage (18.4%) of its residents is in the over 65 category per the latest American Community Survey estimates (see Figure III-3).

Figure III-2

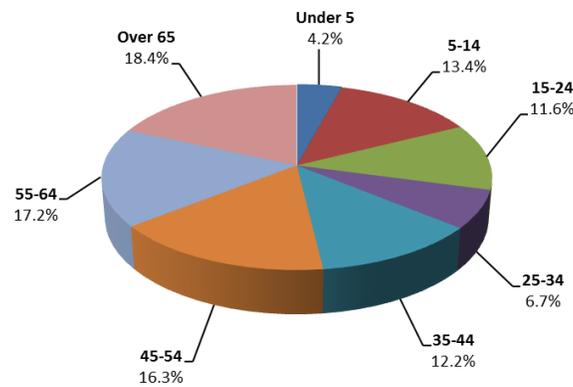
Age Distribution: 2000, 2010, and 2009-2013 Estimates
Bainbridge Township



Source: U.S. Census Bureau; American Community Survey 5-Year Estimates (2009-2013)

Figure III-3

Percentage of Age Groups: 2009-2013 Estimates
Bainbridge Township



Source: American Community Survey 5-Year Estimates (2009-2013)

Income

In 1990, the Census data indicated that 85.7% of the township residents had incomes greater than \$25,000 and 75.5% of the residents had incomes of more than \$35,000. In 2000, 70% of the households in Bainbridge had incomes greater than \$50,000.

American Community Survey (ACS) 2009-2013 estimates prepared by the U.S. Census Bureau revealed that about 72% of Bainbridge Township residents had incomes greater than \$50,000. The information pertaining to income is shown in greater detail in Table III-1. Data from the ACS estimates listed the median household income for Bainbridge as \$86,880. The ACS estimated per capita income was \$49,184.

Table III-1

Income Distribution: 1990, 2000, and 2009-2013 Estimates
Bainbridge Township

<u>Income</u>	<u>1990</u>		<u>2000</u>		<u>2009-2013</u> <u>(In 2013 Inflation-Adjusted Dollars)</u>	
	<u>Households</u>	<u>%</u>	<u>Households</u>	<u>%</u>	<u>Households</u>	<u>%</u>
Under \$10,000	122	3.7%	154	4.0%	300	6.7%
\$10,000-\$14,999	137	4.2%	99	2.6%	64	1.4%
\$15,000-\$24,999	209	6.4%	220	5.7%	259	5.7%
\$25,000-\$34,999	334	10.2%	277	7.2%	286	6.4%
\$35,000-\$49,999	542	16.5%	401	10.5%	361	8.0%
Over \$50,000	1,938	59.0%	2,686	70.0%	3,237	71.8%
<i>Total</i>	<i>3,282</i>	<i>100.0%</i>	<i>3,837</i>	<i>100.0%</i>	<i>4,507</i>	<i>100.0%</i>
Median Household Income	\$57,916		\$85,014		\$86,880	
Mean Household Income	\$64,791		\$102,224		\$124,009	
Per Capita Income	\$21,999		\$37,708		\$49,184	

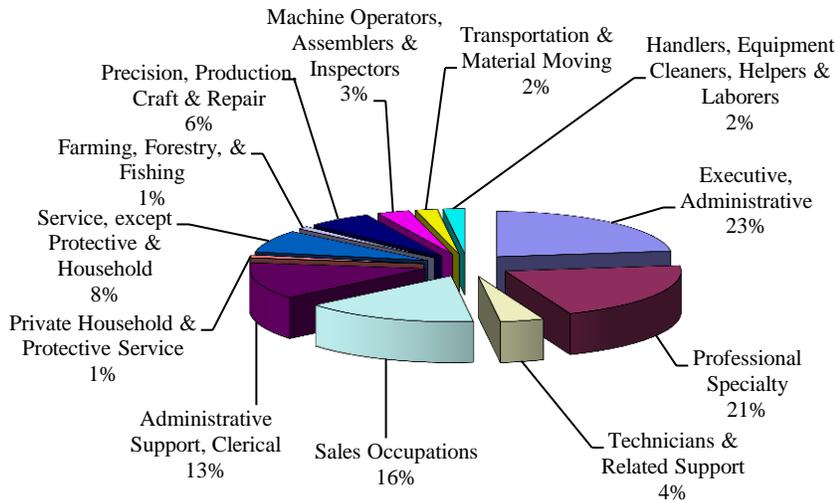
Source: U.S. Census Bureau; American Community Survey 5-Year Estimates (2009-2013)

Occupations

In 1990, the highest percentage of the labor force in the township was classified as “executive administrative” occupations followed by “professional specialty” occupations (see Figure III-4). According to the 2000 Census data (see Figure III-5), the highest percentages of the labor force were classified in “managerial and professional” (52%) and “sales and office” (27%). Figure III-6 provides the latest American Community Survey information with respect to labor force categories in the township. The highest percentage (24.8%) of the labor force is involved in “educational services, and health care and social assistance.”

Figure III-4

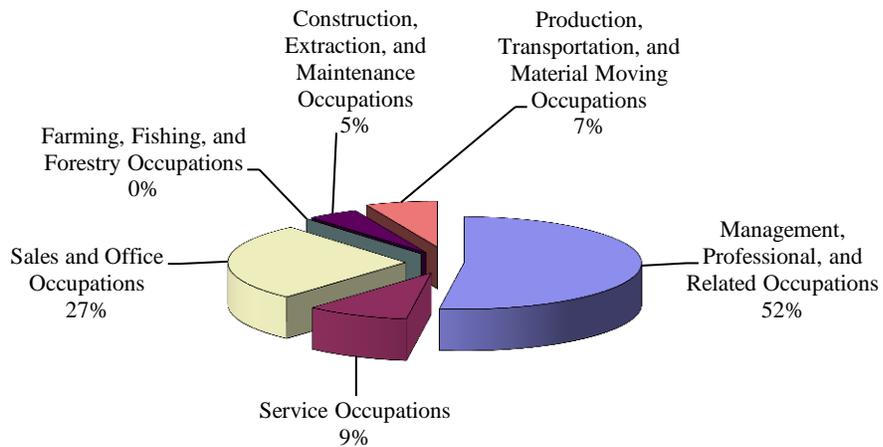
Occupations by Percentage: 1990
Bainbridge Township



Source: U.S. Census Bureau

Figure III-5

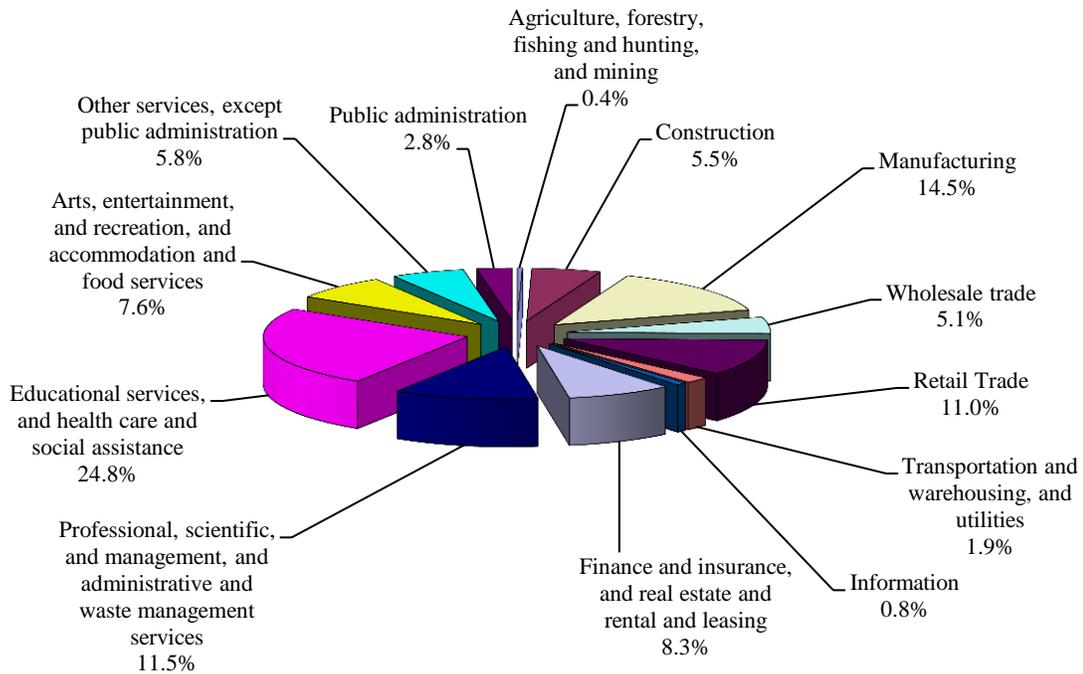
Occupations by Percentage: 2000
Bainbridge Township



Source: U. S. Census Bureau

Figure III-6

Occupations by Percentage: 2009-2013 Estimates
Bainbridge Township



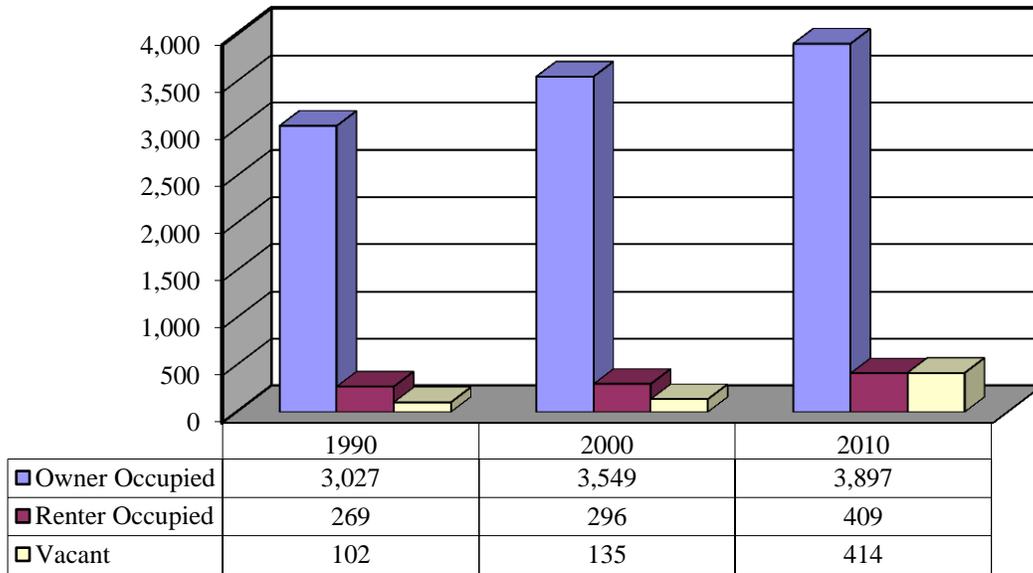
Source: American Community Survey 5-Year Estimates (2009-2013)

Home Ownership

The Census data indicate that home ownership is a strong element in the community. The number of owner-occupied housing units has steadily increased from 3,027 units in 1990 to 3,897 in 2010 (see Figure III-7), representing 82.6% of the housing units in the township.

Figure III-7

Housing Units by Occupancy: 1990, 2000, and 2010
Bainbridge Township



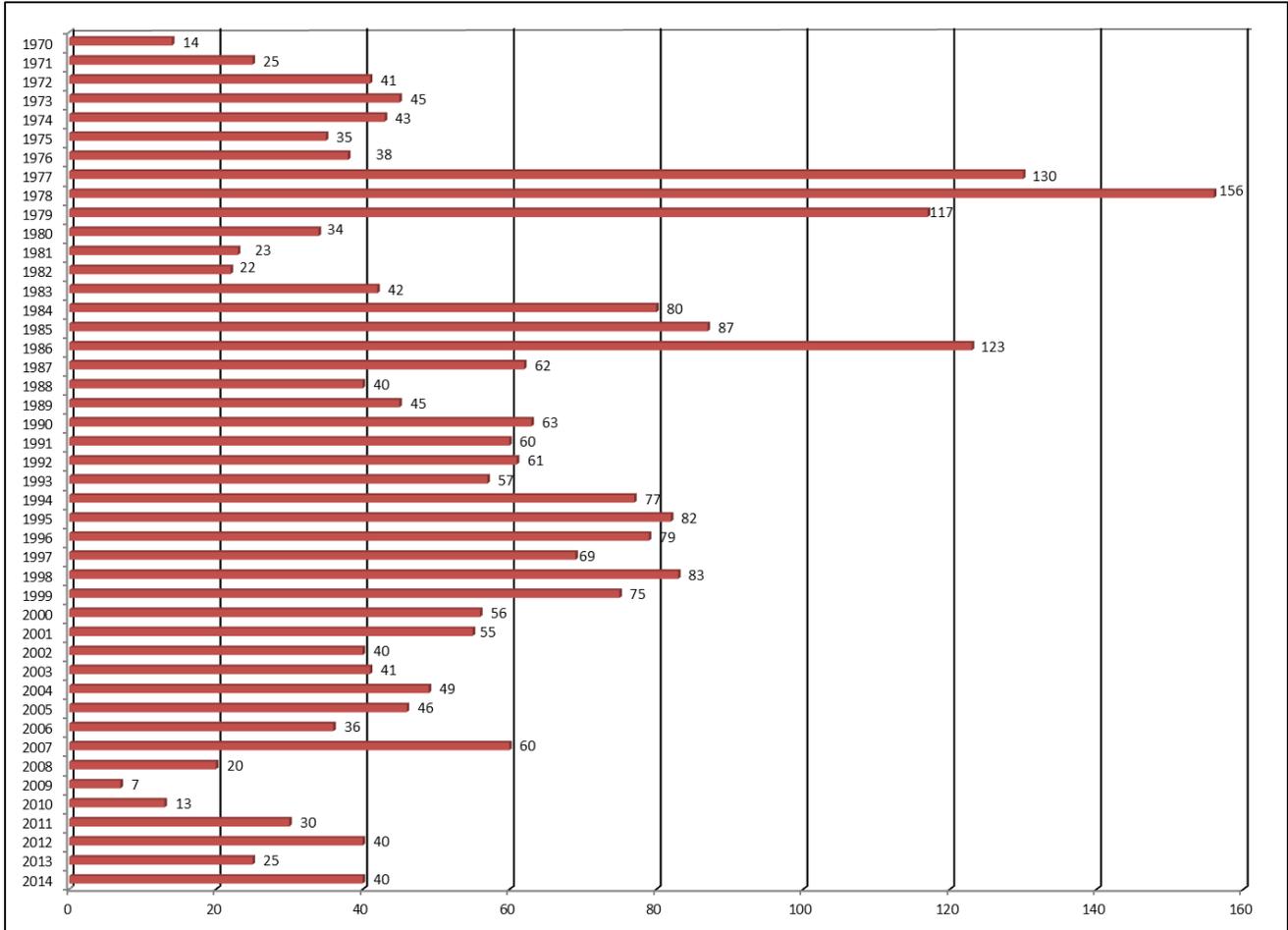
Source: U.S. Census Bureau

Housing Starts

Based upon data by the County Building Department, 2,466 new single family dwelling permits were issued in Bainbridge from 1970 through 2014 (see Figure III-8). Compared to the other 15 townships within the county, Bainbridge had the highest total number of housing starts over the last 45 years, averaging nearly 55 per year (see Table III-2 and Figure III-9).

Figure III-8

New Single Family Dwelling Permits: 1970 – 2014
Bainbridge Township



Source: Geauga County Building Department (2015)

Note: Based on building permits issued for single-family homes.

Table III-2

Single-Family Housing Starts by Township: 1970 – 2014
Geauga County

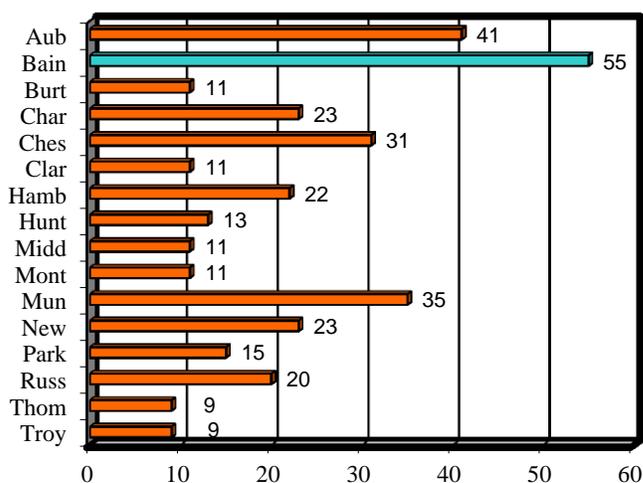
<u>Township</u>	<u>Number</u>	<u>Average</u>	<u>Rank</u>
Auburn	1,850	41	2
Bainbridge	2,466	55	1
Burton	480	11	13
Chardon	1,020	23	6
Chester	1,408	31	4
Claridon	493	11	12
Hambden	978	22	7
Huntsburg	587	13	10
Middlefield	515	11	11
Montville	515	11	11
Munson	1,577	35	3
Newbury	1,024	23	5
Parkman	683	15	9
Russell	903	20	8
Thompson	388	9	14
Troy	383	9	15

Source: Geauga County Building Department (2015)

Note: Based on building permits issued for single-family homes.

Figure III-9

Average Annual Number of Housing Starts by Township: 1970 – 2014
Geauga County



Source: Geauga County Building Department (2015)

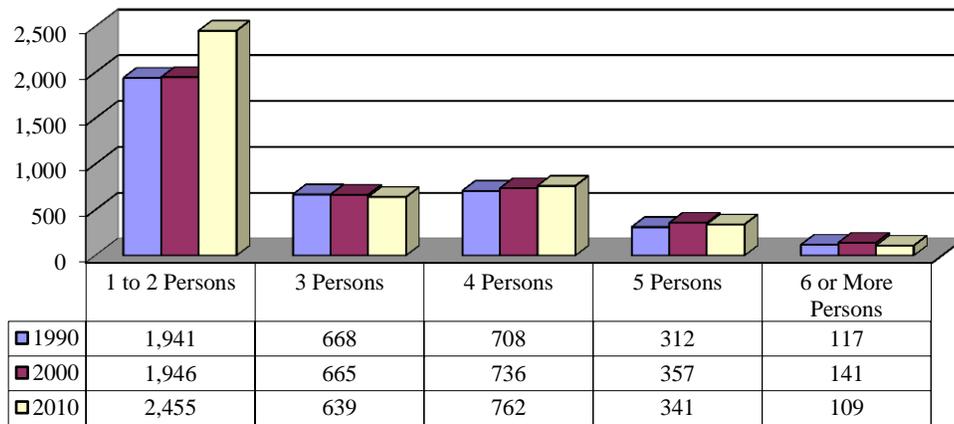
Note: Based on building permits issued for single-family homes.

Persons per Household

Although the number of housing units in the township has increased between 1990 and 2010, the number of persons per household has decreased in some categories as shown in Figure III-10. Overall, the township appears to be following the national trend toward a smaller number of persons per household. There was a significant increase in 1 to 2 person households from 2000 to 2010.

Figure III-10

Persons per Occupied Housing Unit: 1990, 2000, and 2010
Bainbridge Township



Source: U.S. Census Bureau

Value of Occupied Housing Units

The value of owner-occupied housing units has increased in the township (see Table III-3). In 1990 most (73.9%) of the housing units were valued at \$100,000 and over and by 2000, this percentage increased to 95.2%. Median home value also rose dramatically. According to the 5-year estimates, the median value of occupied homes in Bainbridge Township was \$278,500 in 2009-2013.

Table III-3

**Value of Owner-Occupied Housing Units
1990, 2000, and 2009-2013 Estimates
Bainbridge Township**

<u>Dollars</u>	<u>1990</u>		<u>2000</u>		<u>2009-2013</u>	
	<u>Units</u>	<u>%</u>	<u>Units</u>	<u>%</u>	<u>Units</u>	<u>%</u>
Under \$50,000	94	3.53%	43	1.4%	99	2.5%
\$50,000 to \$99,999	619	23.3%	109	3.4%	148	3.8%
\$100,000 to \$149,999	797	30.0%	445	13.9%	326	8.4%
\$150,000 to \$199,999	668	25.1%	608	19.0%	469	12.0%
\$200,000 to \$299,999	394	14.8%	1,167	36.6%	1,259	32.3%
\$300,000 to \$499,999	70	2.6%	588	18.4%	859	22.0%
\$500,000 and over	17	0.6%	233	7.3%	738	19.0%
Total	2,659	100.0%	3,193	100.0%	3,898	100.0%
Median Value	\$137,700		\$227,400		\$278,500	

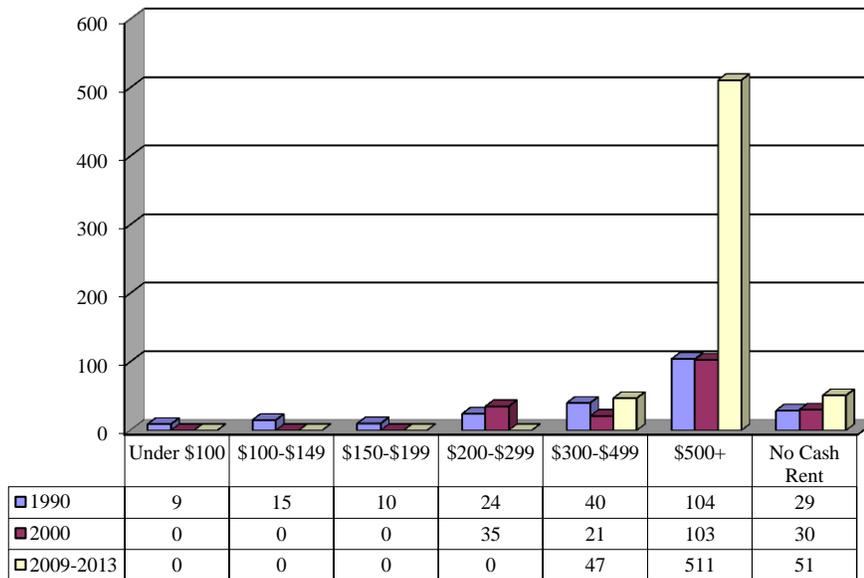
Source: U.S. Census Bureau; American Community Survey 5-Year Estimates (2009-2013)

Contract Rent

Monthly rent has also risen in the township. Pursuant to the latest 5-year estimates, the majority of renters were paying over \$500 per month (see Figure III-11).

Figure III-11

**Monthly Contract Rent: 1990, 2000, and 2009-2013 Estimates
Bainbridge Township**

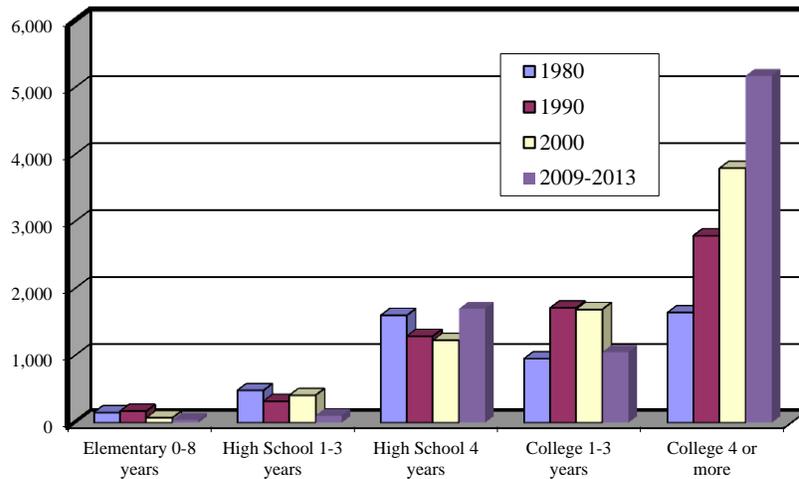


Source: U.S. Census Bureau; American Community Survey 5-Year Estimates (2009-2013)

Educational Level

Figure III-12 and Table III-4 provide information pertaining to the educational level of Bainbridge residents 25 years and older. Nearly 58% of the residents of Bainbridge are college graduates. Table III-5 includes the latest available school enrollment for the township based on the 5-year Census estimates

Figure III-12
Years of School Completed (Persons >25 Years Old)
1980, 1990, 2000, and 2009-2013 Estimates
Bainbridge Township



Source: U.S. Census Bureau; American Community Survey 5-Year Estimates (2009-2013)

Table III-4
Percentage of High School Graduates and College Graduates (Persons > 25 Years Old)
1990, 2000, and 2009-2013 Estimates
Bainbridge Township

<u>School Level</u>	<u>1990</u>		<u>2000</u>		<u>2009-2013 Estimates</u>	
	<u>Graduates</u>	<u>%</u>	<u>Graduates</u>	<u>%</u>	<u>Graduates</u>	<u>%</u>
High School Graduate	6,319	90.8%	6,718	93.3%	7,932	98.1%
College Graduate	2,876	41.3%	3,797	52.7%	4,678	57.9%

Source: U.S. Census Bureau; American Community Survey 5-Year Estimates (2009-2013)

Table III-5

Persons >3 Years Old Enrolled in School: 2009-2013 Estimates
Bainbridge Township

<u>School Level</u>	<u>Persons</u>	<u>% of Total</u>	<u>% in Public School</u>	<u>% in Private School</u>
Nursery school, preschool	112	3.8%	33.9%	66.1%
Kindergarten	210	7.1%	76.2%	23.8%
Elementary school (grades 1-4)	519	17.6%	81.7%	18.3%
Elementary school (grades 5-8)	675	22.9%	83.7%	16.3%
High school (grades 9-12)	899	30.5%	75.8%	24.2%
College, undergraduate	438	14.9%	80.6%	19.4%
Graduate, professional school	93	3.2%	17.2%	82.8%
<i>Total</i>	<i>2,946</i>	<i>100.0%</i>		

Source: American Community Survey 5-Year Estimates (2009-2013)

CHAPTER IV

NATURAL RESOURCES

Introduction

A significant aspect of this plan entails the collection and analysis of key environmental data. The maps in this section provide a visual display of the existing environmental features in the township. It should be noted that the maps are not meant to replace an on-site investigation by a qualified professional soils scientist or geotechnical engineer.

The following environmental variables were collected, mapped, and analyzed:

- Detailed Soils
- Prime Agricultural Land
- Bedrock Geology
- Depth To Bedrock
- Slope
- Topography
- Shrink-Swell Potential
- Potential Frost Action
- Depth to Seasonal Watertable
- Permeability
- Water Basins
- Watersheds
- Hydrography
- Flood Prone Areas
- Wetlands
- Drainage
- Groundwater Availability
- Hydrogeologic Settings
- Groundwater Pollution Potential

Detailed Soils

A detailed soils analysis provides basic insights into the limitations of the physical environment on development. Each soil type reflects distinct characteristics which can be rated according to the degree of limitation that it represents for a specified land use.

The Ohio Department of Natural Resources (ODNR), Division of Lands and Soils, conducted a soil survey of Bainbridge Township. Soil scientists examined the soil to a depth of three to five feet by means of an auger. The soil samples were laboratory tested to determine such properties as texture, permeability, and type of parent material. Wetlands, streams and drainageways were also noted. Aerial base maps were utilized, following the field observations, to delineate the boundaries of the various soil types identified. A total of 28 different soil classifications were identified in Bainbridge Township (see Table IV-1 and Map IV-1).

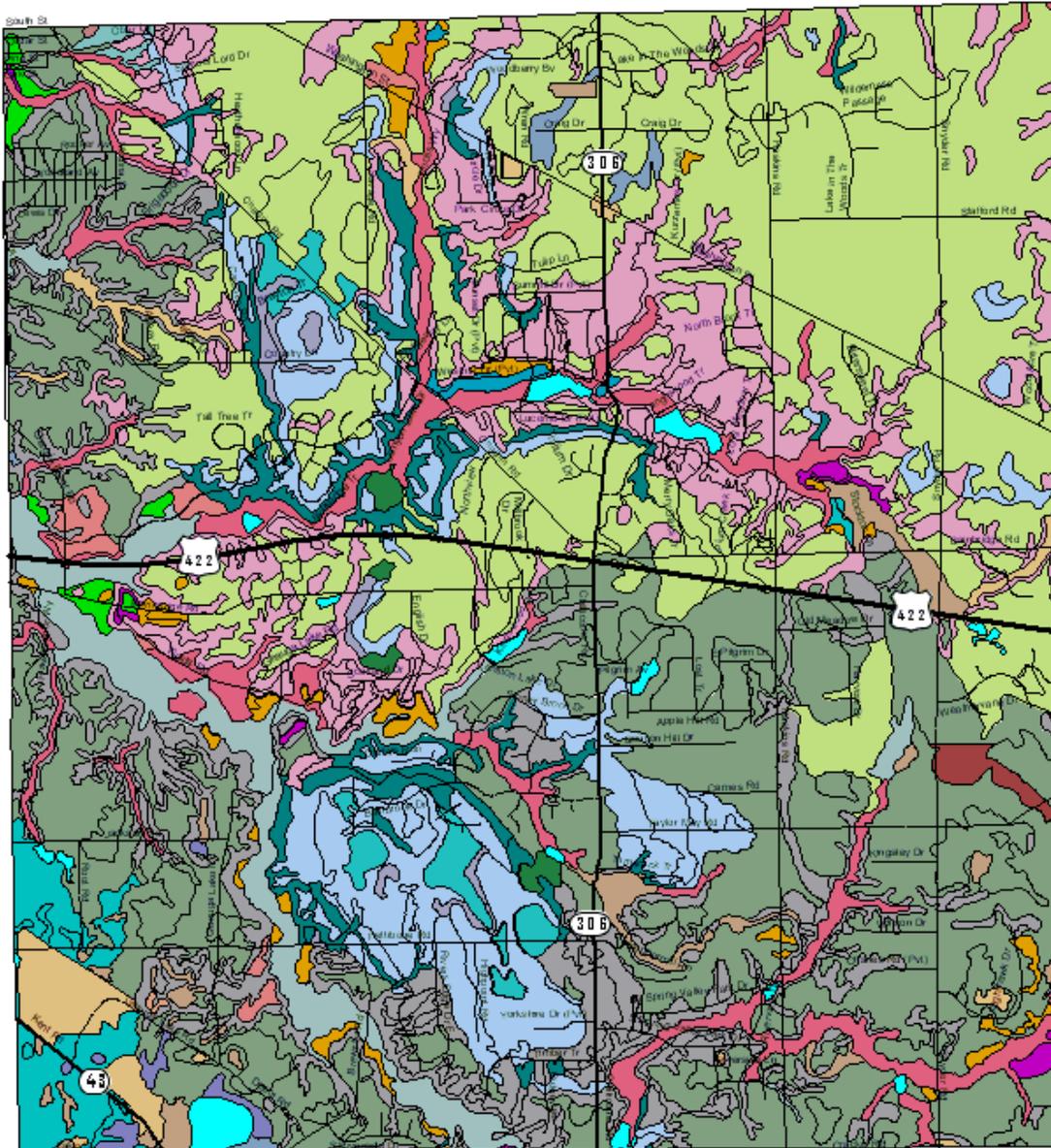
The inventory and evaluation of the soils is a key element in the land use planning process. The land use plan is meant to be in harmony with the characteristics of the soil and the capability of it to support development.

Table IV-1

Soil Types
Bainbridge Township

Soils	Acreage	% of Township
 BgB - Bogart	90.88	0.5%
 BrF - Brecksville	21.10	0.1%
 Ca - Canadice	183.52	1.1%
 CcA, B - Caneadea	274.60	1.7%
 Cf - Carlisle Muck	44.89	0.2%
 CnB, C - Chili	176.70	1.0%
 CyF - Chili Oshtemo	8.46	0.0%
 EhB, C, D, E, F - Ellsworth	1,622.36	9.9%
 FcA, B - Fitchville	57.64	0.3%
 GfB, C - Glenford	44.64	0.2%
 Ho - Holly	71.13	0.4%
 HsA, B - Haskins	48.87	0.3%
 JtA - Jimtown	31.05	0.2%
 LrB, C - Lordstown	85.70	0.5%
 LxD, F - Lordstown	473.93	2.9%
 LyB, C - Loudonville	1,237.49	7.6%
 MgA, B, C - Mahoning	3,795.83	22.9%
 MsB - Mahoning	3.16	0.0%
 MtA - Mitiwanga	160.65	0.9%
 Or - Orrville	728.76	4.5%
 Pq - Pits, gravel	44.54	0.2%
 RsB, C, D, E, F - Rittman	1,742.03	10.6%
 Sb - Sebring	56.08	0.3%
 Sf - Sheffield	1.96	0.0%
 Tg - Tioga	518.69	3.2%
 Ud - Udorthents	172.10	1.0%
 Ur - Urban Land	28.94	0.1%
 W - Water	121.48	0.7%
 WbA, B - Wadsworth	4,743.82	28.7%
Total	16,591.00	100.0%

Map IV-1



Bainbridge Township Soils



Source: Ohio Department
of Natural Resources 1982
Prepared By: Geauga County
Planning Commission 2004

Prime Agricultural Land

As defined by the United States Department of Agriculture, Natural Resource Conservation Service (NRCS), prime agricultural land has the appropriate soil quality, moisture supply, and attendant growing season to produce a high crop yield when treated and managed in accordance with modern farm methods. Generally, prime agricultural soils will be more productive under intense cultivation than other soils, using the same management practices. About 66% of the soils in the township are considered prime agricultural land (see Table IV-2 and Map IV-2).

Table IV-3 reflects the prime agricultural land classification system utilized by NRCS. The numbers represent progressively greater limitations, a narrower choice of crops, and the way crops respond to management. The letters given are subclasses, which indicate the problems associated with a particular soil type. The letter “E” means that the primary limitation is the risk of erosion (unless close-growing plant cover is maintained) and the letter “W” indicates that water in, or on the surface of, the soil interferes with plant growth or cultivation.

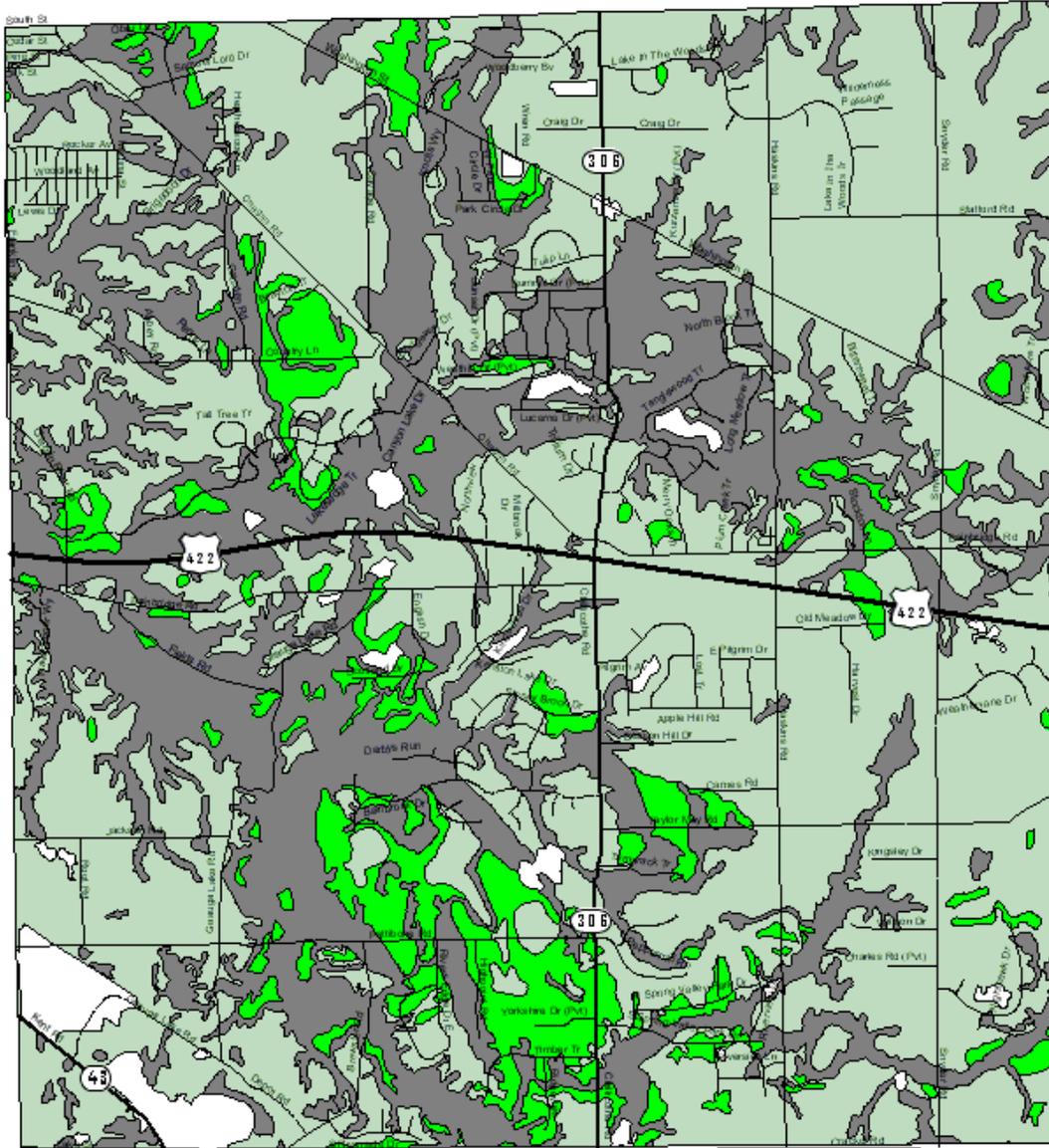
Table IV-2

Prime Agricultural Soil Map Legend
Bainbridge Township

<u>Agricultural Soil Classes</u>	<u>Acres</u>	<u>% of Township</u>
Prime	1,298.54	7.8%
Prime with Drainage	9,711.32	58.5%
Non-Prime	5,214.08	31.5%
Not Rated	367.06	2.2%
<i>Total</i>	<i>16,591.00</i>	<i>100.0%</i>

Source: Geauga County Soil Survey 1982

Map IV-2



Bainbridge Township Prime Agricultural Soils

Soil Ratings

-  Prime
-  Prime with Drainage
-  Non-prime
-  Not Rated



Source: Geauga County
Soil Survey 1982
Prepared by: Geauga County
Planning Commission 2001

Table IV-3

Agricultural Ratings
Bainbridge Township

<u>Mapping Units</u>	<u>Soils</u>	<u>Agricultural Classification</u>	<u>Prime Land</u>
Bg B	Bogart	2E	X
Br F	Brecksville	5E	
Ca	Canadice	5E	
Cc A, B	Caneadea	3W	X
Cf	Carlisle	5W	
Cn B	Chili	2E	X
Cn C	Chili	3E	
Cy F	Chili-Oshtemo	5E	
Eh B	Ellsworth	3E	X
Eh C, D, E, F	Ellsworth	5E	
Fc A, B	Fitchville	3W	X
Gf B	Glenford	2E	X
Gf C	Glenford	3E	
Hs A, B	Haskins	2E	X
Ho	Holly	3W	
Jt A	Jimtown	2W	X
Lr B	Lordstown	2E	X
Lr C	Lordstown	5E	
Lx D, F	Lordstown Rock Outcrop	5E	
Ly B	Loudonville	2E	X
Ly C	Loudonville	5E	
Mg A, B	Mahoning	3E	X
Mg C	Mahoning	4E	
Ms B	Mahoning, Shale Substratum	3E	X
Mt A	Mitiwanga	3E	X
Or	Orrville	2W	
Rs B	Rittman	2E	X
Rs C, D, E, F	Rittman	5E	
Sb	Sebring	5W	
Sf	Sheffield	3W	
Tg	Tioga	2W	
Wb A, B	Wadsworth	3E	X

Source: Geauga County Soil Survey 1982

Generalized Bedrock Geology

There are eight mappable bedrock units that have been identified in Bainbridge Township (see Table IV-4 and Map IV-3). These units are:

Bedford Shale is blue-gray, well bedded, and silty with thin interbedded siltstone and ripple marks. It ranges in thickness from 50 to 70 feet.

The Berea Sandstone is gray, cross-bedded, fine to medium grained, friable, ripple marked, and ranges in thickness from 35 to 65 feet.

Chagrin Shale is blue-gray and silty with thin interbedded siltstone and a thickness of 60 feet or greater.

Cleveland Shale is dark gray to black, well bedded, silty, and 25 to 50 feet in thickness.

The Cuyahoga Formation is a fine grained sandstone and shale averaging about 130 feet in thickness. It is subdivided into the Meadville Shale, Sharpsville Sandstone, and Orangeville Shale.

Mercer Shale is blue-gray to black, well bedded to irregularly bedded, silty to sandy, micaceous, and is located at the highest elevation in the northeast portion of the township.

Sharon Shale is dark gray with irregular distribution and may be up to 20 feet in thickness.

The Sharon/Massillon Sandstone is white, medium to coarse grained, very pure orthoquartzitic sandstone. It contains lenses of quartz pebbles and may be more than 100 feet thick in some areas. This sandstone has been quarried in the past and is an important aquifer for ground water.

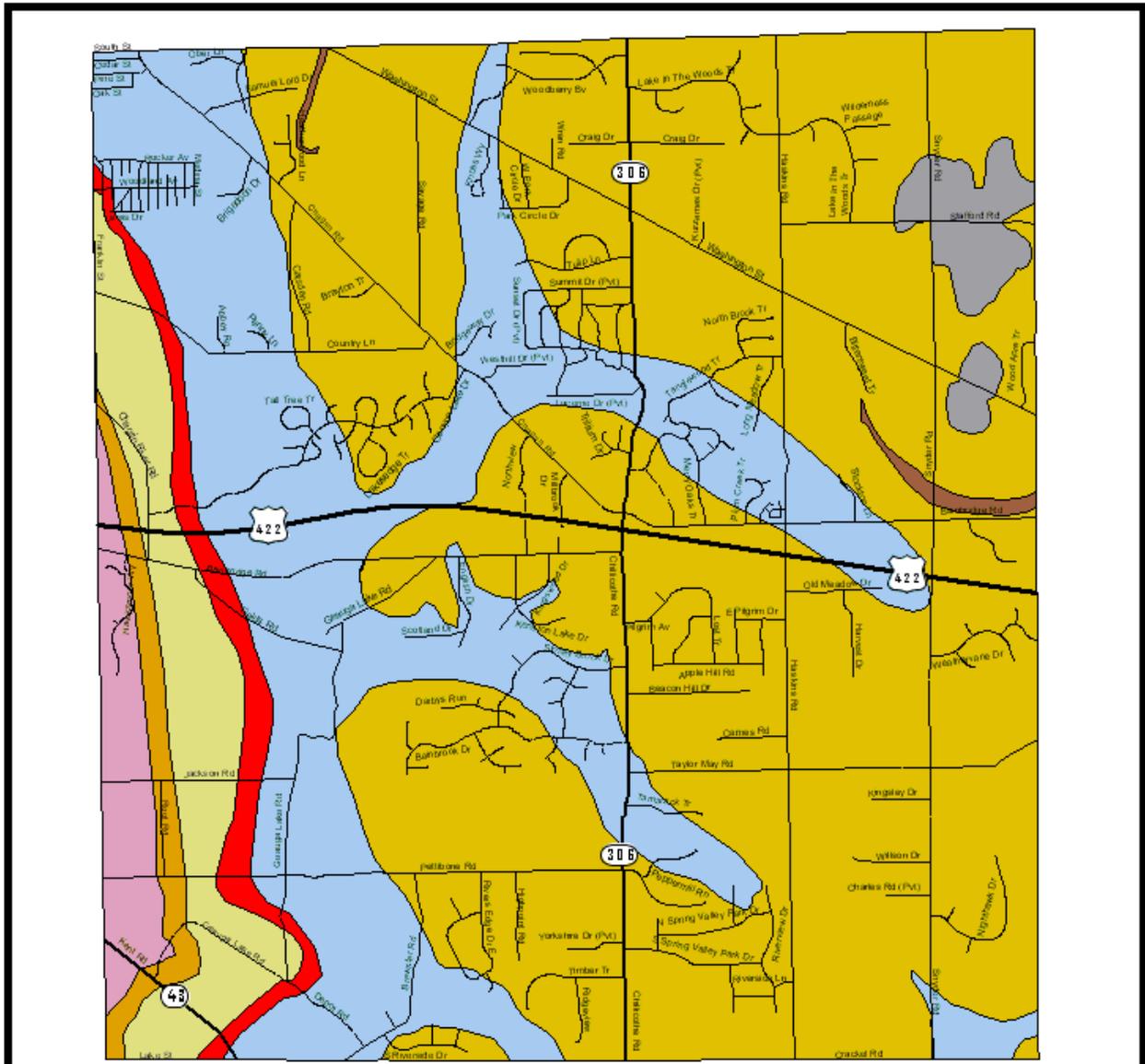
Table IV-4

Generalized Bedrock Geology Map Legend
Bainbridge Township

<u>Bedrock Geology</u>	<u>Acres</u>	<u>% of Township Area</u>
Bedford Shale	918.94	5.4%
Berea Sandstone	343.02	2.1%
Chagrin Shale	397.57	2.4%
Cleveland Shale	259.44	1.6%
Cuyahoga Formation	4,230.49	25.5%
Mercer Shale	309.06	1.9%
Sharon Shale	63.61	0.4%
Sharon/Massillon Sandstone	10,068.87	60.7%
Total	16,591.00	100.0%

Source: ODNR Division of Geological Survey, 1988

Map IV-3



**Bainbridge Township
Generalized Bedrock Geology**

- Geology
- Bedford Shale
 - Berea Sandstone
 - Chagrin Shale
 - Cleveland Shale
 - Cuyahoga Formation
 - Mercer Shale
 - Sharon Shale
 - Sharon/Massillon Sandstone



Source: ODNR Division of Geological Survey 1988
 Prepared by: Geauga County Planning Commission 2004

Depth to Bedrock

About 12 percent of the township (see Table IV-5) is underlain by bedrock at a depth of less than five feet from the surface. As shown on Map IV-4, the areas of shallow bedrock are primarily in the northwest quadrant of the township. The specific soil types which identify shallow bedrock include: Brecksville Silt Loam, Lordstown Loam, Lordstown Rock Outcrop Complex, Loudonville Silt Loam, Mahoning Silt Loam Substratum, and Mitiwanga Silt Loam.

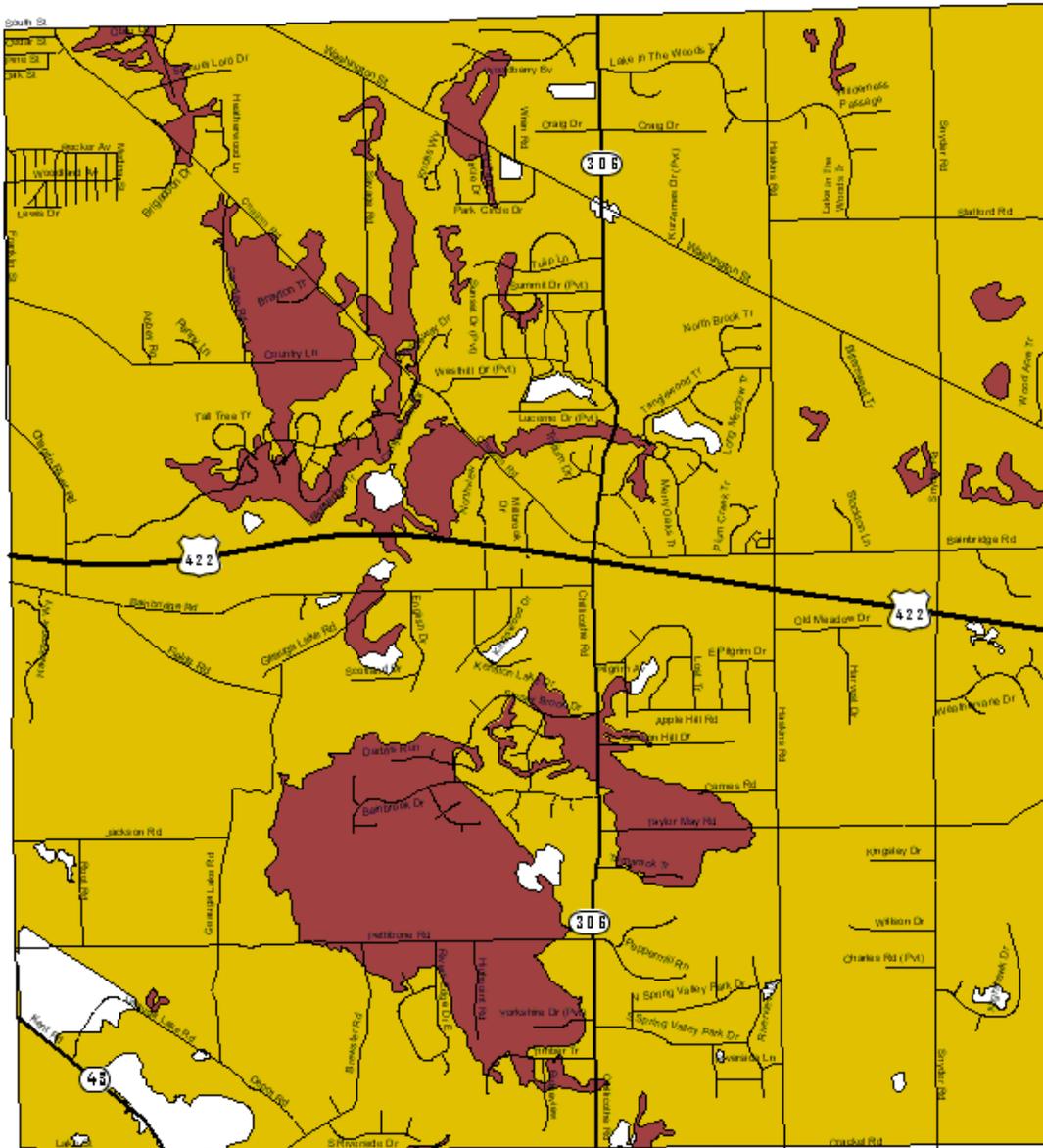
Table IV-5

Depth to Bedrock Map Legend
Bainbridge Township

<u>Depth to Bedrock</u>	<u>Acres</u>	<u>% of Township Area</u>
Depth to Bedrock < 5 ft.	1,982.02	12.0%
Depth to Bedrock > 5 ft.	14,241.92	85.8%
Not Rated	367.06	2.2%
<i>Total</i>	<i>16,591.00</i>	<i>100.0%</i>

Source: Geauga County Soil Survey 1982

Map IV-4



Bainbridge Township Depth to Bedrock

- Depth to Bedrock
- < 5 feet
 - > 5 feet
 - Not Rated



Source: Geauga County
Soil Survey 1982
Prepared by: Geauga County
Planning Commission 2004

Slope

Slope represents the inclination of the land surface from a horizontal plane. The percentage of slope is determined by taking the vertical distance divided by the horizontal distance, then multiplying it by 100. Consequently, a 10 percent slope is a vertical change of 10 feet in 100 feet of horizontal distance.

According to Table IV-6 and Map IV-5, 72.2% of the terrain in Bainbridge Township is classified as level to gently rolling (0 to 6%). Slope of 6 to 12% covers 15.6% of the community's land area.

The degree of slope has an impact on the feasibility of placing improvements on a site. Steeply sloped areas may be unsuitable for development. Erosion and runoff of soil sediment during construction is a significant concern. On-site septic systems may not function properly on severe or very severe soil slopes.

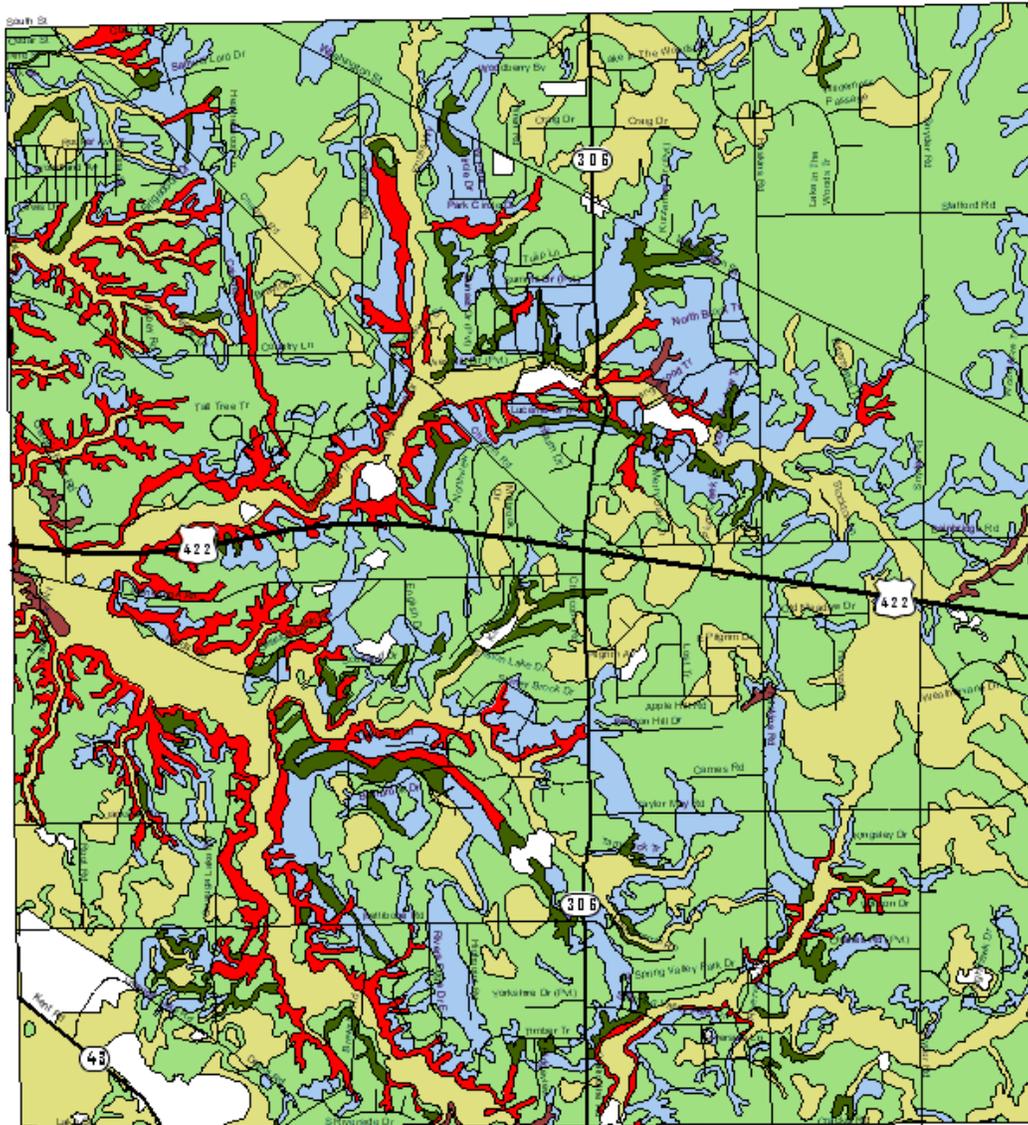
Table IV-6

Slope Map Legend
Bainbridge Township

<u>% Slope</u>	<u>Acres</u>	<u>% of Township Area</u>
0 - 2% (A)	3,363.58	20.3%
2 - 6% (B)	8,619.09	51.9%
6-12% (C)	2,575.05	15.6%
12-18% (D)	488.32	2.9%
18-25% (E)	57.31	0.3%
> 25% (F)	1,120.59	6.8%
Not Rated	367.06	6.8%
Total	16,591.00	100.0%

Source: Geauga County Soil Survey 1982

Map IV-5



Bainbridge Township Slope

- Slope
- 0-2%
 - 2-6%
 - 6-12%
 - 12-18%
 - 18-25%
 - greater than 25%
 - Not Rated

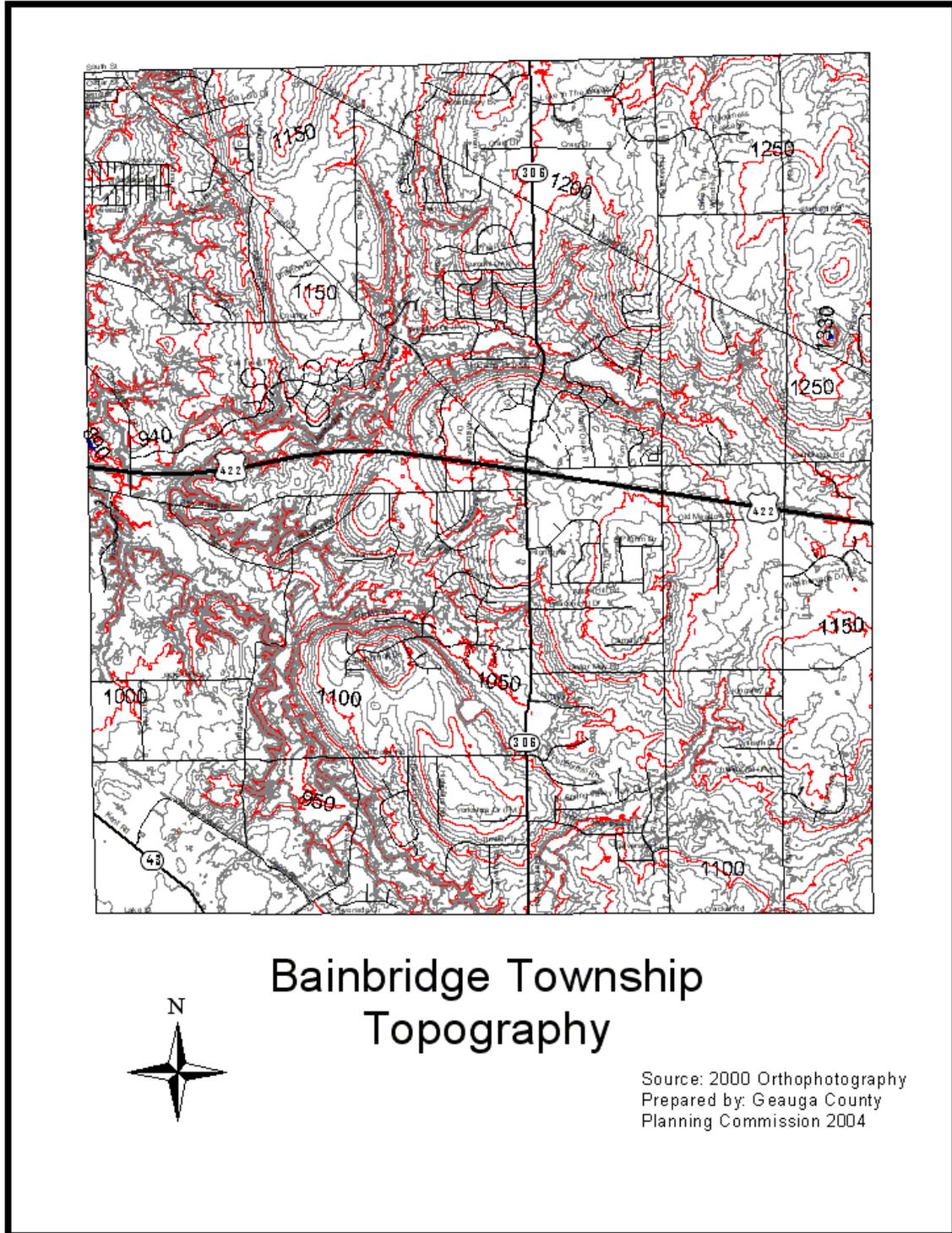


Source: Geauga County
Soil Survey 1982
Prepared by: Geauga County
Planning Commission 2004

Topography

The highest point in the township is at an elevation of approximately 1,330 feet located near the eastern border of the township, just north of Washington Street. The lowest point is at an elevation of 890 feet located on the western border of the township, north of U.S. 422 (see Map IV-6).

Map IV-6



Shrink-Swell Potential

Shrink-swell potential is a measurement of the relative change in volume of soil material based on changes in its moisture content. The degree of swelling and shrinking of soil is also influenced by the amount of clay ingredient. Soils rated with a “high” shrink-swell potential may cause roads to deteriorate and foundations to crack and move. The majority of the township, about 53%, has soils rated “low”. Only a few soil types are rated “high” representing 2% of the township (see Table IV-7 and Map IV-7).

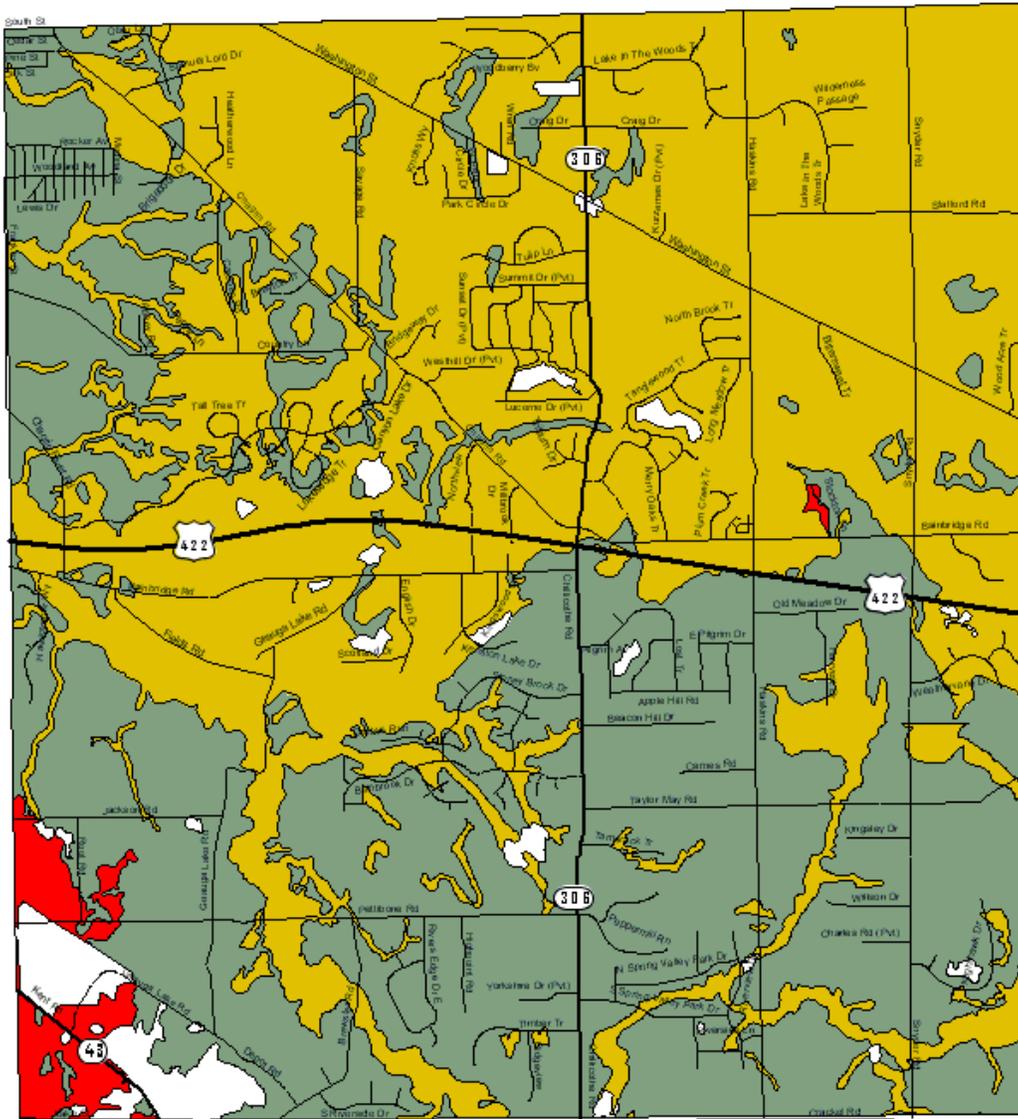
Table IV-7

Shrink-Swell Potential Map Legend
Bainbridge Township

<u>Rating</u>	<u>Acres</u>	<u>% of Township Area</u>
Low	8,766.64	52.8%
Moderate	7,137.82	43.0%
High	274.59	1.7%
Not Rated	411.95	2.5%
<i>Total</i>	<i>16,591.00</i>	<i>100.0%</i>

Source: Geauga County Soil Survey 1982

Map IV-7



Bainbridge Township Shrink-Swell Potential

Shrink-Swell Potential

- Low
- Moderate
- High
- Not Rated



Source: Geauga County
Soil Survey 1982
Prepared by: Geauga County
Planning Commission 2004

Potential Frost Action

Potential frost action rates the possibility for damage resulting from heaving, excessive wetting, and loss of soil strength in areas where substantial ground freezing is common. Low soil strength coupled with frost heave may cause damage to roads and foundations. The majority of the township (81.5%) is rated “high” for potential frost action (see Table IV-8 and Map IV-8).

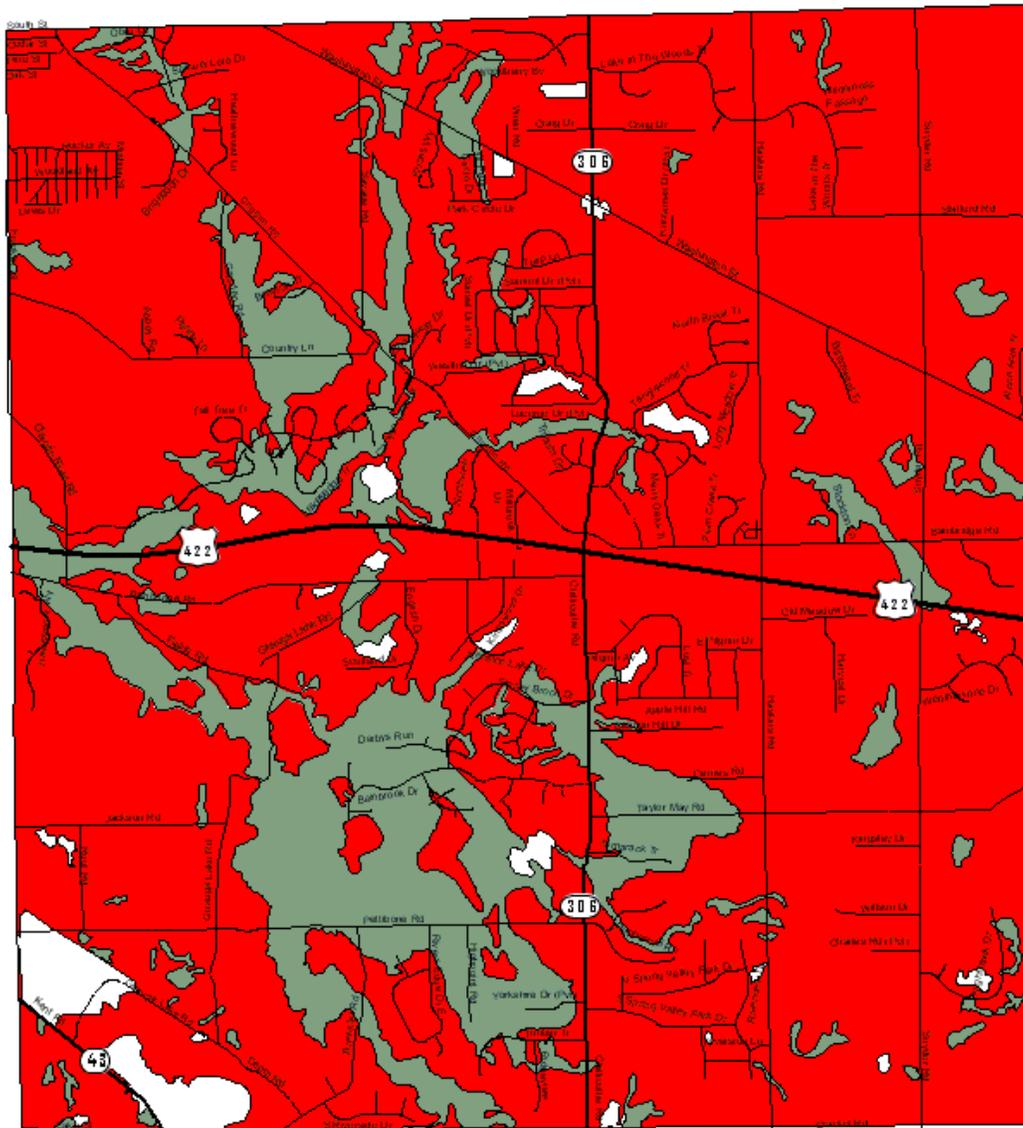
Table IV-8

Potential Frost Action Map Legend
Bainbridge Township

<u>Rating</u>	<u>Acres</u>	<u>% of Township Area</u>
Moderate	2,705.57	16.3%
High	13,518.37	81.5%
Not Rated	367.06	2.2%
<i>Total</i>	<i>16,591.00</i>	<i>100.0%</i>

Source: Geauga County Soil Survey 1982

Map IV-8



Bainbridge Township Potential Frost Action

- Frost Action**
- Moderate
 - High
 - Not Rated



Source: Geauga County
Soil Survey 1982
Prepared by: Geauga County
Planning Commission 2004

Depth to Seasonal High Water Table

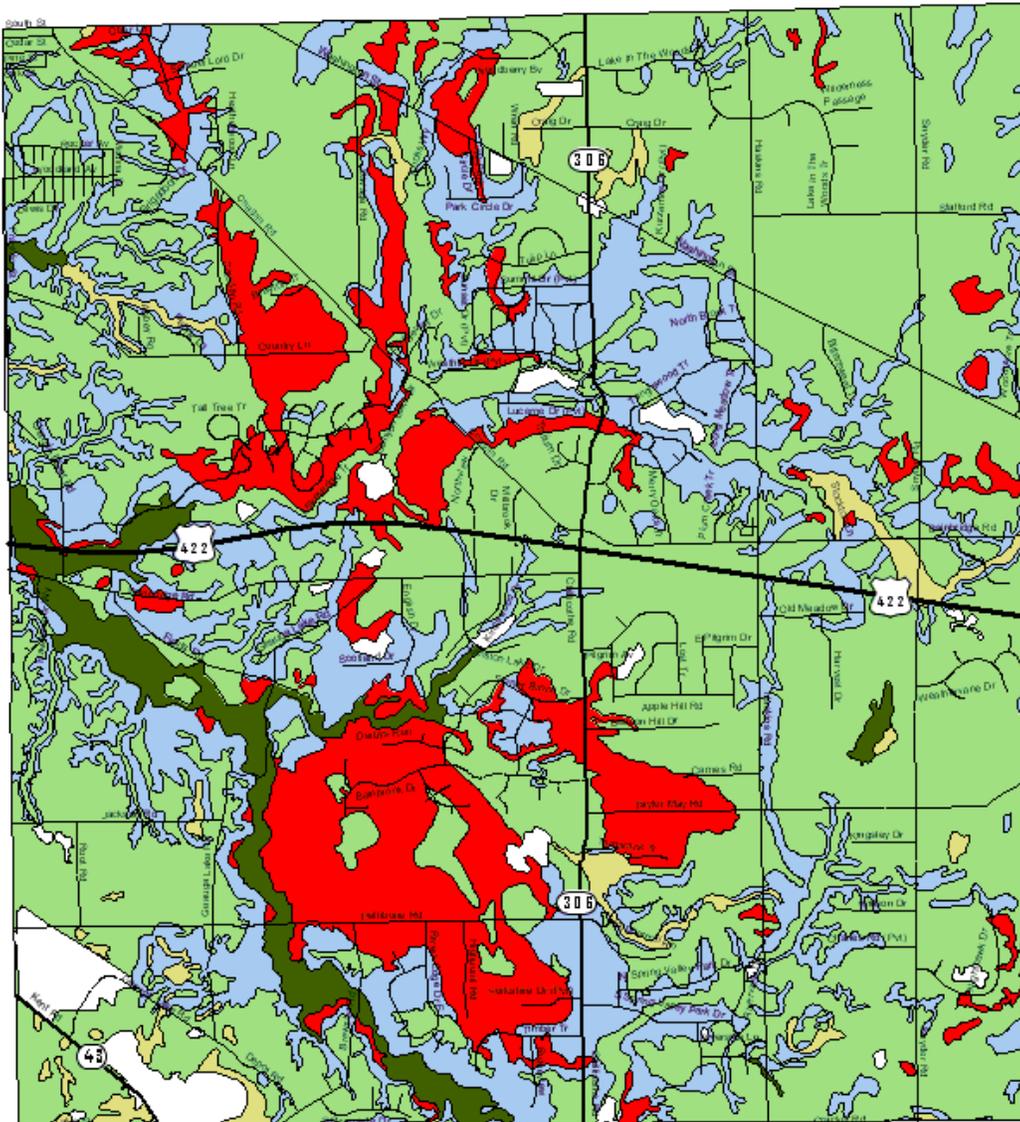
Depth to seasonal high water table indicates the shallowest depth at which the soil is saturated in a zone more than six inches thick for a continuous period of more than two weeks. A high seasonal water table may cause the improper operation of on-site sewage disposal systems, wet or flooded basements, and cracked or damaged foundations. Specially designed drainage systems and foundations may be required. About 59.3% of the township is in the category of 12-24 inches (see Table IV-9 and Map IV-9).

Table IV-9

Depth to Seasonal High Water Table Map Legend
Bainbridge Township

<u>Rating</u>	<u>Acres</u>	<u>% of Township Area</u>
0 – 12 inches	357.59	2.2%
12 – 24 inches	9,844.41	59.3%
24 – 36 inches	3,499.88	21.1%
36 – 48 inches	518.69	3.1%
> 48 inches	2,003.37	12.1%
Not Rated	367.06	12.1%
<i>Total</i>	<i>16,591.00</i>	<i>100.0%</i>

Source: Geauga County Soil Survey 1982



Bainbridge Township Depth To Seasonal High Water Table

Depth to Water Table

-  0-12"
-  12-24"
-  24-36"
-  36-48"
-  48" & greater
-  Not Rated



Source: Geauga County
Soil Survey 1982
Prepared by: Geauga County
Planning Commission 2004

Permeability

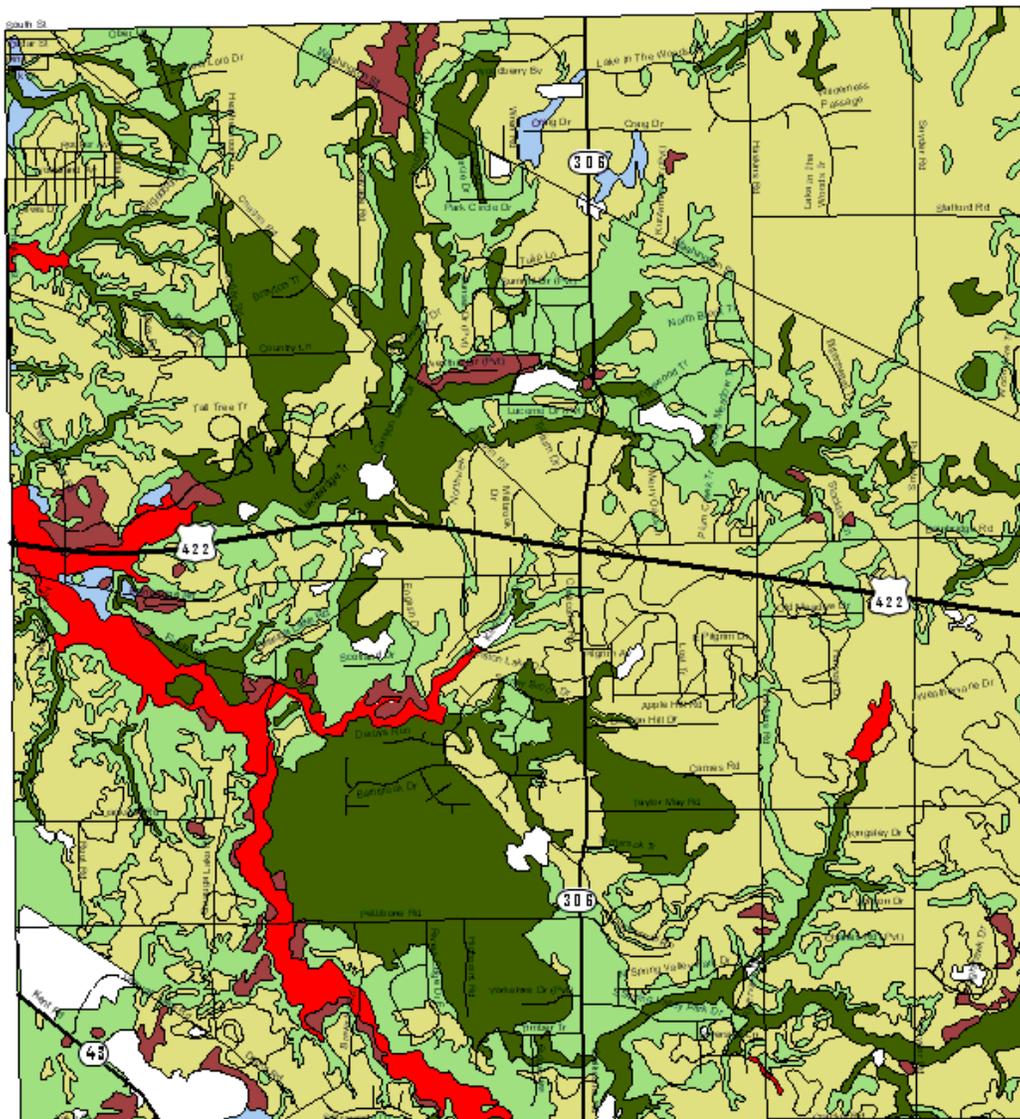
Permeability is an estimate of the rate of downward water movement in a soil horizon when it is saturated but allowed to drain freely. It is typically expressed in inches per hour (iph). The rate of permeability is primarily determined by the soil texture, structure, porosity, and infiltration tests. It is an important variable in the successful operation of septic tank leach fields. The majority of the township (75%) is rated “very slow” to "slow” for permeability (see Table IV-10 and Map IV-10).

Table IV-10

Permeability Map Legend
Bainbridge Township

<u>Rating</u>	<u>Acres</u>	<u>% of Township Area</u>
Very Slow: < 0.06 iph	8,772.05	52.9%
Slow: 0.06 to 0.20 iph	3,665.19	22.1%
Moderately Slow: 0.2 to 0.6 iph	113.73	0.7%
Moderate: 0.6 to 2.0 iph	2,802.29	16.9%
Moderately Rapid: 2.0 to 6.0 iph	351.99	2.1%
Rapid: 6.0 to 20.0 iph	518.69	3.1%
Not Rated	367.06	2.2%
<i>Total</i>	<i>16,591.00</i>	<i>100.0%</i>

Source: Geauga County Soil Survey 1982



Bainbridge Township Permeability

- Permeability
- Very Slow
 - Slow
 - Moderately Slow
 - Moderate
 - Moderately Rapid
 - Rapid
 - Not Rated



Source: Geauga County
Soil Survey 1982
Prepared by: Geauga County
Planning Commission 2004

Water Basins and Watersheds

Bainbridge Township belongs to two major water basins (the Chagrin and Cuyahoga) and seven watersheds (see Table IV-11, Map IV-11, and Map IV-12).

During periods of precipitation, all of the excess water that is not absorbed into the ground is called runoff. Eventually, the runoff travels through a watershed and into a stream, which in turn flows through downstream watersheds.

Runoff often produces soil erosion and soil sediment that is regarded as a pollutant. It degrades water quality and can disrupt sensitive ecological conditions. In recognition of the problems associated with soil erosion and water pollution, the Geauga County Board of Commissioners adopted water and soil sediment pollution control regulations in 1979. The regulations are enforced by the Geauga Soil and Water Conservation District (SWCD). The township has adopted zoning regulations to address water and sediment runoff on sites under five acres in size.

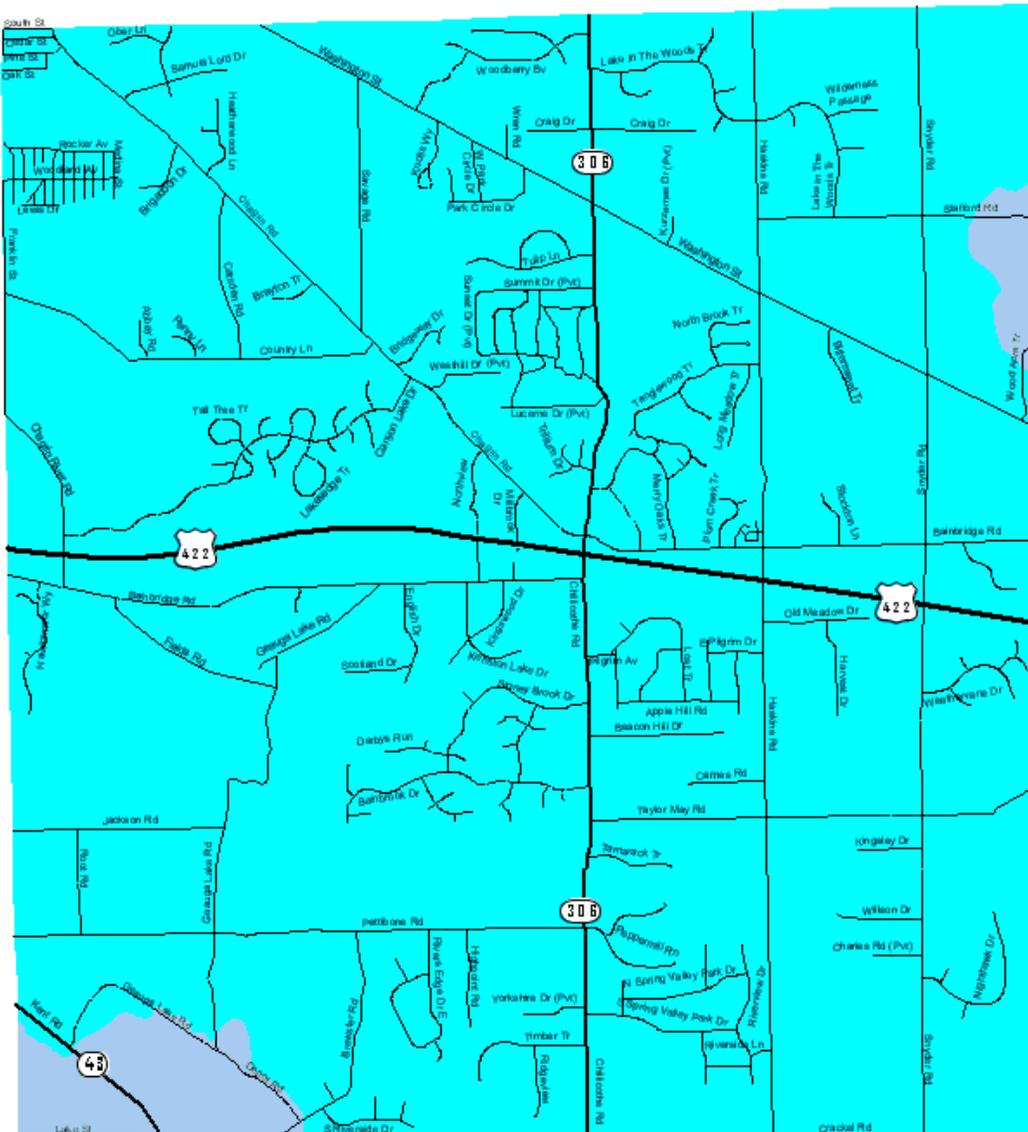
Table IV-11

Water Basins and Watersheds Map Legend
Bainbridge Township

<u>Water Basin</u>	<u>Watershed</u>	<u>Area (acres)</u>	<u>% of Township Area</u>
Chagrin River	Chagrin River at Chagrin Falls	596.79	3.6%
Chagrin River	Aurora Branch above McFarland Creek	7,540.61	45.4%
Chagrin River	Aurora Branch above Liberty Road	1,319.61	8.0%
Chagrin River	McFarland Creek	5,712.44	34.4%
Chagrin River	Silver Creek	901.93	5.4%
Cuyahoga River	LaDue Reservoir near Burton	126.39	0.8%
Cuyahoga River	Pond Brook at Mouth	393.23	2.4%
Total		16,591.00	100.0%

Source: Ohio Department of Natural Resources, 1979

Map IV-11



Bainbridge Township Water Basins

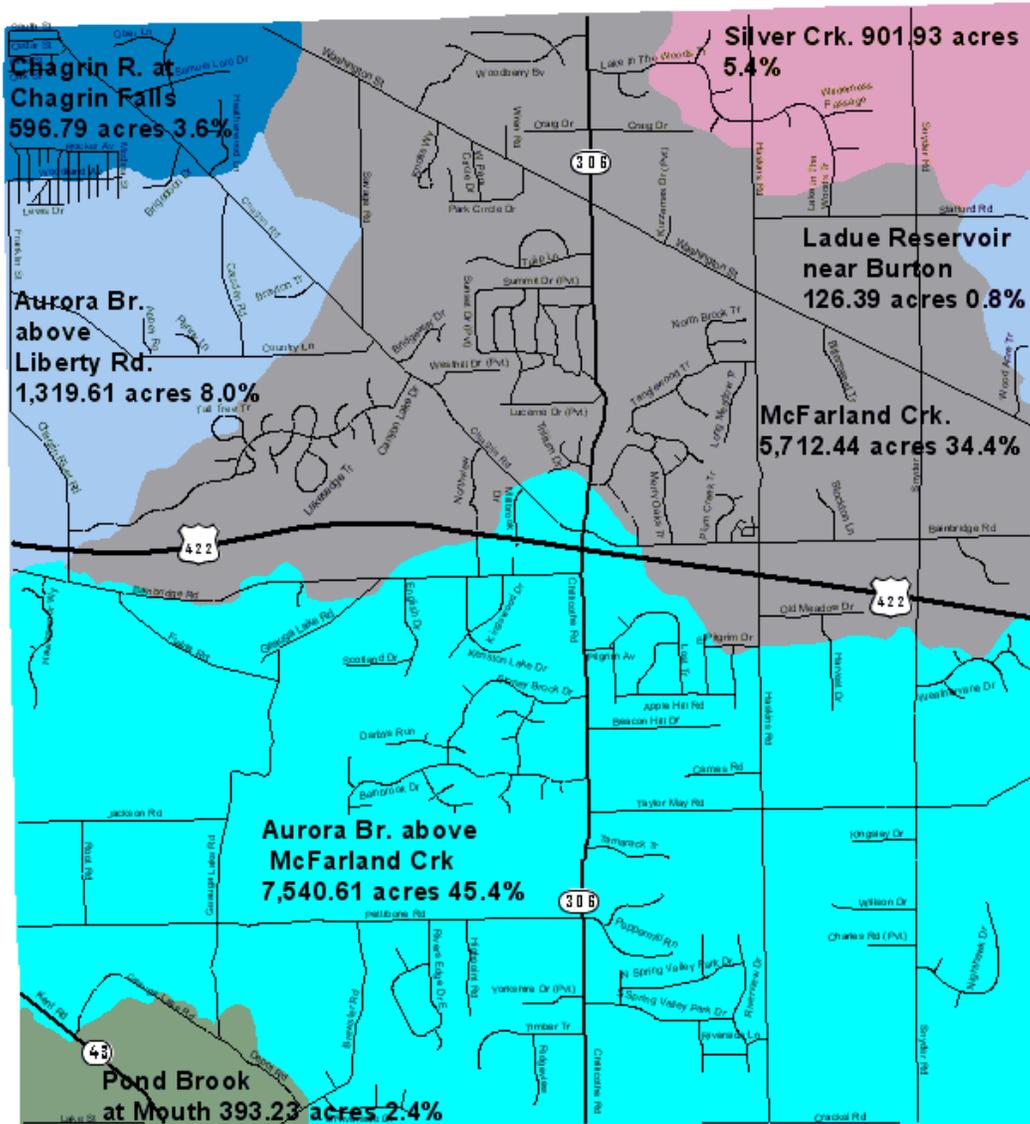
Water Basins

- Chagrin River 16,071.38 acres 96.8%
- Cuyahoga River 519.62 acres 3.2%



Source: Ohio Department of Natural Resources 1996
 Prepared by: Geauga County Planning Commission 2004

Map IV-12



Bainbridge Township Watersheds



Source: Ohio Department of Natural Resources 1996
 Prepared by: Geauga County Planning Commission 2004

Hydrography

The hydrography layer was traced from the 2000 orthophotography of Bainbridge and interpolated from the two foot contours created for the township. The features included are creeks, ditches, hidden drains, intermittent creeks, lakes, ponds, and rivers. Definitions of the features are provided below.

- Creeks are natural streams with an average width less than 50' of visible water.
- Ditches are man-made drainageways.
- Hidden drains include any drainage structures beneath the ground surface, such as culverts.
- Intermittent creeks are natural drainage ways with a defined channel but no visible water.
- Lakes are freestanding, contained bodies of water greater than 200' x 200' in area.
- Ponds are freestanding, contained bodies of water less than 200' x 200' in size but at least 10' x 10'.
- Rivers are natural streams with an average width of 50' or more of visible water.

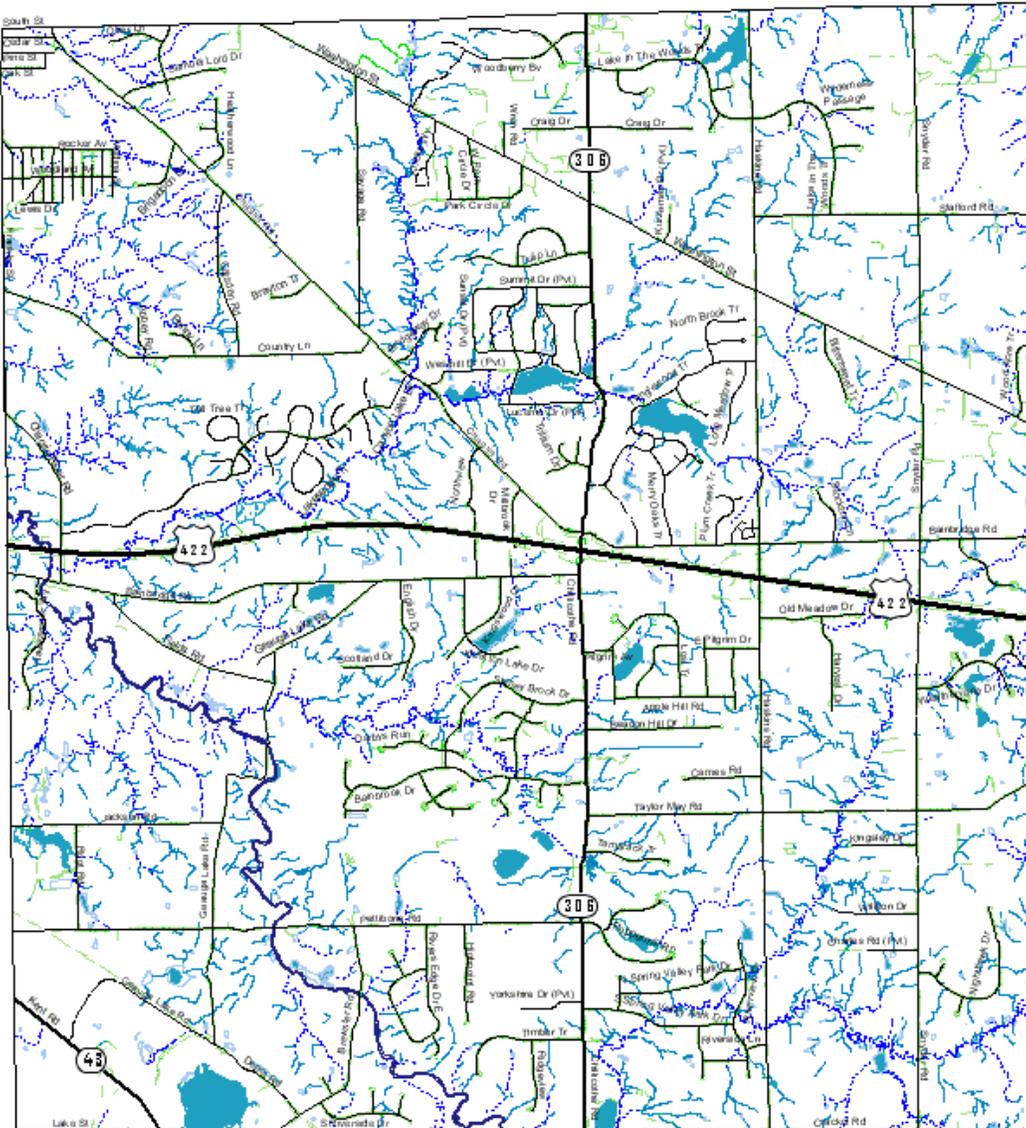
Table IV-12

Hydrography
Bainbridge Township

<u>Feature</u>	<u>Number / Count</u>	<u>Total Linear Feet / Acreage</u>
Creek	1,971	400,091.61 Feet
Ditch	6,352	892,160.54 Feet
Hidden Drain	3,875	124,281.28 Feet
Intermittent Creek	2,767	633,912.16 Feet
Lake	5	87.88 Acres
Pond	75	104.80 Acres
River	278	71,258.12 Feet

Source: Wisser Company, 2000

Map IV-13



Hydrography

-  Creek
-  Ditch
-  Hidden Drain
-  Intermittent Creek
-  Lake
-  Pond
-  River

Bainbridge Township Hydrography

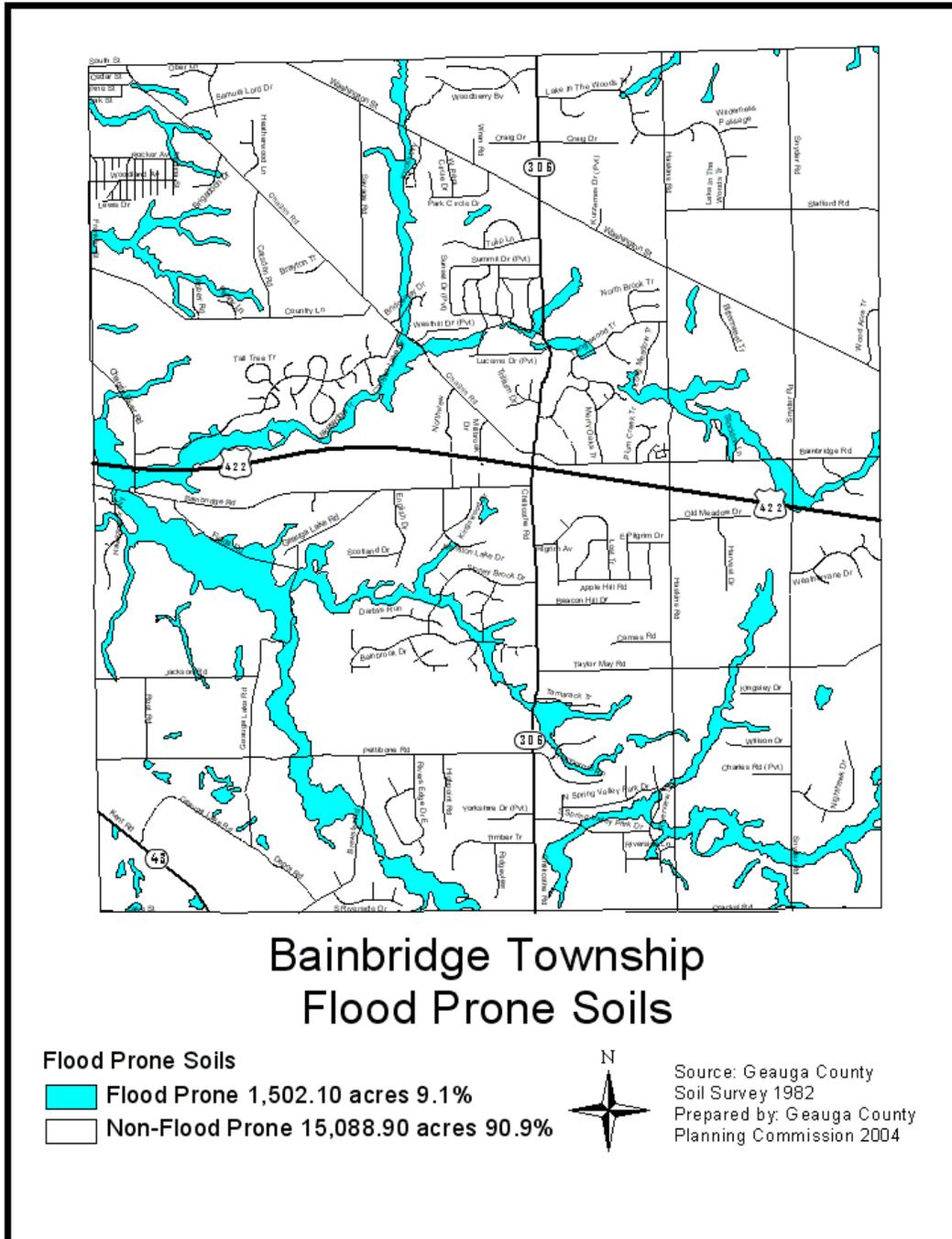


Source: 2000 Orthophotography
Prepared by: Geauga County
Planning Commission 2004

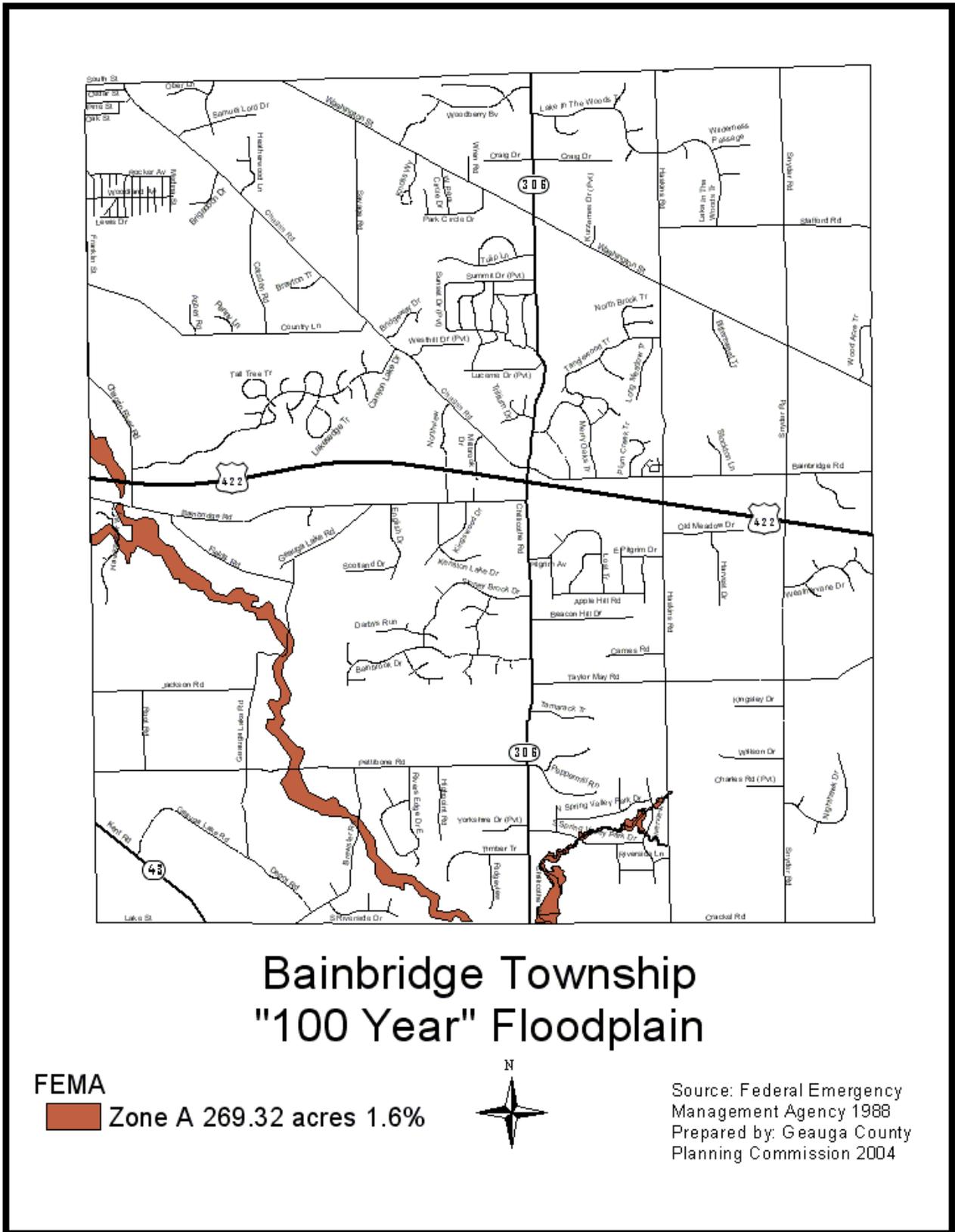
Flood Plains

Within Bainbridge Township, 1,502.1 acres or 9.1% of the township are considered flood prone or hydric soils (see Map IV-14). However, 269.32 acres (1.6%) are designated as a “100 year” flood plain by the Federal Emergency Management Agency or FEMA (see Map IV-15).

Map IV-14



Map IV-15



Generalized Wetlands

The U. S. Department of the Interior, Fish and Wildlife Service (FWS), prepared a wetlands inventory of the township. The generalized map on the following page is meant to represent the areas identified as wetlands through the FWS inventory and the soils map in Bainbridge Township (see Table IV-13 and Map IV-16).

These areas were delineated by the FWS through the use of stereoscopic analysis of high altitude aerial photographs. Under the FWS classification system, wetlands must have one or more of the following three attributes:

1. Hydrophytic vegetation: Hydrophytic vegetation is plant life which grows in water, soil or a substrate that is at least periodically deficient in oxygen as a result of excessive water content.
2. Hydric soils: Hydric soils are soils that are saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions (absence of free oxygen) in the upper part of the horizon.
3. Wetland hydrology: Permanent or periodic inundation, or soil saturation to the surface, at least seasonally.

Wetlands merit protection due to the array of useful functions they perform. They improve water quality by serving as a natural filtration system. The vegetation traps sediment and other pollutants from the water. Wetlands retain large quantities of water, thereby providing downstream protection during periods of heavy rainfall and, conversely, supplementing streams during periods of dry weather and low flow. Finally, wetlands serve as havens for some rare plant species as well as breeding, nesting and feeding grounds for a variety of wildlife. The U. S. Army Corps of Engineers is involved with regulation of wetlands under Section 404 of the Clean Water Act as well as the Ohio EPA.

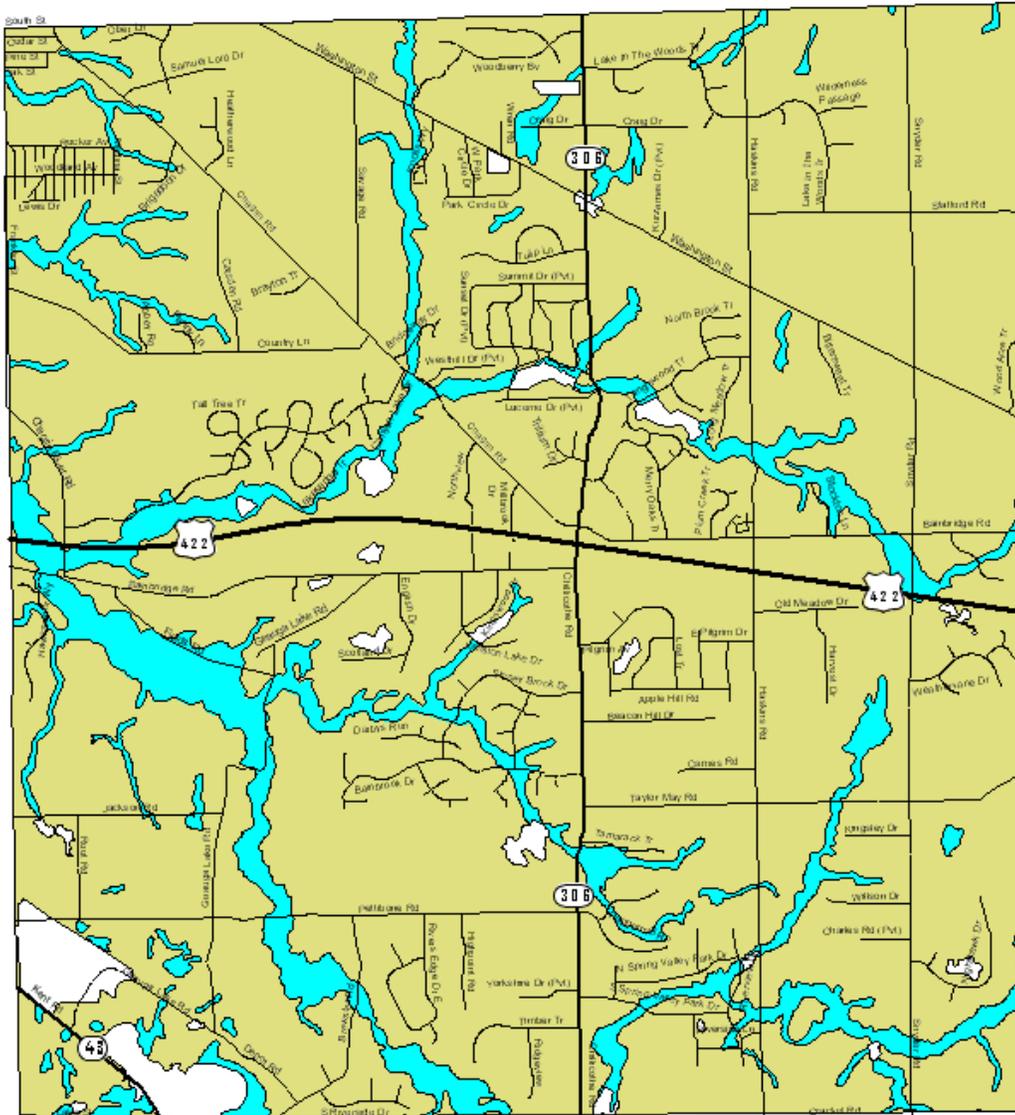
Table IV-13

Generalized Wetlands Map Legend
Bainbridge Township

<u>Rating</u>	<u>Acres</u>	<u>% of Township</u>
Wetlands	1,605.04	9.7%
Non-Wetlands	14,618.90	88.1%
Not Rated	367.06	2.2%
Total	16,591.00	100.0%

Source: Geauga County Soil Survey 1982

Map IV-16



Bainbridge Township Generalized Wetlands

-  Wetlands
-  Non-wetlands
-  Not Rated



Source: Geauga County
Soil Survey 1982
Prepared by: Geauga County
Planning Commission 2004

Drainage

Drainage describes the rapidity and the extent of the removal of water from the soil (see Table IV-14 and Map IV-17). The definitions below relative to drainage are from the Ohio Department of Natural Resources, Division of Lands and Soil:

Very Poorly Drained (VPD) - Water is removed so slowly that the soil is saturated for an extended length of time.

Poorly Drained (PD) - Water is removed from the soil so slowly that it remains wet for long periods of time. The water table is commonly at or near the surface during a considerable part of the year.

Somewhat Poorly Drained (SPD) - Water is removed from the soil so slowly that it remains wet for significant periods, but not all of the time. Somewhat poorly drained soils commonly have a slow permeable layer within the profile, a high water table, additions through seepage, or a combination of these conditions.

Moderately Well Drained (MWD) - Water is removed from the soil somewhat slowly so that the profile is wet for a small but significant part of the time. Moderately well drained soils commonly have a slow permeable layer within or immediately beneath the surface soil and subsoil layers, a relatively high water table, additions of water through seepage, or some combination of these conditions.

Well Drained (WD) - Water is removed from the soil readily, but not rapidly. Well-drained soils are commonly loamy textured, although soils of other texture may also be well drained.

Approximately 59 percent of the township is “somewhat poorly drained.”

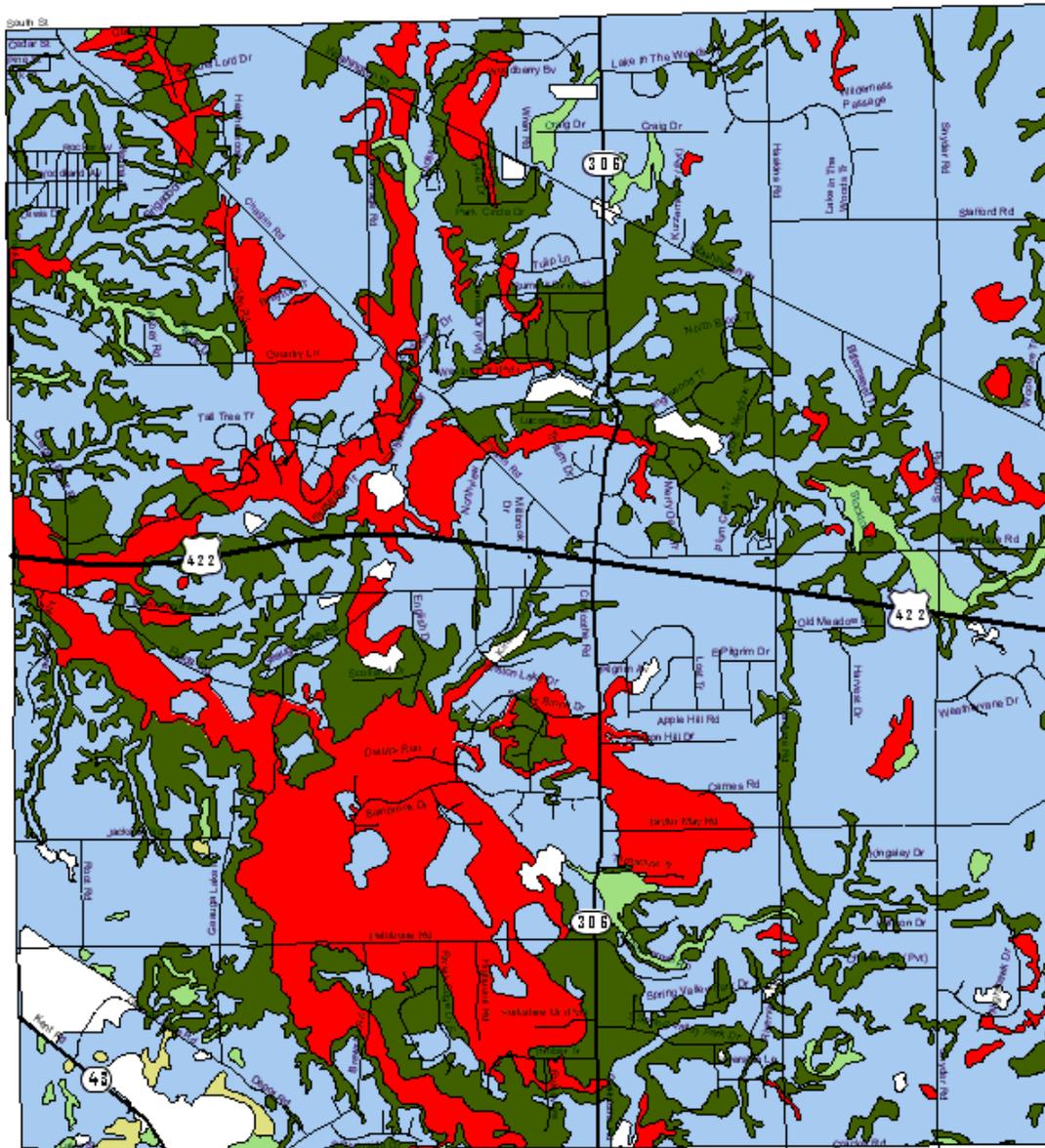
Table IV-14

Drainage Map Legend
Bainbridge Township

<u>Rating</u>	<u>Acres</u>	<u>% of Township Area</u>
Very Poorly Drained	44.89	0.3%
Poorly Drained	312.69	1.9%
Somewhat Poorly Drained	9,844.42	59.3%
Moderately Well Drained	3,499.88	21.1%
Well Drained	2,522.06	15.2%
Not Rated	367.06	2.2%
<i>Total</i>	<i>16,591.00</i>	<i>100.0%</i>

Source: Geauga County Soil Survey 1982

Map IV-17



Bainbridge Township Drainage

Soil Drainage

-  Very Poorly Drained
-  Poorly Drained
-  Somewhat Poorly Drained
-  Moderately Well Drained
-  Well Drained
-  Not Rated



Source: Geauga County
Soil Survey 1982
Prepared by: Geauga County
Planning Commission 2004

Ground Water

According to the Division of Water, Ohio Department of Natural Resources, over 14% of the township has a generalized ground water potential of 3-10 gallons per minute (gpm) and about 58% of the township area can expect yields of 25-100 gpm (Table IV-15 and Map IV-18). Potential pollution hazards should be minimized. Such hazards may include malfunctioning septic systems, improper brine disposal from oil and gas wells, as well as runoff from inappropriately applied fertilizer, herbicides, pesticides, and animal wastes.

The most recent United States Geological Survey (USGS) groundwater study for Geauga County was completed in 1995. It examined groundwater flow and changes in groundwater levels since 1986 within the major aquifers of the county. Water levels in 219 wells were measured and about 80 percent of the wells showed changes in the range of plus or minus five feet. The study concluded that an increase in population and groundwater pumpage did not correlate with the decline in water levels. The predominant reason for the decline seemed to be a decrease in recharge from 1986 to 1994. The USGS has initiated a program to create a well network in the county. Recording devices have been placed on selected wells to obtain continuous output of data. Ultimately, the goal is to create a transient groundwater flow model. Such a model would enhance the capability of the county to predict trends in water levels and water quality as population and water usage increase.

Table IV-16 and Map IV-19 reflect the generalized locations of private central water supply systems in the township. Map IV-20 depicts a sample of yields (gallons per minute) from well logs for wells drilled in Bainbridge. "Data points" represented the location of the wells. Map IV-21 provides the static water level measured in the affected wells.

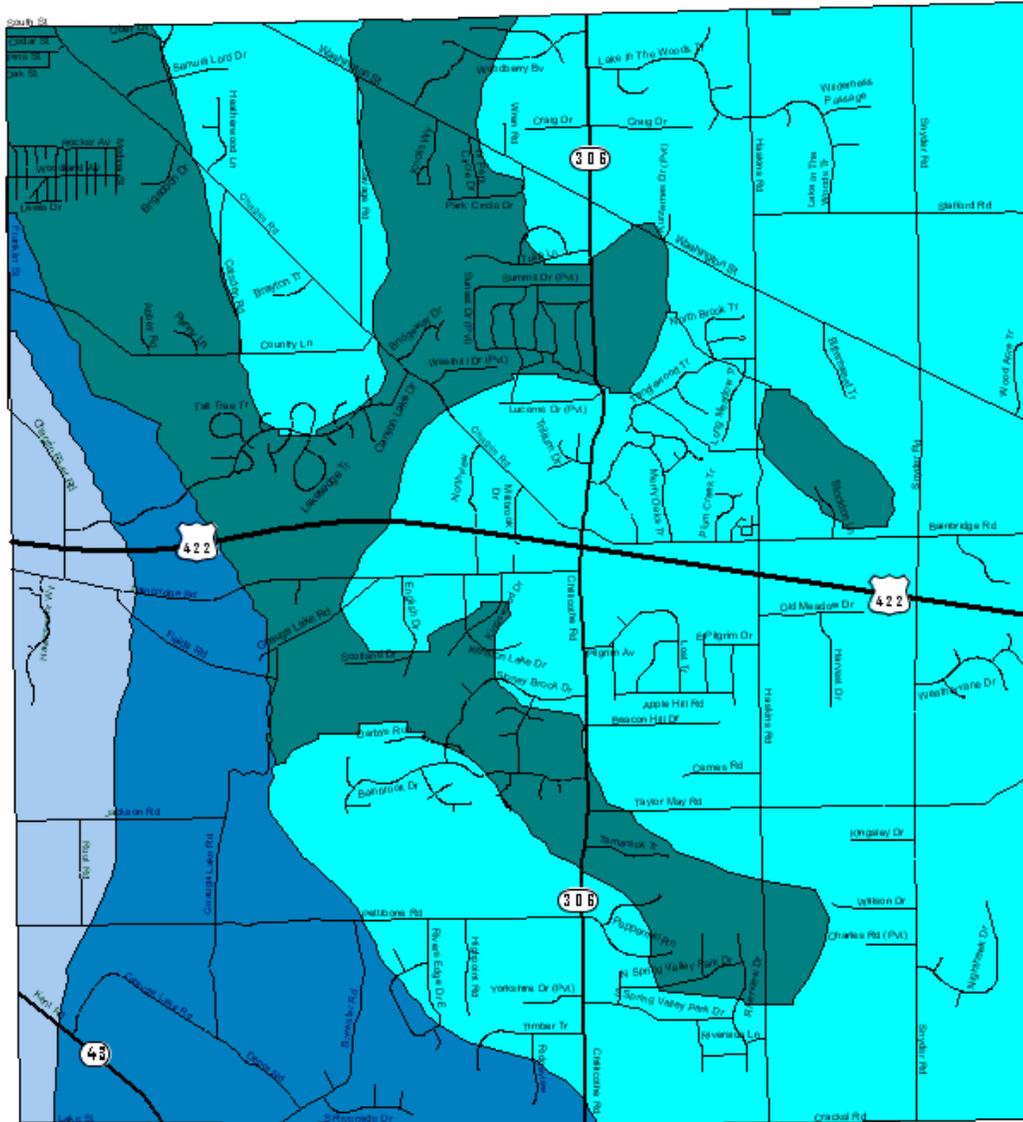
Table IV-15

Generalized Ground Water Availability Map Legend
Bainbridge Township

<u>Expected Gallons Per Minute (GPM)</u>	<u>Acres</u>	<u>% of Township</u>
< 3 gpm	905.56	5.4%
3 – 10 gpm	2,355.23	14.2%
> 25 gpm	3,658.77	22.1%
25 – 100 gpm	9,671.44	58.3%
<i>Total</i>	<i>16,591.00</i>	<i>100.0%</i>

Source: Geauga County Soil Survey 1982

Map IV-18



Bainbridge Township Generalized Ground Water Availability

Ground Water Availability

- < 3 Gallons Per Minute
- 3 -10 Gallons Per Minute
- > 25 Gallons Per Minute
- 25 - 100 Gallons Per Minute



Source: Ohio Department
of Natural Resources 1978
Prepared by: Geauga County
Planning Commission 2004

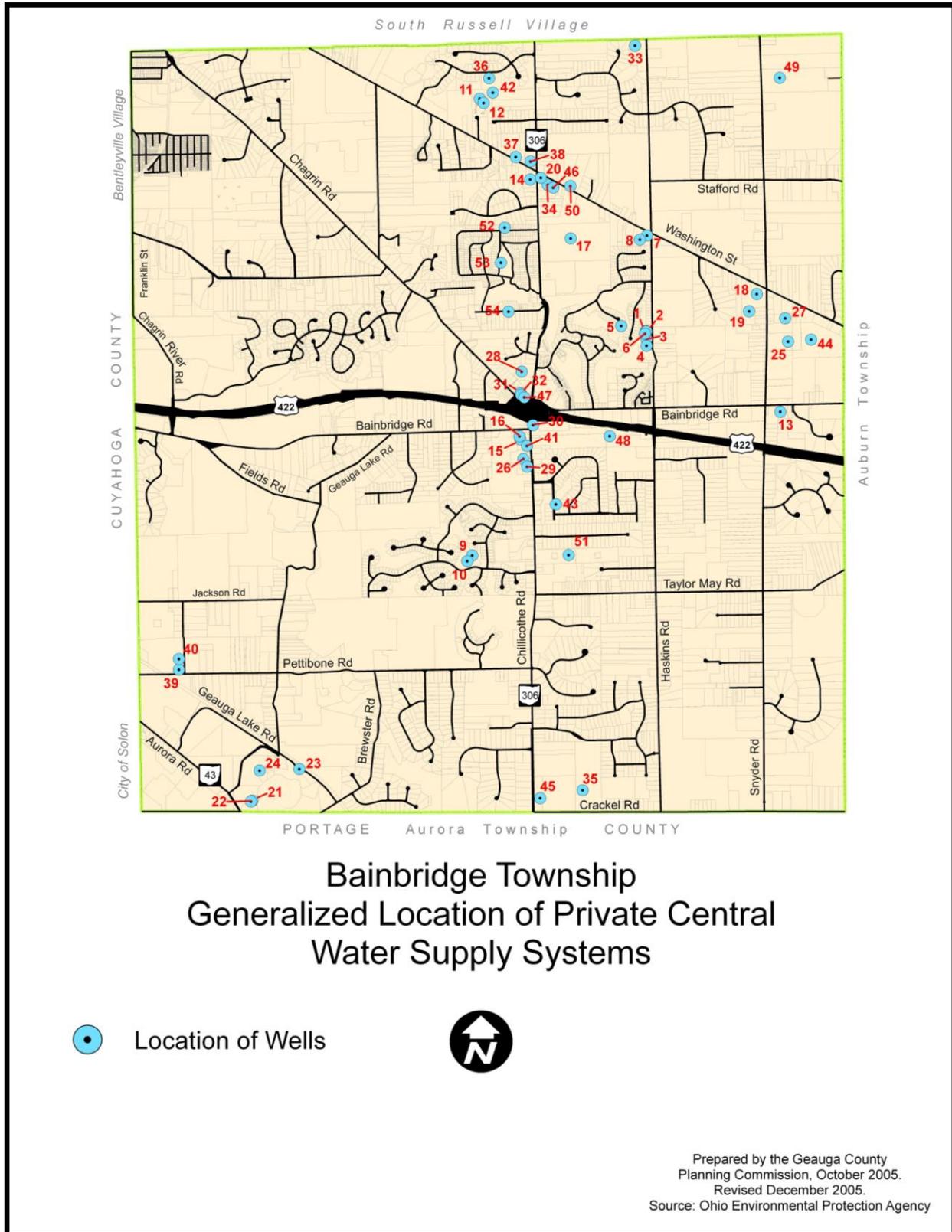
Table IV-16

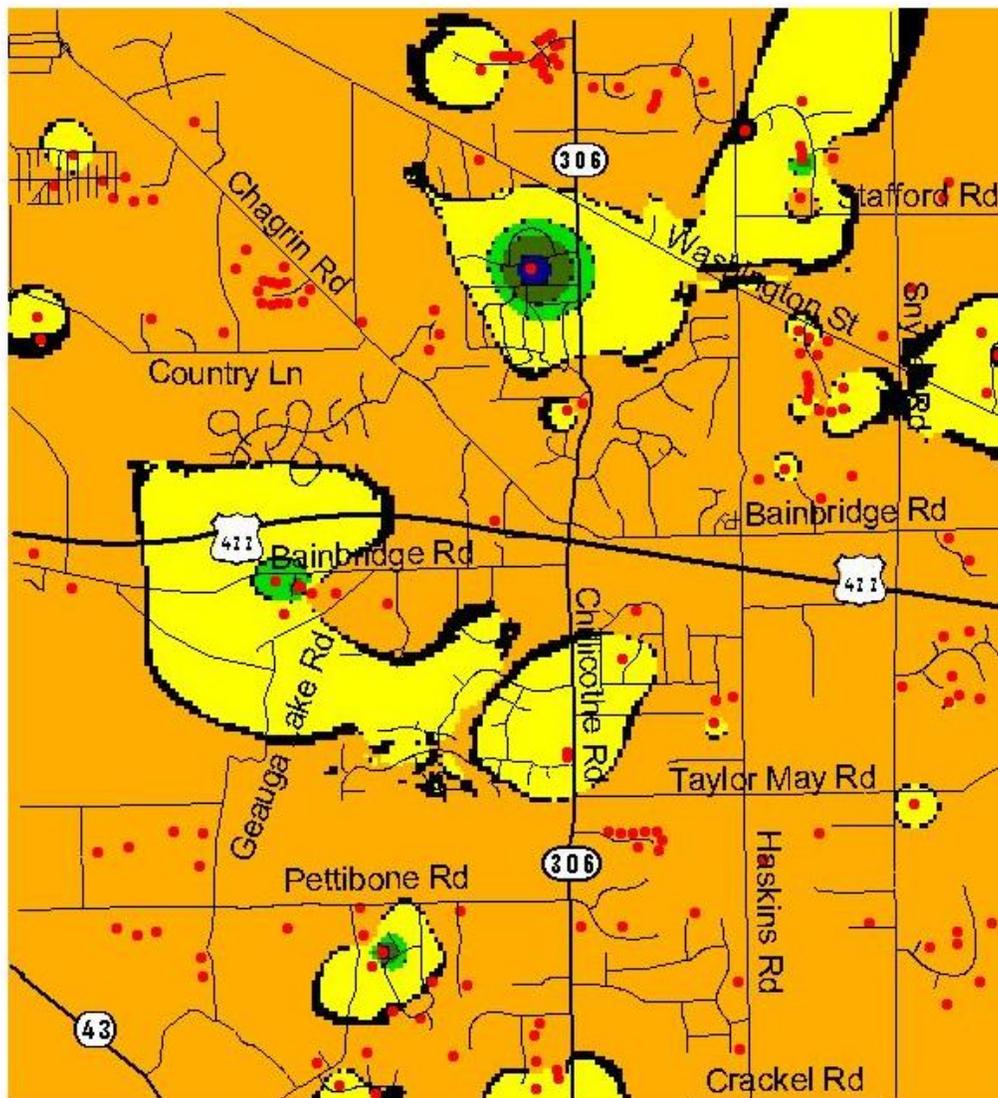
Private Central Water Supply Systems
Bainbridge Township

<u>Map Unit</u>	<u>System Name</u>
1 – 8	Tanglewood Lake Water Company
9 & 10	Bainbrook Water Company PWS
11 & 12	The Trees Condominium
13	Gardiner Elementary School
14	Nash’s Restaurant
15 & 16	Bainbridge Community
17	Pine Lake Trout Club
18 & 19	Chagrin Valley Athletic Club
20	Luciano’s Restaurant
21 & 22	Geauga Lake – Wave Pool
23	Geauga Lake – Maintenance
24	Geauga Lake – Western Village
25	Kenston High School
26	Kenston Early Learning School
27	Kenston Middle School
28	Valley Presbyterian Church
29	Bainbridge Montessori School
30	Bainbridge Center Building
31 & 32	McDonald’s – Bainbridge
33	Lake-In-The-Woods
34	Washington Square Plaza
35	Centerville Mills Conference Center
36	Wembley Club
37	McFarland’s Corner Mall
38	Heinen’s Supermarket
39 & 40	Parkside Church
41	Bainbridge Township Building
42	Stock Equipment Company
43	Pilgrim Lake Colony, Inc.
44	Timmons Elementary School
45	YMCA/Outback Teen Center
46	Diblasi Property
47	BP Oil – Chagrin Falls
48	Bainbridge Township – Settlers Park
49	Therapeutic Riding Center
50	Chagrin Falls Jehovah Witness
51	Church of the Holy Angels
52, 53, & 54	Lake Lucerne

Source: OEPA, 2001

Map IV-19





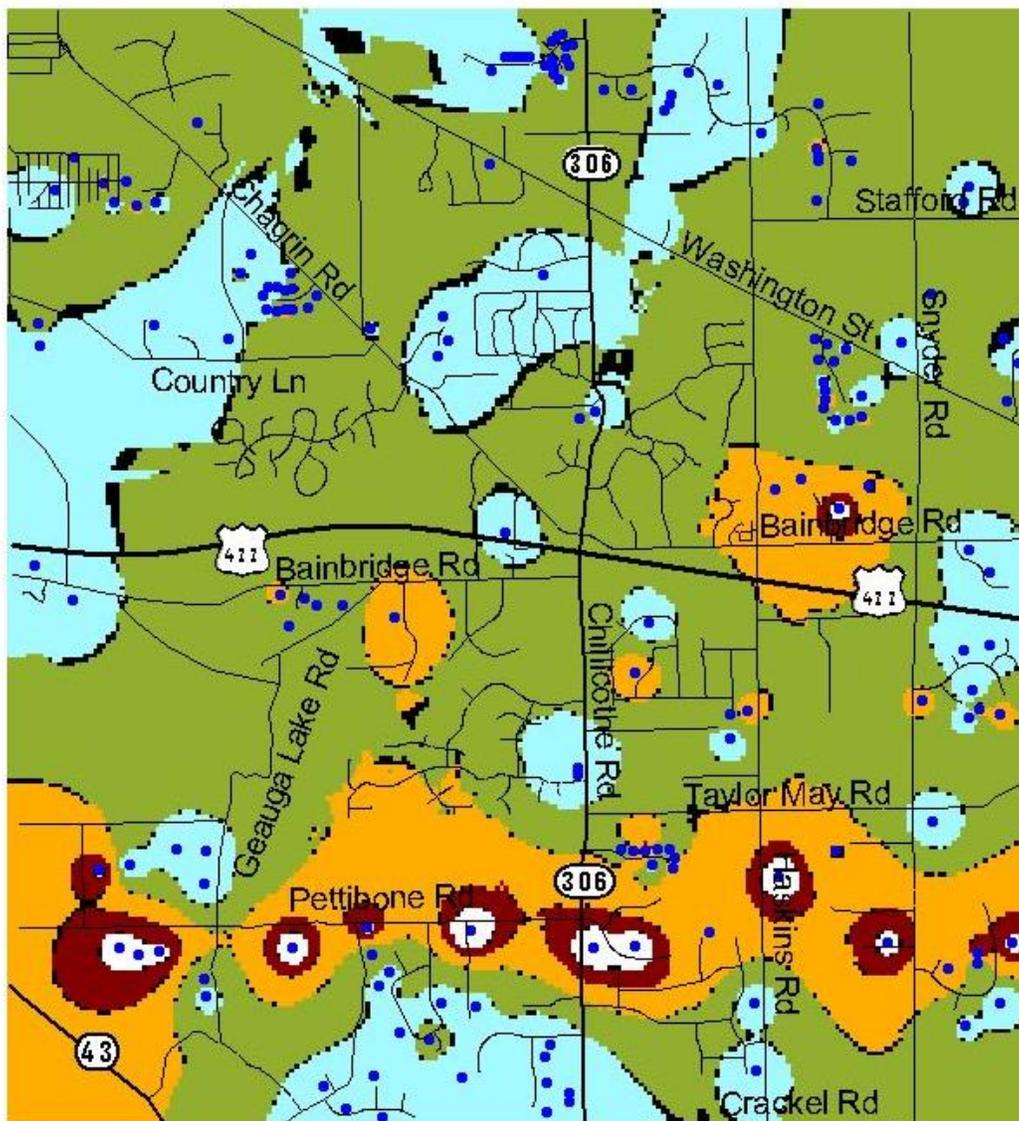
Bainbridge Township Gallons Per Minute

Gallons Per Minute



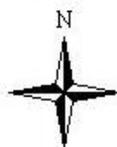
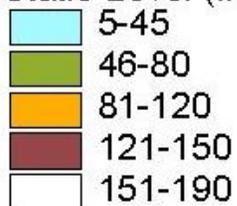
 Data Points

Source: Bainbridge Township Well Logs
Prepared by: Geauga County Planning Commission 2001



Bainbridge Township Static Level (Depth to Water In Well Casing)

Static Level (In Feet)



Blue Dot Data Points

Source: Bainbridge Township Well Logs
Prepared by: Geauga County Planning Commission 2001

Hydrogeologic Settings and Ratings

The Division of Water, Ohio Department of Natural Resources has developed a ground water pollution mapping program using the DRASTIC mapping process. This process is comprised of two major elements: designated mapping units called hydrogeologic settings and a rating system for pollution potential.

Hydrogeologic settings form the basis of the system. Inherent within each hydrogeologic setting are the physical characteristics that affect ground water pollution potential. The following factors have been identified during the development of the DRASTIC system: depth to water (D), net recharge (R), aquifer media (A), soil media (S), topography (T), impact of the vadose zone media (I), and hydraulic conductivity of the aquifer (C). These variables form the acronym DRASTIC and are used in a ranking scheme that uses a combination of weights and ratings to establish a numerical value called the ground water pollution potential index (GWPP) that are contained in the document titled Ground Water Pollution Potential of Geauga County Report No. 12 prepared by the Ohio Department of Natural Resources, Division of Water, Ground Water Resources Section (1994). These factors incorporate concepts and mechanisms such as attenuation, retardation and time or distance of travel of a contaminant with respect to the physical characteristics of the hydrogeologic setting. Broad consideration of these factors and mechanisms coupled with existing conditions in a setting provide a basis for determination of the area's relative vulnerability to contamination.

Map IV-22 identifies the hydrogeologic region and setting within the township. Bainbridge Township (as well as all of Geauga County) lies within the glaciated central hydrogeologic region of the DRASTIC system. The first number (7) refers to the hydrogeologic region and the next combination of letters and numbers identifies the hydrogeologic setting and the corresponding parameters that are unique to that specific setting. The following information provides a description of each hydrogeologic setting and associated ratings for Bainbridge Township.

7Aa Glacial Till Over Bedded Sedimentary Rock

This hydrogeologic setting is characterized by high relief with prominent, steep-sided ridges, and by relatively flat-lying, fractured sedimentary rocks. The rocks are predominantly sandstones with thin, inter-layered coals and shale that are covered by varying thickness of glacial till. The thin coal seams are usually highly fractured and are quite permeable. Thin clay and shale zones tend to impede vertical water movement and create "perched" water tables. The till is basically an unsorted deposit that contains localized deposits of sand and gravel. Although precipitation is abundant in the region, recharge is generally moderate due to the relatively high depth to water (low water table) and the corresponding thick vadose zone comprised of compacted till. Depth to water is variable, but generally ranges between 25 and 50 feet.

<u>Setting: 7Aa1</u>		<u>General</u>		
<u>Feature</u>	<u>Range</u>	<u>Weight</u>	<u>Rating</u>	<u>Index</u>
Depth to Water	15 – 30	5	7	35
Net Recharge	4 – 7	4	6	24
Aquifer Media	Bedded SS, LS, SH, Sequences	3	6	18
Soil Media	Silty Loam	2	4	8
Topography	2 – 6	1	9	9
Impact of Vadose Zone	Silt/Clay	5	4	20
Hydraulic Conductivity	100 – 300	3	2	6
<i>GWPP Index</i>				<i>120</i>

<u>Setting: 7Aa2</u>		<u>General</u>		
<u>Feature</u>	<u>Range</u>	<u>Weight</u>	<u>Rating</u>	<u>Index</u>
Depth to Water	15 – 30	5	7	35
Net Recharge	4 – 7	4	6	24
Aquifer Media	Bedded SS, LS, SH, Sequences	3	6	18
Soil Media	Clay Loam	2	3	6
Topography	2 – 6	1	9	9
Impact of Vadose Zone	Bedded SS, LS, SH, Sequences	5	6	30
Hydraulic Conductivity	100 – 300	3	2	6
<i>GWPP Index</i>				<i>128</i>

<u>Setting: 7Aa4</u>		<u>General</u>		
<u>Feature</u>	<u>Range</u>	<u>Weight</u>	<u>Rating</u>	<u>Index</u>
Depth to Water	15 – 30	5	7	35
Net Recharge	4 – 7	4	6	24
Aquifer Media	Bedded SS, LS, SH, Sequences	3	6	18
Soil Media	Gravel	2	10	20
Topography	6 – 12	1	5	5
Impact of Vadose Zone	Silt/Clay	5	4	20
Hydraulic Conductivity	100 – 300	3	2	6
<i>GWPP Index</i>				<i>128</i>

7Ad Glacial Till Over Sandstone

This hydrologic setting consists of low topography and relatively flat-lying, fractured sandstones which are covered by varying thicknesses of glacial till. The till is principally unsorted deposits which may be interbedded with loess or localized deposits of sand and gravel. Although ground water occurs in both the glacial deposits and in the intersecting bedrock fractures, the bedrock is typically the principal aquifer. The glacial till serves as a source of recharge to the underlying bedrock. Although precipitation is abundant in most of the region, recharge is moderate because of the glacial tills typically weather to clay loam. Depth to water is extremely variable, depending in part on the thickness of the glacial till, but averages around 40 feet.

<u>Setting: 7Ad2</u>		<u>General</u>		
<u>Feature</u>	<u>Range</u>	<u>Weight</u>	<u>Rating</u>	<u>Index</u>
Depth to Water	15 – 30	5	7	35
Net Recharge	4 – 7	4	6	24
Aquifer Media	Sandstone	3	4	12
Soil Media	Clay Loam	2	3	6
Topography	0 – 2	1	10	10
Impact of Vadose Zone	Silty /Clay	5	4	20
Hydraulic Conductivity	1 – 100	3	1	3
GWPP Index				110

<u>Setting: 7Ad3</u>		<u>General</u>		
<u>Feature</u>	<u>Range</u>	<u>Weight</u>	<u>Rating</u>	<u>Index</u>
Depth to Water	15 – 30	5	7	35
Net Recharge	4 – 7	4	6	24
Aquifer Media	Sandstone	3	6	18
Soil Media	Clay Loam	2	3	6
Topography	0 – 2	1	9	9
Impact of Vadose Zone	Silty Clay	5	6	30
Hydraulic Conductivity	300 – 700	3	4	12
GWPP Index				134

<u>Setting: 7Ad4</u>		<u>General</u>		
<u>Feature</u>	<u>Range</u>	<u>Weight</u>	<u>Rating</u>	<u>Index</u>
Depth to Water	15 – 30	5	7	35
Net Recharge	4 – 7	4	6	24
Aquifer Media	Sandstone	3	6	18
Soil Media	Clay Loam	2	3	6
Topography	2 – 6	1	9	9
Impact of Vadose Zone	Silt/Clay	5	4	30
Hydraulic Conductivity	300 – 700	3	4	12
GWPP Index				124

<u>Setting: 7Ad5</u>		<u>General</u>		
<u>Feature</u>	<u>Range</u>	<u>Weight</u>	<u>Rating</u>	<u>Index</u>
Depth to Water	30 – 50	5	5	25
Net Recharge	4 – 7	4	6	24
Aquifer Media	Sandstone	3	6	18
Soil Media	Clay Loam	2	3	6
Topography	2 – 6	1	9	9
Impact of Vadose Zone	Sandstone	5	6	30
Hydraulic Conductivity	300 – 700	3	4	12
GWPP Index				124

<u>Setting: 7Ad6</u>		<u>General</u>		
<u>Feature</u>	<u>Range</u>	<u>Weight</u>	<u>Rating</u>	<u>Index</u>
Depth to Water	30 – 50	5	5	25
Net Recharge	4 – 7	4	6	24
Aquifer Media	Sandstone	3	6	18
Soil Media	Silty Loam	2	4	8
Topography	2 – 6	1	9	9
Impact of Vadose Zone	Sandstone	5	6	30
Hydraulic Conductivity	300 – 700	3	4	12
GWPP Index				126

<u>Setting: 7Ad8</u>		<u>General</u>		
<u>Feature</u>	<u>Range</u>	<u>Weight</u>	<u>Rating</u>	<u>Index</u>
Depth to Water	15 – 30	5	7	35
Net Recharge	4 – 7	4	6	24
Aquifer Media	Sandstone	3	6	18
Soil Media	Sandy Loam	2	6	12
Topography	2 – 6	1	9	9
Impact of Vadose Zone	Sandstone	5	6	30
Hydraulic Conductivity	300 – 700	3	4	12
GWPP Index				140

<u>Setting: 7Ad9</u>		<u>General</u>		
<u>Feature</u>	<u>Range</u>	<u>Weight</u>	<u>Rating</u>	<u>Index</u>
Depth to Water	15 – 30	5	7	35
Net Recharge	4 – 7	4	6	24
Aquifer Media	Sandstone	3	4	12
Soil Media	Clay Loam	2	3	6
Topography	6 – 12	1	5	5
Impact of Vadose Zone	Sand & Gravel w/sig Silt/Clay	5	4	20
Hydraulic Conductivity	1 – 100	3	1	3
GWPP Index				105

7D Buried Valleys

This hydrogeologic setting is characterized by thick deposits of sand and gravel that have been deposited in a former topographic low (usually a pre-glacial river valley) by glacial meltwaters. These deposits are capable of yielding large quantities of ground water. The deposits may or may not underlie a present-day river and may or may not be in direct hydraulic connection with a stream. Glacial till or recent alluvium often overlies the buried valley. Usually the deposits are several times more permeable than the surrounding bedrock. Soils are typically a sandy loam. Recharge to the sand and gravel is moderate and water levels are commonly relatively shallow, although they may be quite variable.

<u>Setting: 7D2</u>		<u>General</u>		
<u>Feature</u>	<u>Range</u>	<u>Weight</u>	<u>Rating</u>	<u>Index</u>
Depth to Water	5 – 15	5	9	45
Net Recharge	7 – 10	4	8	32
Aquifer Media	Sand & Gravel	3	8	24
Soil Media	Gravel	2	10	20
Topography	0 – 2	1	10	10
Impact of Vadose Zone	Sand & Gravel w/sig Silt/Clay	5	6	30
Hydraulic Conductivity	700 – 1000	3	6	18
GWPP Index				179

<u>Setting: 7D4</u>		<u>General</u>		
<u>Feature</u>	<u>Range</u>	<u>Weight</u>	<u>Rating</u>	<u>Index</u>
Depth to Water	15 – 30	5	7	35
Net Recharge	4 – 7	4	6	24
Aquifer Media	Sand & Gravel	3	8	24
Soil Media	Silty Loam	2	4	8
Topography	2 – 6	1	9	9
Impact of Vadose Zone	Silt/Clay	5	4	20
Hydraulic Conductivity	100 – 300	3	4	12
GWPP Index				132

<u>Setting: 7D5</u>		<u>General</u>		
<u>Feature</u>	<u>Range</u>	<u>Weight</u>	<u>Rating</u>	<u>Index</u>
Depth to Water	50 – 75	5	3	15
Net Recharge	4 – 7	4	6	24
Aquifer Media	Sand & Gravel	3	8	24
Soil Media	Silty Loam	2	4	8
Topography	0 – 2	1	10	10
Impact of Vadose Zone	Silt/Clay	5	4	20
Hydraulic Conductivity	300 – 700	3	4	12
GWPP Index				113

<u>Setting: 7D10</u>		<u>General</u>		
<u>Feature</u>	<u>Range</u>	<u>Weight</u>	<u>Rating</u>	<u>Index</u>
Depth to Water	50 – 75	5	3	15
Net Recharge	4 – 7	4	6	24
Aquifer Media	Sand & Gravel	3	5	15
Soil Media	Silty Loam	2	3	6
Topography	0 – 2	1	10	10
Impact of Vadose Zone	Sand & Gravel w/sig Silt/Clay	5	4	20
Hydraulic Conductivity	100 – 300	3	2	6
GWPP Index				96

<u>Setting: 7D11</u>		<u>General</u>		
<u>Feature</u>	<u>Range</u>	<u>Weight</u>	<u>Rating</u>	<u>Index</u>
Depth to Water	15 – 30	5	7	35
Net Recharge	4 – 7	4	6	24
Aquifer Media	Sand & Gravel	3	5	15
Soil Media	Clay Loam	2	3	6
Topography	0 – 2	1	10	19
Impact of Vadose Zone	Sand & Gravel w/sig Silt/Clay	5	4	20
Hydraulic Conductivity	100 – 300	3	2	6
<i>GWPP Index</i>				<i>116</i>

7Eb River Alluvium Without Overbank Deposits

This hydrogeologic setting is characterized by flat-lying topography along the floodplains of some moderate-sized streams. Moderately thick, relatively coarse alluvium is found within these stream valleys. These valleys lack significant fine-grained over bank deposits. Recharge is relatively high and the depth to water is less than 15 feet. The coarse alluvium (sand and gravel) aquifer is commonly in direct hydrologic contact with the surface stream. The alluvium may also serve as a source of recharge to the underlying, fractured, sedimentary rocks.

<u>Setting: 7Eb2</u>		<u>General</u>		
<u>Feature</u>	<u>Range</u>	<u>Weight</u>	<u>Rating</u>	<u>Index</u>
Depth to Water	5 – 15	5	9	45
Net Recharge	7 – 10	4	8	32
Aquifer Media	Sand & Gravel	3	8	24
Soil Media	Gravel	2	10	20
Topography	0 – 2	1	10	10
Impact of Vadose Zone	Sand & Gravel w/sig Silt/Clay	5	6	30
Hydraulic Conductivity	700 – 1000	3	6	18
<i>GWPP Index</i>				<i>179</i>

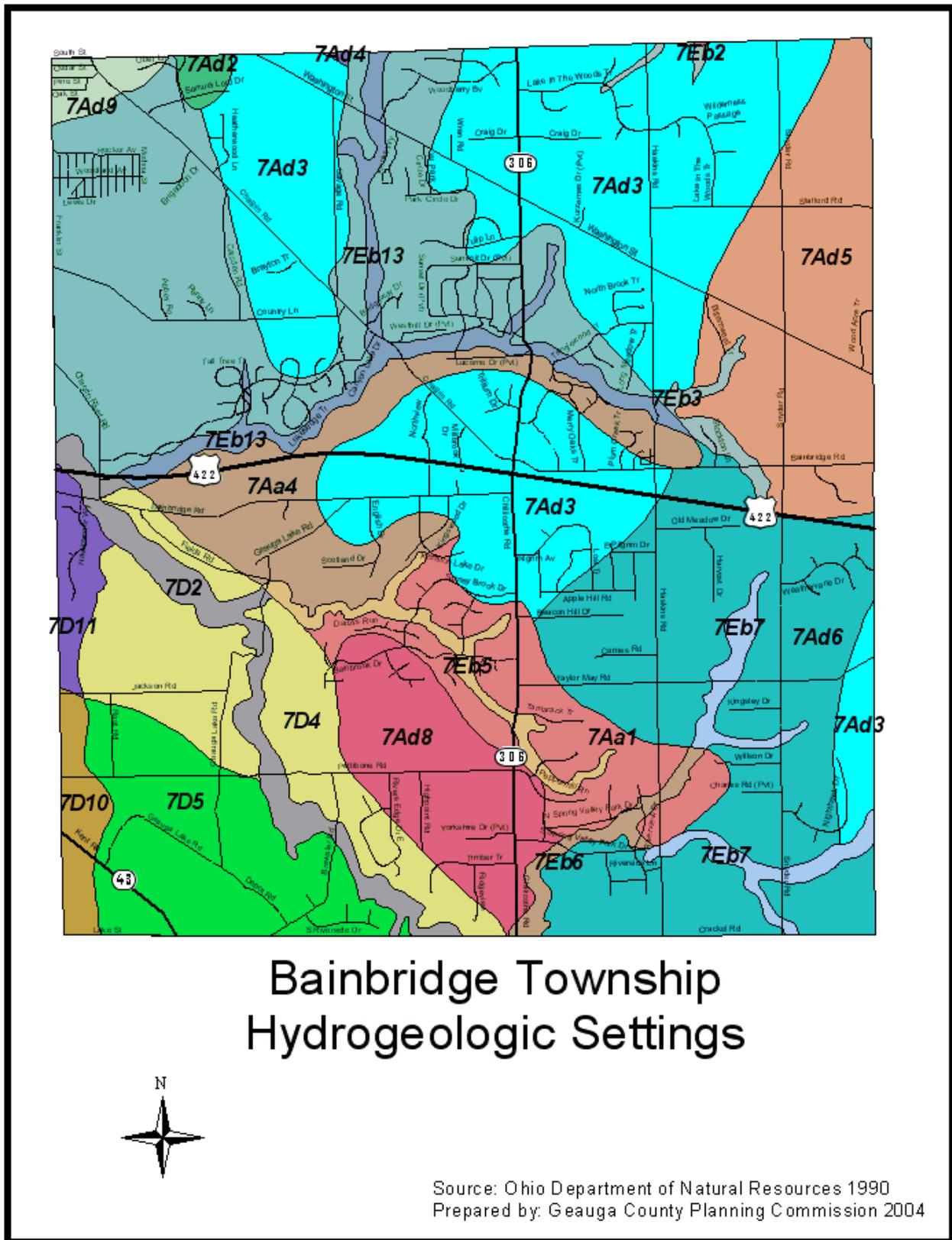
<u>Setting: 7Eb3</u>		<u>General</u>		
<u>Feature</u>	<u>Range</u>	<u>Weight</u>	<u>Rating</u>	<u>Index</u>
Depth to Water	5 – 15	5	9	45
Net Recharge	7 – 10	4	8	32
Aquifer Media	Sandstone	3	6	18
Soil Media	Clay Loam	2	3	6
Topography	0 – 2	1	10	10
Impact of Vadose Zone	Sand & Gravel w/sig Silt/Clay	5	6	30
Hydraulic Conductivity	300 – 700	3	4	12
<i>GWPP Index</i>				<i>153</i>

<u>Setting: 7Eb5</u>		<u>General</u>		
<u>Feature</u>	<u>Range</u>	<u>Weight</u>	<u>Rating</u>	<u>Index</u>
Depth to Water	5 – 15	5	9	45
Net Recharge	7 – 10	4	8	32
Aquifer Media	Bedded SS, LS, SH, Sequences	3	6	18
Soil Media	Sandy Loam	2	6	12
Topography	0 – 2	1	10	10
Impact of Vadose Zone	Sand & Gravel w/sig Silt/Clay	5	6	30
Hydraulic Conductivity	100 – 300	3	2	6
GWPP Index				153

<u>Setting: 7Eb6</u>		<u>General</u>		
<u>Feature</u>	<u>Range</u>	<u>Weight</u>	<u>Rating</u>	<u>Index</u>
Depth to Water	5 – 15	5	9	45
Net Recharge	7 – 10	4	8	32
Aquifer Media	Bedded SS, LS, SH, Sequences	3	6	18
Soil Media	Silty Loam	2	4	8
Topography	0 – 2	1	10	10
Impact of Vadose Zone	Sand & Gravel w/sig Silt/Clay	5	6	30
Hydraulic Conductivity	100 – 300	3	2	6
GWPP Index				149

<u>Setting: 7Eb7</u>		<u>General</u>		
<u>Feature</u>	<u>Range</u>	<u>Weight</u>	<u>Rating</u>	<u>Index</u>
Depth to Water	5 – 15	5	9	45
Net Recharge	7 – 10	4	8	32
Aquifer Media	Sandstone	3	6	18
Soil Media	Silty Loam	2	4	8
Topography	0 – 2	1	10	10
Impact of Vadose Zone	Sand & Gravel w/sig Silt/Clay	5	6	30
Hydraulic Conductivity	300 – 700	3	4	12
GWPP Index				155

<u>Setting: 7Eb13</u>		<u>General</u>		
<u>Feature</u>	<u>Range</u>	<u>Weight</u>	<u>Rating</u>	<u>Index</u>
Depth to Water	5 – 15	5	9	45
Net Recharge	7 – 10	4	8	32
Aquifer Media	Bedded SS, LS, SH, Sequences	3	6	18
Soil Media	Gravel	2	10	20
Topography	0 – 2	1	10	10
Impact of Vadose Zone	Sand & Gravel w/sig Silt/Clay	5	6	30
Hydraulic Conductivity	100 – 300	3	2	6
GWPP Index				161



Bainbridge Township Hydrogeologic Settings

Source: Ohio Department of Natural Resources 1990
Prepared by: Geauga County Planning Commission 2004

Ground Water Pollution Potential

Map IV-23 represents the pollution potential as calculated from the hydrogeologic settings. Generally, a higher number means a greater potential for ground water contamination. The color codes are part of a national color scheme, with warm colors (red, orange, and yellow) representing areas of higher vulnerability and cool colors (greens, blues, and violet) representing areas of lower vulnerability to contamination. The computed ground water pollution index for Bainbridge Township ranged from 121 to 196 (see GWPP Index). The majority of the township is in an average vulnerability range of 120 to 139.

In the development of the DRASTIC system, a set of assumptions must be recognized. The pollution potential evaluation of an area assumes a contaminant with the mobility of water, introduced at the surface, and flushed into the ground water by precipitation. DRASTIC cannot be applied to areas smaller than one hundred acres in size, and is not intended or designed to replace site-specific investigations.

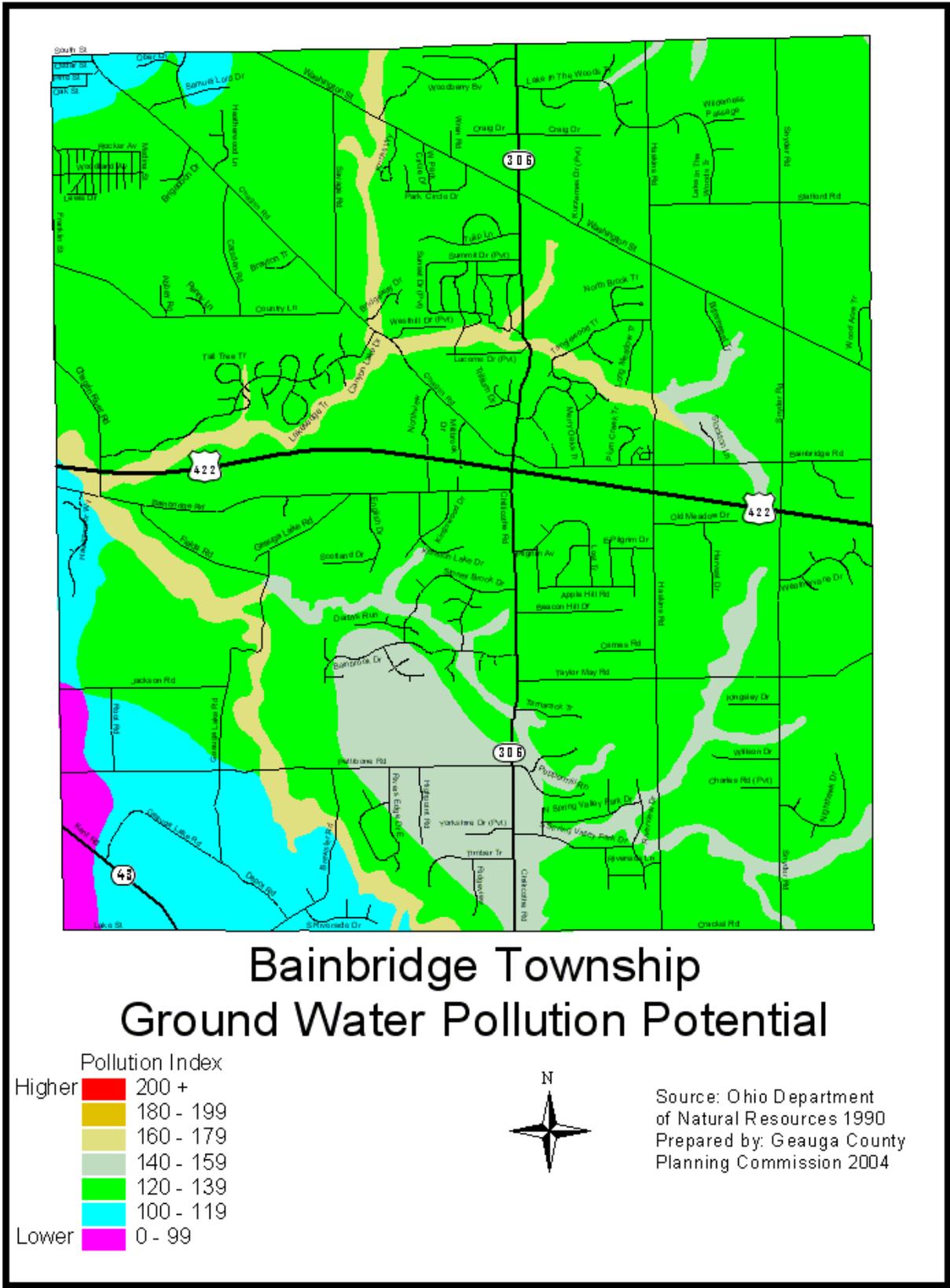
Table IV-17

Ground Water Pollution Potential Map Legend
Bainbridge Township

<u>Pollution Index</u>	<u>Acres</u>	<u>% of Township</u>
200+	0.00	0.0%
180 – 199	0.00	0.0%
160 – 179	770.32	4.6%
140 – 159	1,368.29	8.3%
120 – 139	12,931.64	77.9%
100 – 119	1,328.02	8.0%
0 – 99	192.73	1.2%
<i>Total</i>	<i>16,591.00</i>	<i>100.0%</i>

Source: Ohio Department of Natural Resources, 1990

Map IV-23



Land Capability Analysis

The physical data previously identified and mapped may be rated in relationship to various land uses. This process is known as a land capability analysis.

The following types of land uses were selected for a capability analysis because they represent historical and current development trends in the township. It must be stressed that the capability maps are not site specific and, therefore, are not meant to replace an on-site investigation.

Single Family Dwellings Without Basements: The foundation is assumed to be spread footings of reinforced concrete built on undisturbed soil to a maximum frost penetration depth. The ratings include the soil characteristics affecting strength, settlement, excavation, and construction. Soil settlement and strength are influenced by drainage, seasonal water table, flooding, shrink-swell, and potential frost action. Soil properties relative to the ease of excavation and construction are depth to bedrock, flooding, slope, and seasonal water table.

Single Family Dwellings With Basements: The ratings encompass the soil characteristics affecting strength, settlement, excavation, and construction. Soil strength and settlement are influenced by drainage, seasonal water table, flooding, shrink-swell, and potential frost action. Soil properties relative to the ease of excavation and construction are depth to bedrock, flooding, slope, and seasonal water table.

Commercial and/or Light Industrial Buildings: Represents buildings of less than three stories without basements. The foundation is assumed to be spread footings of reinforced concrete built in undisturbed soil to the maximum frost penetration depth. The ratings include soil attributes affecting soil strength, settlement, excavation, and construction. The variables affecting the amount and ease of excavation are slope, depth to bedrock, and seasonal water table.

In addition, the following items were chosen to be a part of the capability analysis because they are closely related to the above uses.

Septic Tank Absorption Fields: Represents areas in which effluent from a septic tank is distributed into the soil through an approved subsurface system. The soil is evaluated between the depths of 24 to 72 inches. Soil adequacy for on-site sewage disposal is based upon permeability, flooding, seasonal water table, and depth to bedrock, all of which influence the absorption of the effluent. Other variables such as slope and depth to bedrock affect the installation of an on-site septic system as well.

Local Roads: Represents the use of soils for the construction of improved local roads that have all-weather surfacing (commonly asphalt or concrete) and are expected to carry vehicular traffic throughout the year. Such roads are assumed to have a subgrade of cut and fill soil material; a base of gravel, crushed rock, or stabilized soil material; and a flexible or rigid

surface. The variables rated which affect grading and excavation include slope, depth to bedrock, flooding, and a high seasonal water table. Other soil attributes that affect the construction of local roads include: drainage, shrink-swell, frost action, and seasonal water table.

Underground Utilities: Represents the installation of below-grade utilities such as sewer and water pipelines, telephone lines, and electrical lines. The ratings measure the soil attributes affecting corrosion, compactness, and ease of excavation. Compactness and the rate of corrosion are influenced by drainage, shrink-swell, seasonal water table, and corrosion of both steel and concrete. The ease of excavation is influenced by slope, depth to bedrock, and seasonal water table.

Each subsequent land capability map was produced based upon the ratings which accompany it (see Table IV-31). The ratings list the variables used, the parameters, and how each of the characteristics were categorized with regard to the specified land use. The following is a description of each rating category.

- | | |
|-------------------|---|
| SLIGHT (SL): | The rating provided when conditions for the given use are suitable. The degree of limitation is insignificant and can be easily overcome. |
| MODERATE (M): | The rating provided when conditions for the given use are suitable, yet a degree of limitation exists which may be surmounted with proper engineering, design, and maintenance. |
| SEVERE (S): | The rating provided when conditions exist which are unfavorable for the specified use. However, such conditions do not preclude the given use. Generally, appropriate engineering, design, and maintenance are required. |
| VERY SEVERE (VS): | The rating provided when conditions are very environmentally sensitive or unsuitable for the given use due to highly restrictive characteristics. In most instances, it is very difficult and possibly not cost-effective to attempt to overcome these limitations. |
| NOT RATED (NR): | This designation includes disturbed areas that were not categorized such as quarries and “cut and fill” locations. |

Table IV-18

Limitations for Dwellings Without Basements
Bainbridge Township

<u>Variables</u>	<u>Slight</u>	<u>Moderate</u>	<u>Severe</u>	<u>Very Severe*</u>
Drainage	WD, MWD	SPD	PD, VPD	N/A
Depth to Seasonal Water Table	>60"	24 – 60"	6 – 24"	0 – 6"
Shrink-Swell	Low	Moderate	High	N/A
Potential Frost Action	Low	Moderate	High	N/A
Depth to Bedrock	>60"	20 – 40"	N/A	N/A
Slope	0 – 6%	6 – 12%	12 – 18%	>18%
Flooding	None	N/A	N/A	Frequent

*Results in an automatic “unsuitable” rating

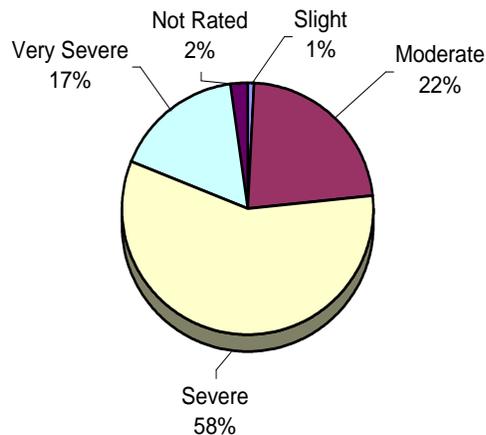
Table IV-19

Capability for Dwellings Without Basements Map Legend
Bainbridge Township

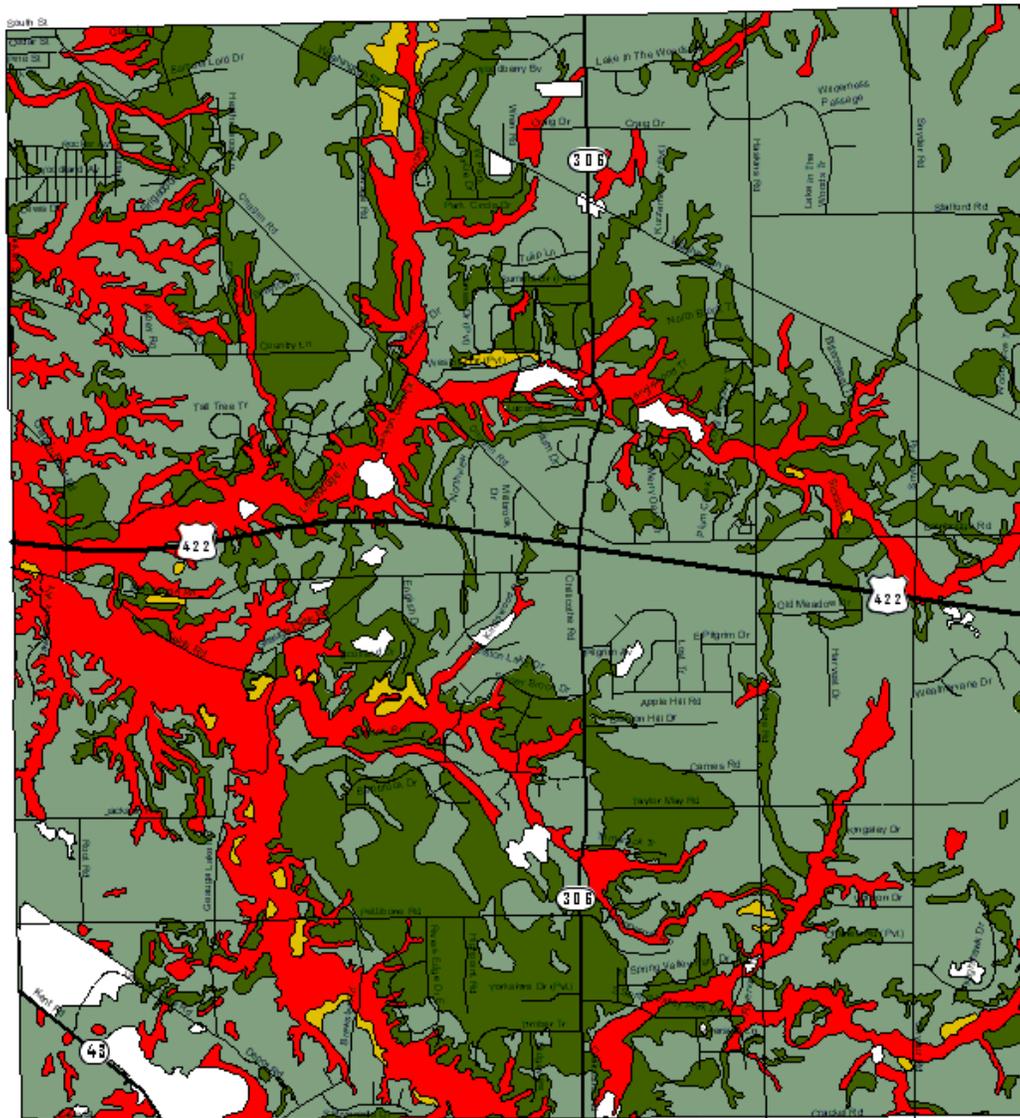
<u>Rating</u>	<u>Acres</u>	<u>% of Township Area</u>
Slight	142.12	0.9%
Moderate	3,694.91	22.3%
Severe	9,603.97	57.9%
Very Severe	2,782.94	16.7%
Not Rated	367.06	2.2%
Total	16,591.00	100.0%

Figure IV-1

Capability for Dwellings Without Basements
Soil Rating Percentages
Bainbridge Township



Source: Geauga County Soil Survey 1982



Bainbridge Township Capability For Dwellings Without Basements

- Soil Capability
-  Slight
 -  Moderate
 -  Severe
 -  Very Severe
 -  Not Rated



Source: Geauga County
Soil Survey 1982
Prepared by: Geauga County
Planning Commission 2004

Table IV-20
Limitations for Dwellings With Basements
Bainbridge Township

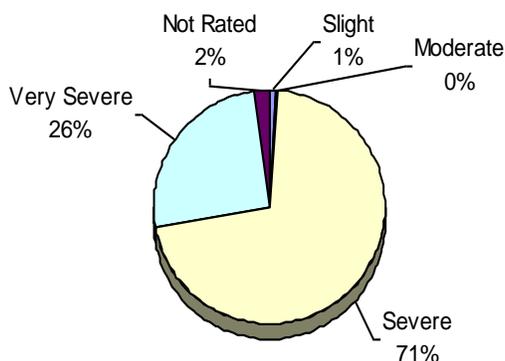
<u>Variables</u>	<u>Slight</u>	<u>Moderate</u>	<u>Severe</u>	<u>Very Severe*</u>
Drainage	WD	MWD	SPD, PD	VPD
Depth to Seasonal Water Table	>60"	36 – 60"	12 – 36"	0 – 12"
Shrink-Swell	Low	Moderate	High	N/A
Potential Frost Action	Low	Moderate	High	N/A
Depth to Bedrock	>60"	N/A	20 – 40"	N/A
Slope	0 – 6%	6 – 12%	12 – 18%	>18%
Flooding	None	N/A	N/A	Frequent

*Results in an automatic “unsuitable” rating

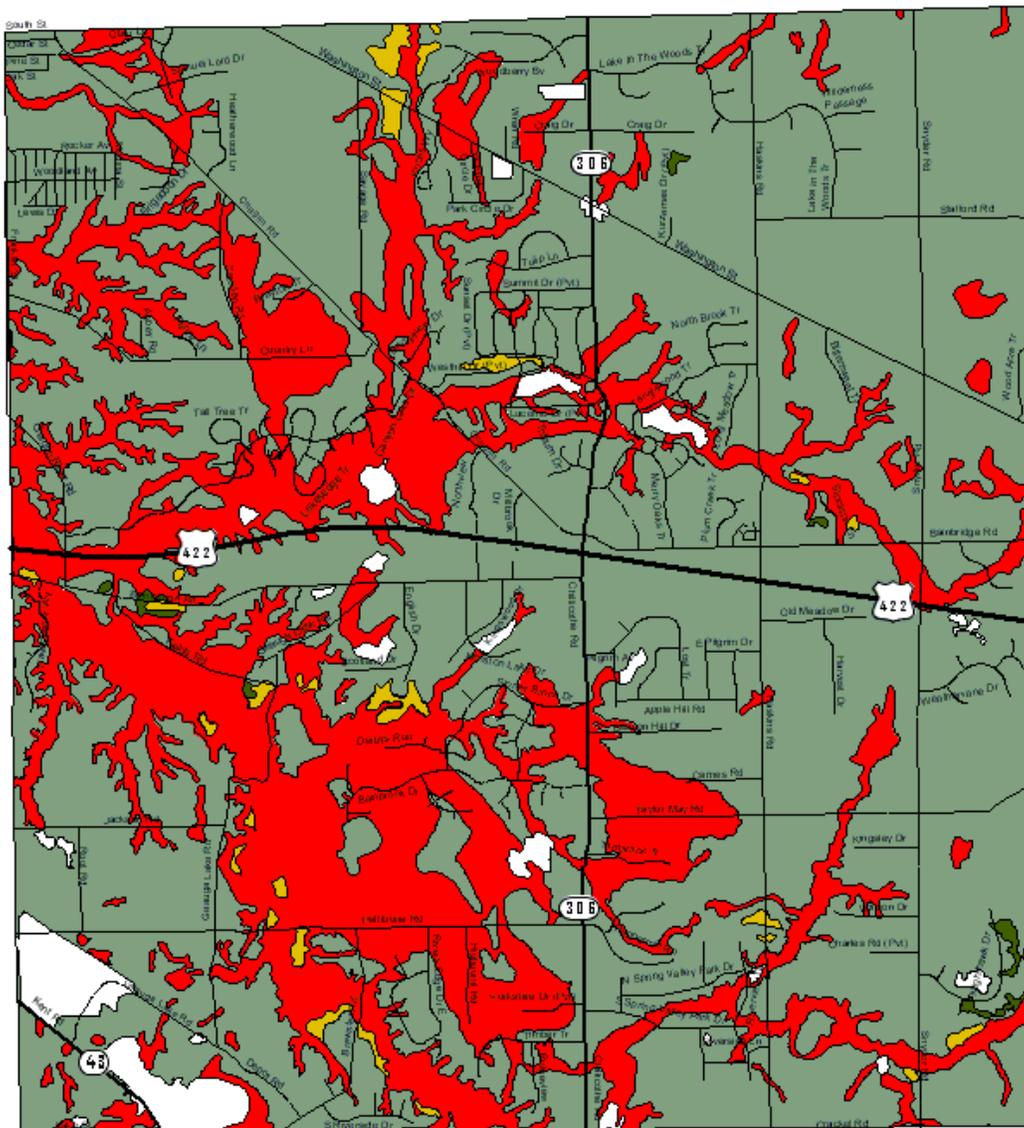
Table IV-21
Capability for Dwellings With Basements Map Legend
Bainbridge Township

<u>Rating</u>	<u>Acres</u>	<u>% of Township Area</u>
Slight	142.12	0.9%
Moderate	34.58	0.2%
Severe	11,786.90	71.0%
Very Severe	4,260.34	25.7%
Not Rated	367.06	2.2%
Total	16,591.00	100.0%

Figure IV-2
Capability for Dwellings With Basements
Soil Rating Percentages
Bainbridge Township



Source: Geauga County Soil Survey 1982



Bainbridge Township Capability For Dwellings With Basements

Soil Capability

- Slight
- Moderate
- Severe
- Very Severe
- Not Rated



Source: Geauga County
Soil Survey 1982
Prepared by: Geauga County
Planning Commission 2004

Table IV-22

**Limitations for Commercial and/or Light Industrial Buildings
Bainbridge Township**

<u>Variables</u>	<u>Slight</u>	<u>Moderate</u>	<u>Severe</u>	<u>Very Severe*</u>
Drainage	WD, MWD	SPD	PD, VPD	N/A
Depth to Seasonal Water Table	>60"	36 – 60"	6 – 36"	0 – 6"
Shrink-Swell	Low	Moderate	High	N/A
Depth to Bedrock	>60"	20 – 40 "	N/A	N/A
Slope	0 – 6%	N/A	6 – 12%	>12%

*Results in an automatic “unsuitable” rating

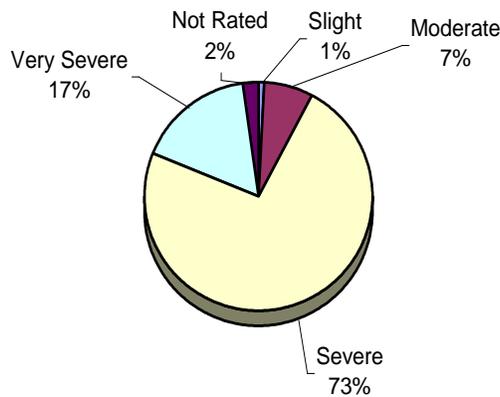
Table IV-23

**Capability for Commercial and/or Light Industrial Buildings Map Legend
Bainbridge Township**

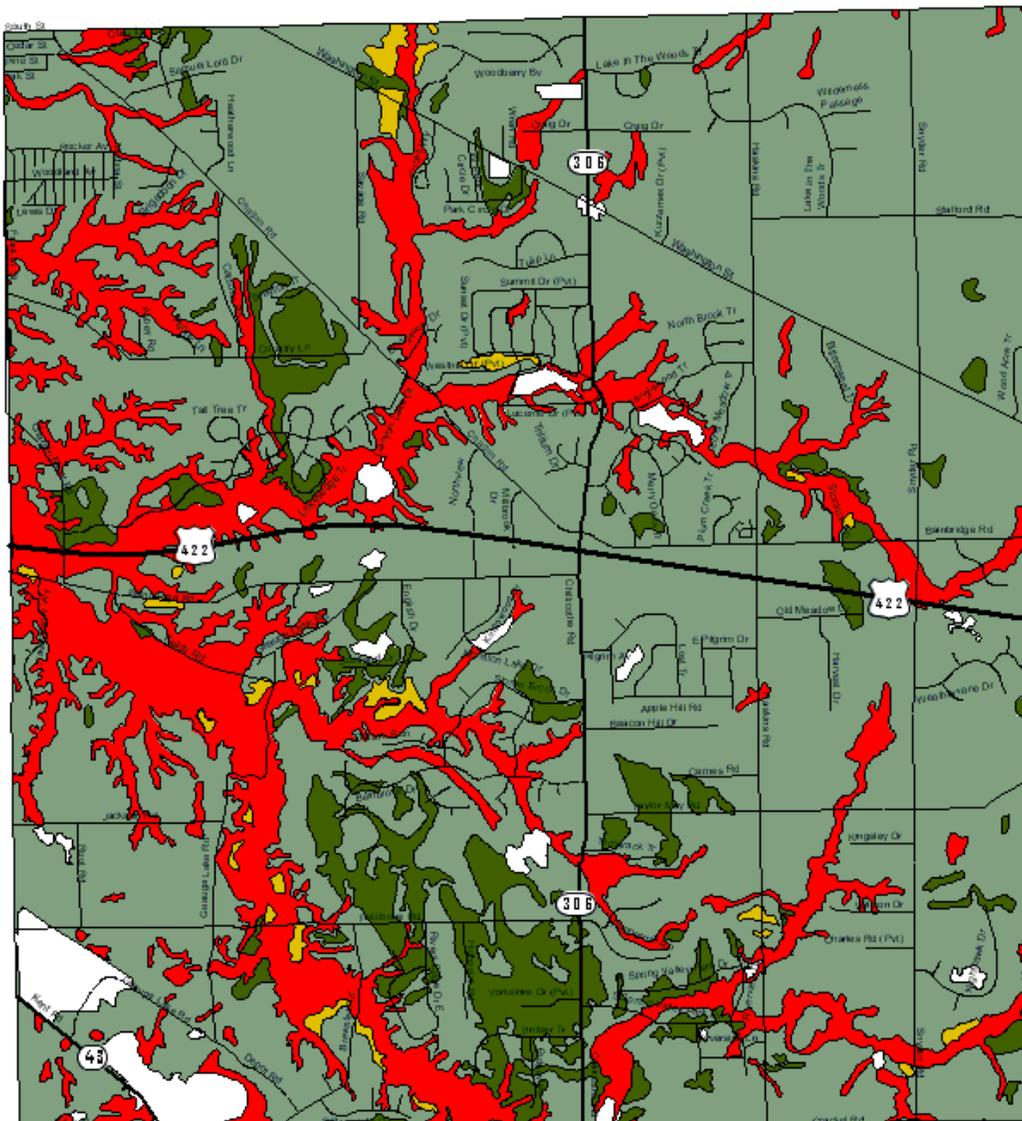
<u>Rating</u>	<u>Acres</u>	<u>% of Township Area</u>
Slight	142.12	0.9%
Moderate	1,156.42	6.9%
Severe	12,142.46	73.3%
Very Severe	2,782.94	16.7%
Not Rated	367.06	2.2%
Total	16,591.00	100.0%

Figure IV-3

**Capability for Commercial and/or Light Industrial Buildings
Soil Rating Percentages
Bainbridge Township**



Source: Geauga County Soil Survey 1982



Bainbridge Township Capability For Commercial and/or Light Industrial Buildings

- Soil Capability
- Slight
 - Moderate
 - Severe
 - Very Severe
 - Not Rated



Source: Geauga County
Soil Survey 1982
Prepared by: Geauga County
Planning Commission 2004

Table IV-24
Limitations for Septic Tank Absorption Fields
Bainbridge Township

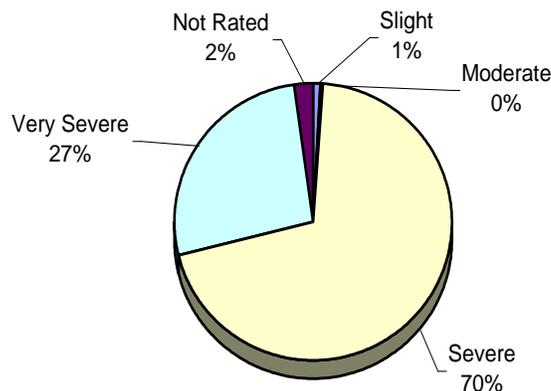
<u>Variables</u>	<u>Slight</u>	<u>Moderate</u>	<u>Severe</u>	<u>Very Severe*</u>
Permeability	MR, R	M	M, S, VS	N/A
Flooding	None	N/A	N/A	Frequent
Slope	0 – 6%	6 – 12%	N/A	>12%
Depth to Bedrock	>60"	N/A	20 – 40"	N/A
Depth to Seasonal Water Table	>60"	30 – 60"	12 – 36"	0 – 12"

*Results in an automatic “unsuitable” rating

Table IV-25
Capability for Septic Tank Absorption Fields Map Legend
Bainbridge Township

<u>Rating</u>	<u>Acres</u>	<u>% of Township Area</u>
Slight	142.12	0.9%
Moderate	34.38	0.2%
Severe	11,623.29	70.0%
Very Severe	4,424.15	26.7%
Not Rated	367.06	2.2%
<i>Total</i>	<i>16,591.00</i>	<i>100.0%</i>

Figure IV-4
Capability for Septic Tank Absorption Fields
Soil Rating Percentages
Bainbridge Township



Source: Geauga County Soil Survey 1982

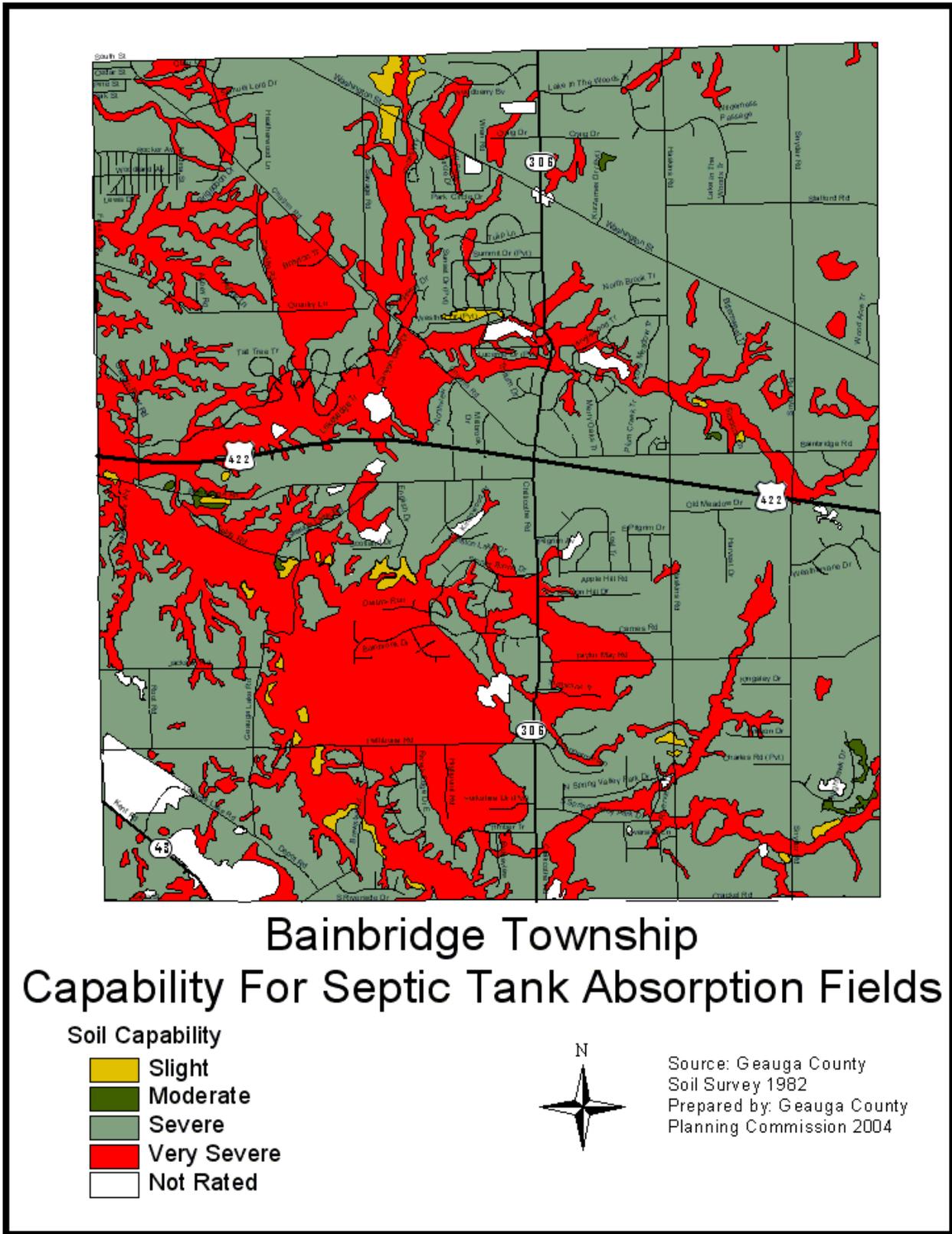


Table IV-26
Limitations for Local Roads
Bainbridge Township

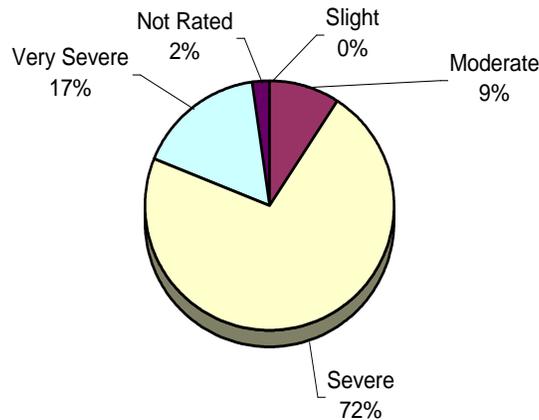
<u>Variables</u>	<u>Slight</u>	<u>Moderate</u>	<u>Severe</u>	<u>Very Severe*</u>
Drainage	WD, MWD	SPD	PD	VPD
Flooding	None	N/A	Frequent	N/A
Slope	0 – 6%	6 – 12%	12 – 18%	>18%
Depth to Bedrock	>40"	20 – 40"	N/A	N/A
Shrink-Swell	Low	Moderate	High	N/A
Potential Frost Action	Low	Moderate	High	N/A
Depth to Seasonal Water Table	>60"	36 – 60"	12 – 36"	>12"

*Results in an automatic “unsuitable” rating

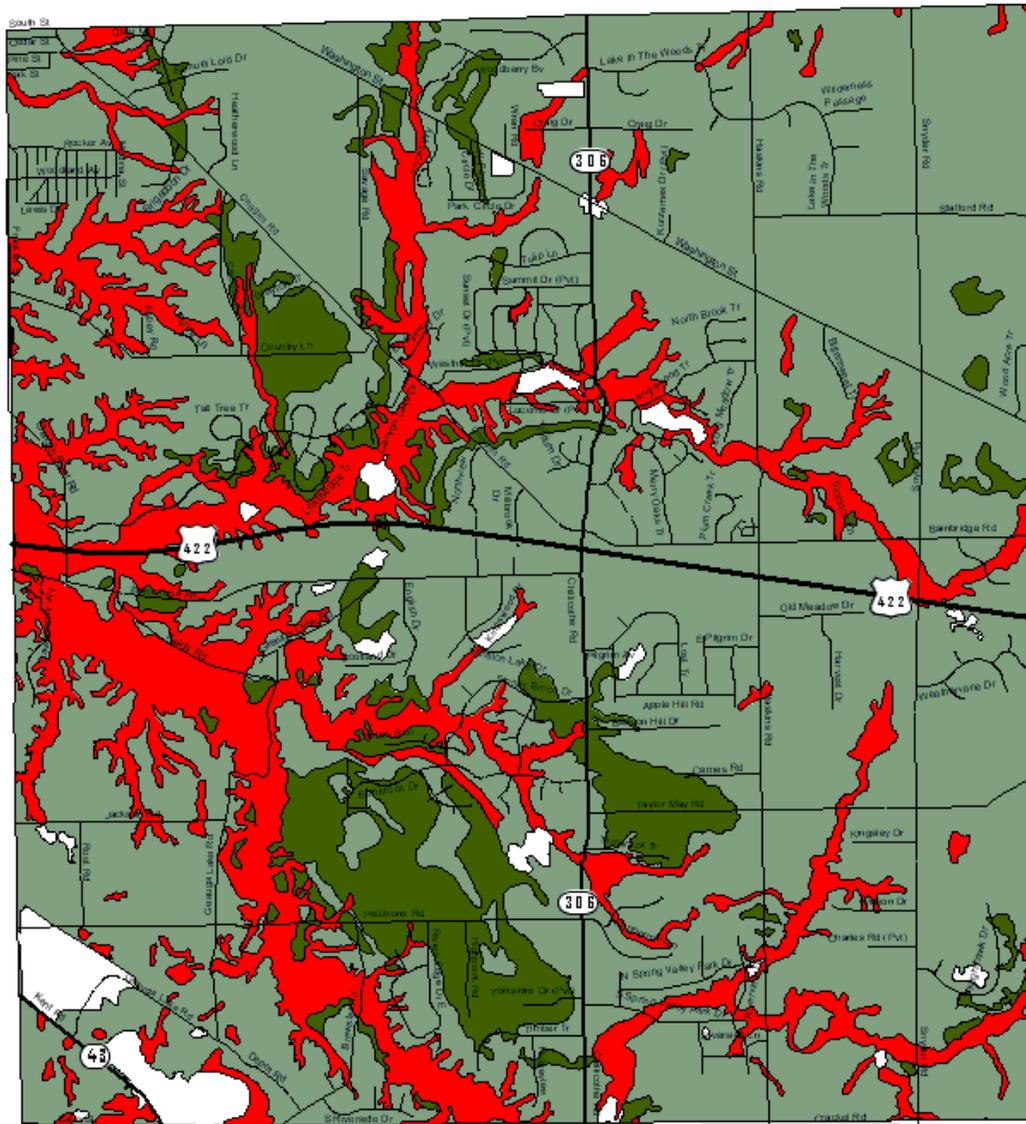
Table IV-27
Capability for Local Roads Map Legend
Bainbridge Township

<u>Rating</u>	<u>Acres</u>	<u>% of Township Area</u>
Slight	0.00	0.0%
Moderate	1,499.88	9.1%
Severe	11,941.12	72.0%
Very Severe	2,782.94	16.7%
Not Rated	367.06	2.2%
Total	16,591.00	100.0%

Figure IV-5
Capability for Local Roads
Soil Rating Percentages
Bainbridge Township



Source: Geauga County Soil Survey 1982



Bainbridge Township Capability For Local Roads

Soil Capability

-  Moderate
-  Severe
-  Very Severe
-  Not Rated



Source: Geauga County
Soil Survey 1982
Prepared by: Geauga County
Planning Commission 2004

Table IV-28

Limitations for Underground Utilities
Bainbridge Township

<u>Variables</u>	<u>Slight</u>	<u>Moderate</u>	<u>Severe</u>	<u>Very Severe*</u>
Drainage	WD	MWD	SPD, PD	VPD
Depth to Seasonal Water Table	>60"	36 – 60"	12 – 36"	0 – 12"
Shrink-Swell	Low	Moderate	High	N/A
Depth to Bedrock	>60"	N/A	N/A	20 – 40"
Slope	0 – 6%	6 – 12%	12 – 18%	>18%

*Results in an automatic “unsuitable” rating

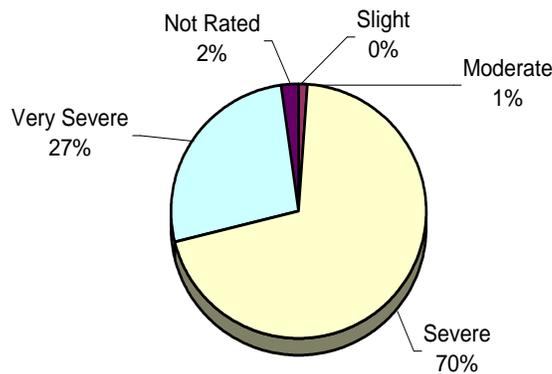
Table IV-29

Capability for Underground Utilities Map Legend
Bainbridge Township

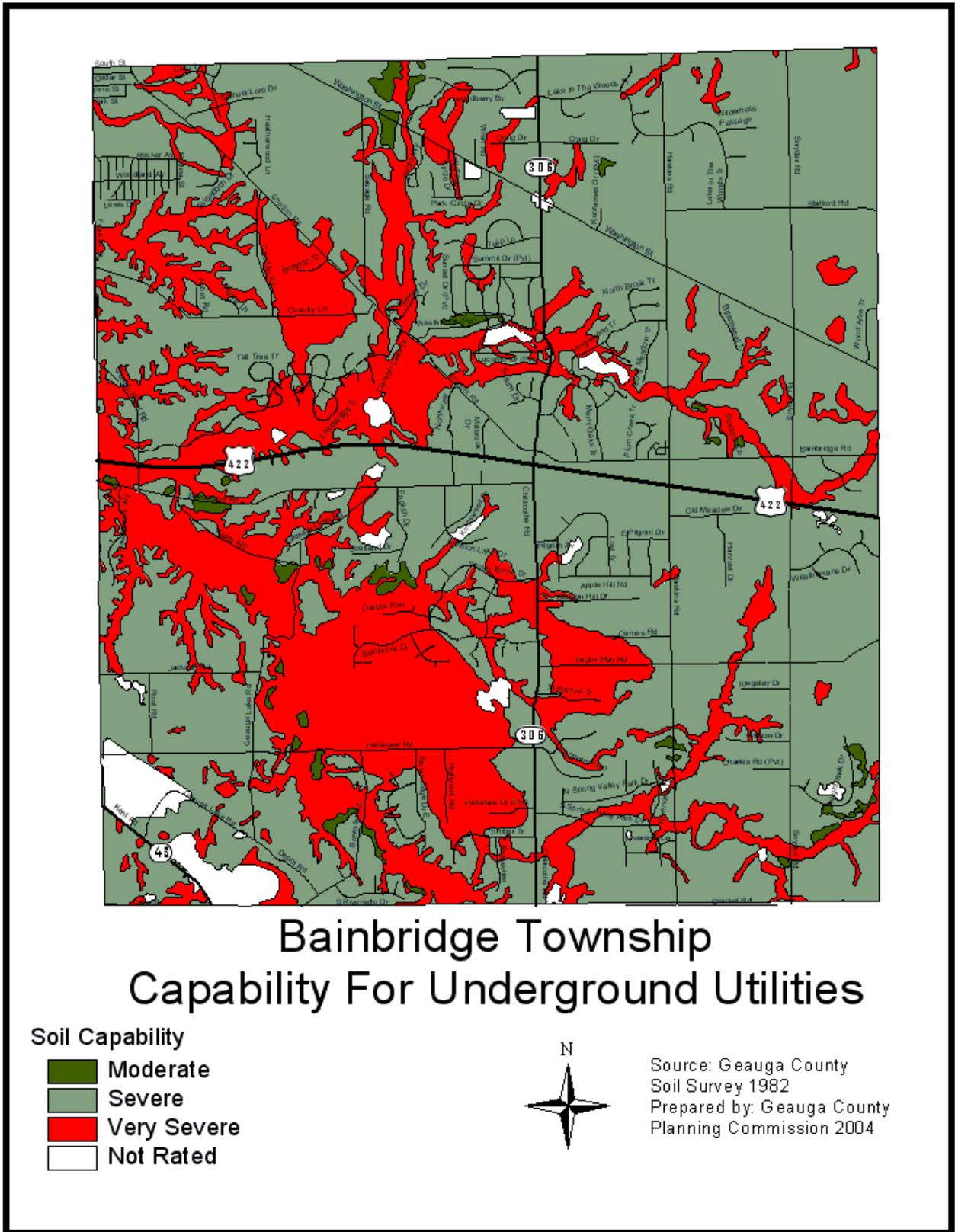
<u>Rating</u>	<u>Acres</u>	<u>% of Township Area</u>
Slight	0.00	0.0%
Moderate	176.69	1.1%
Severe	11,626.25	70.1%
Very Severe	4,421.00	26.6%
Not Rated	367.06	2.2%
Total	16,591.00	100.0%

Figure IV-6

Capability for Underground Utilities
Soil Rating Percentages
Bainbridge Township



Source: Geauga County Soil Survey 1982



Composite Capability

The following composite capability maps provide a total overview of the township. The maps reflect all of the physical features that were discussed earlier in this portion of the plan (see Map IV-30 and Map IV-31).

A rating system (see Table IV-30) has also been devised. Generally, the areas rated “slight” have the best potential to support development; and, cover a very small percentage of the township. The next category is “moderate.” Areas rated “moderate” have a fair potential to support development and are limited and scattered throughout the township. The “severe” category encompasses 69.4% of the township. Although there are more limitations relative to this category, it does not preclude development provided appropriate engineering, design, and maintenance mechanisms are employed. The rating “very severe” is reserved for those areas with environmentally sensitive conditions. About 26.7% of the township is in this rating. The “not rated” category applies to disturbed areas, lakes, and ponds.

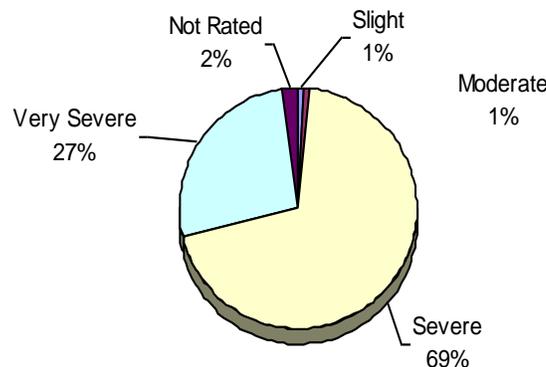
Table IV-30

Composite Capability Map Legend
Bainbridge Township

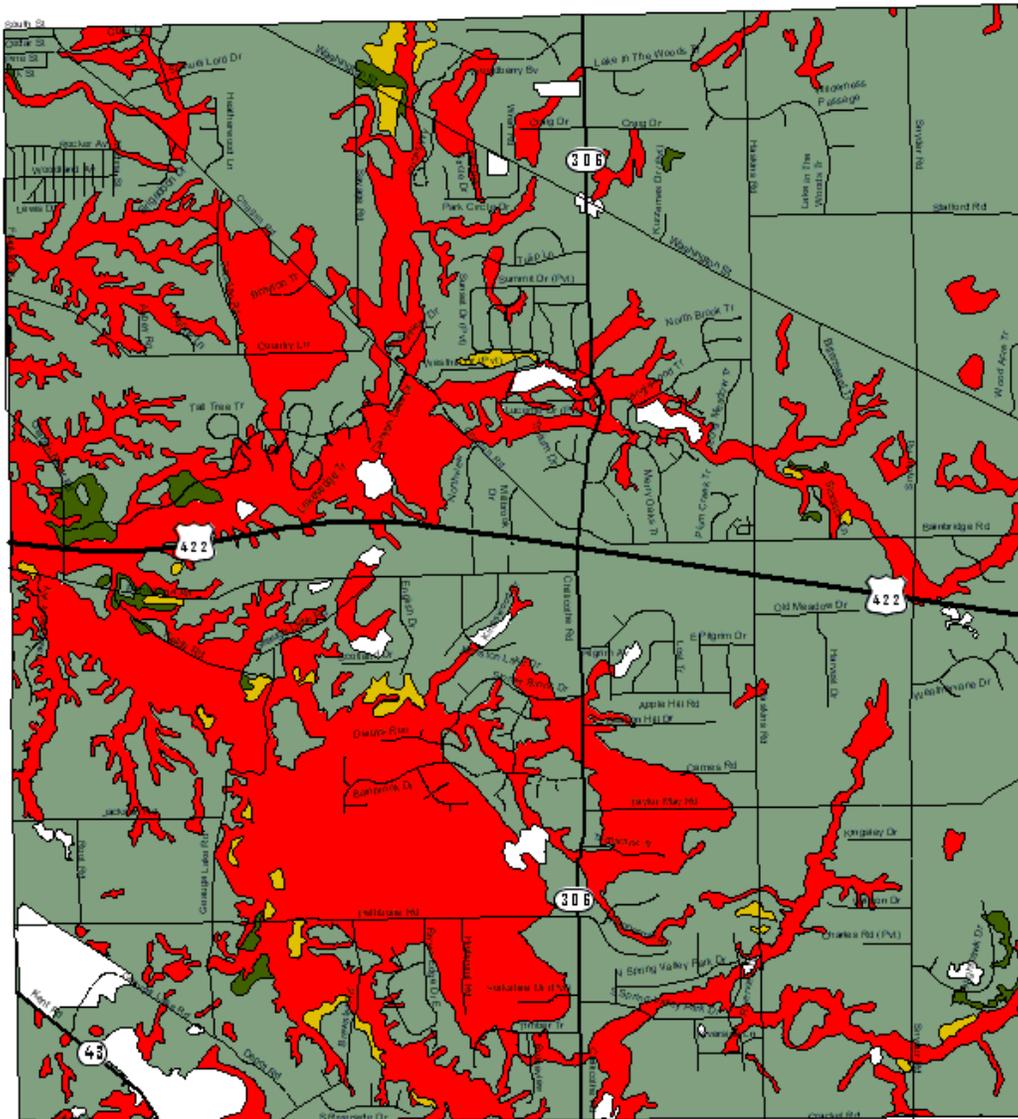
<u>Rating</u>	<u>Acres</u>	<u>% of Township Area</u>
Slight	142.12	0.9%
Moderate	134.25	0.8%
Severe	11,523.42	69.4%
Very Severe	4,424.15	26.7%
Not Rated	367.06	2.2%
Total	16,591.00	100.0%

Figure IV-7

Composite Capability
Percent of Township Area
Bainbridge Township



Source: Geauga County Soil Survey 1982



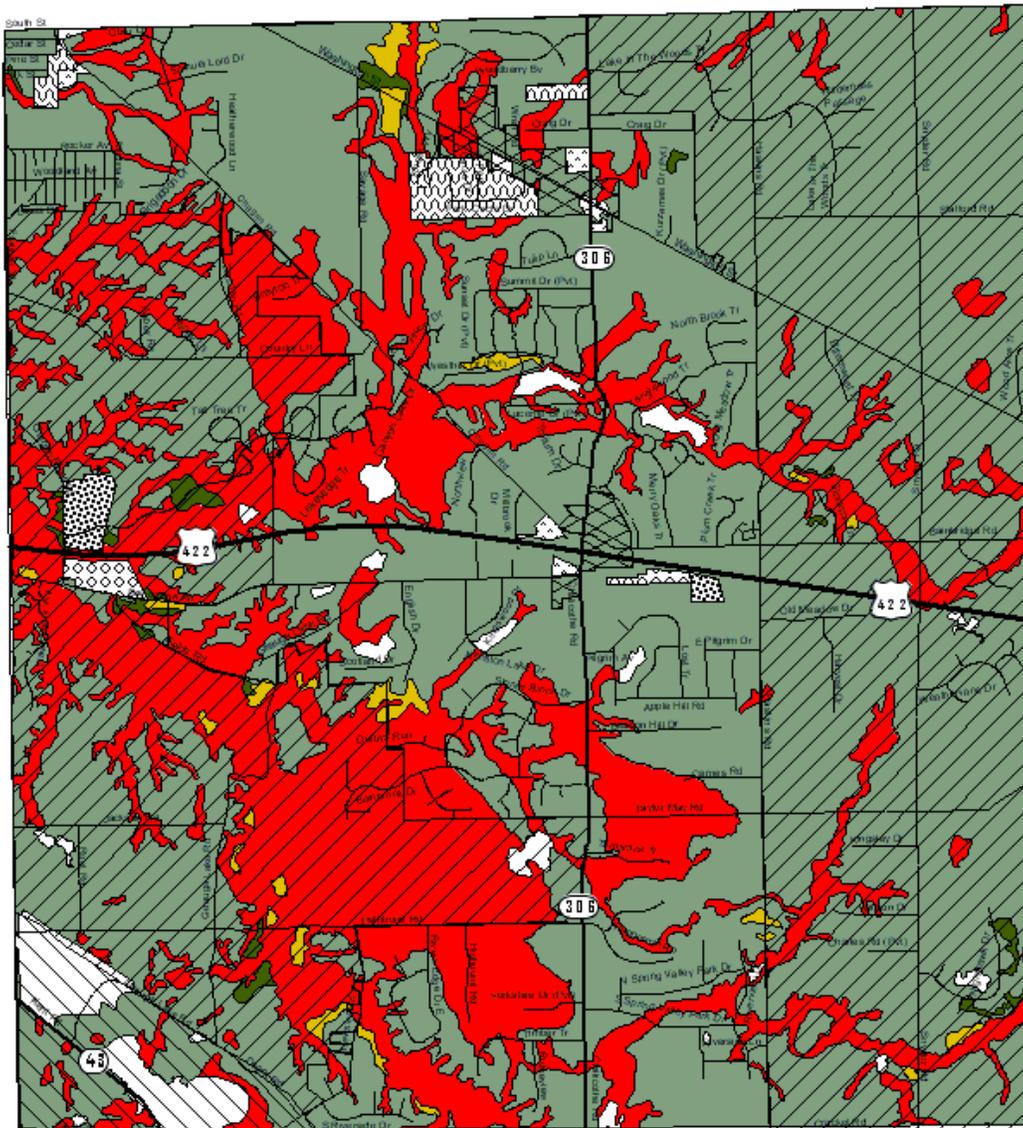
Bainbridge Township Composite Capability

- Soil Capability**
-  Slight
 -  Moderate
 -  Severe
 -  Very Severe
 -  Not Rated



Source: Geauga County
Soil Survey 1982
Prepared by: Geauga County
Planning Commission 2004

Map IV-31



Bainbridge Township Composite Capability & Township Zoning

- Soil Capability**
- Slight
 - Moderate
 - Severe
 - Very Severe
 - Not Rated



Zoning Districts

- R-3A: Rural Residential 6,904.31 Acres 41.6%
- R-5A: Rural Open Residential 8,696.11 Acres 52.4%
- CB: Convenience Business 200.88 Acres 1.2%
- PO: Professional Office 32.8 Acres 0.2%
- CR: Commercial Recreation 521.24 Acres 3.1%
- LIR: Light Industry Restricted 131.13 Acres 0.8%
- APP: Active Public Park 59.2 Acres 0.4%
- PPP: Passive Public Park 45.33 Acres 0.3%

Source: Geauga County Soil Survey 1982
 & Bainbridge Township Zoning Map
 Prepared by: Geauga County Planning Commission 2004

Table IV-31

Summary of Soil Capability Ratings
Bainbridge Township

<u>Soils</u>	<u>Septic Tank</u>	<u>Dwellings With Basements</u>	<u>Dwellings Without Basements</u>	<u>Commercial / Light Industry</u>	<u>Local Roads</u>	<u>Underground Utilities</u>
Bogart (Bg B)	Severe	Severe	Moderate	Moderate	Severe	Severe
Brecksville (Br F)	Very Severe	Very Severe	Very Severe	Very Severe	Very Severe	Very Severe
Canadice (Ca)	Very Severe	Very Severe	Very Severe	Very Severe	Very Severe	Very Severe
Caneadea (Cc A, B)	Severe	Severe	Severe	Severe	Severe	Severe
Carlisle Muck (Cf)	Very Severe	Very Severe	Very Severe	Very Severe	Very Severe	Very Severe
Chili (Cn B)	Slight	Slight	Slight	Slight	Moderate	Moderate
Chili (Cn C)	Moderate	Moderate	Moderate	Severe	Moderate	Moderate
Chili-Oshtemo (Cy F)	Very Severe	Very Severe	Very Severe	Very Severe	Very Severe	Very Severe
Ellsworth (Eh B)	Severe	Severe	Moderate	Moderate	Severe	Severe
Ellsworth (Eh C)	Severe	Severe	Moderate	Severe	Severe	Severe
Ellsworth (Eh D)	Severe	Severe	Severe	Severe	Severe	Severe
Ellsworth Eh E, F)	Very Severe	Very Severe	Very Severe	Very Severe	Very Severe	Very Severe
Fitchville (Fc A, B)	Severe	Severe	Severe	Severe	Severe	Severe
Glenford (Gf B)	Severe	Severe	Moderate	Moderate	Severe	Severe
Glenford (Gf C)	Severe	Severe	Moderate	Severe	Severe	Severe
Holly (Ho)	Very Severe	Very Severe	Very Severe	Very Severe	Very Severe	Very Severe
Haskins (Hs A, B)	Severe	Severe	Severe	Severe	Severe	Severe
Jimtown (Jt A)	Severe	Severe	Severe	Severe	Severe	Severe
Lordstown (Lr B)	Very Severe	Very Severe	Moderate	Moderate	Moderate	Very Severe
Lordstown (Lr C)	Very Severe	Very Severe	Moderate	Severe	Moderate	Very Severe
Lordstown (Lx D)	Very Severe	Very Severe	Severe	Severe	Severe	Very Severe
Lordstown (Lx F)	Very Severe	Very Severe	Very Severe	Very Severe	Very Severe	Very Severe
Loudonville (Ly B)	Very Severe	Very Severe	Moderate	Moderate	Moderate	Very Severe
Loudonville (Ly C)	Very Severe	Very Severe	Moderate	Severe	Moderate	Very Severe
Mahoning (Mg A, B, C)	Severe	Severe	Severe	Severe	Severe	Severe
Mahoning (Ms B)	Very Severe	Severe	Severe	Severe	Severe	Severe
Mitiwanga (Mt A)	Very Severe	Severe	Severe	Severe	Severe	Very Severe
Orrville (Or)	Very Severe	Very Severe	Very Severe	Very Severe	Very Severe	Very Severe
Pits, Quarry (Pq)	Not Rated	Not Rated	Not Rated	Not Rated	Not Rated	Not Rated
Rittman (Rs B)	Severe	Severe	Moderate	Moderate	Severe	Severe
Rittman (Rs C)	Severe	Severe	Moderate	Severe	Severe	Severe
Rittman (Rs D)	Severe	Severe	Severe	Severe	Severe	Severe
Rittman (Rs E, F)	Very Severe	Very Severe	Very Severe	Very Severe	Very Severe	Very Severe
Sebring (Sb)	Very Severe	Very Severe	Very Severe	Very Severe	Very Severe	Very Severe
Sheffield (Sf)	Very Severe	Very Severe	Very Severe	Very Severe	Very Severe	Very Severe
Tioga (Tg)	Very Severe	Very Severe	Very Severe	Very Severe	Very Severe	Very Severe
Udorthents (Ud)	Not Rated	Not Rated	Not Rated	Not Rated	Not Rated	Not Rated
Urban Land (Ur)	Not Rated	Not Rated	Not Rated	Not Rated	Not Rated	Not Rated
Wadsworth (Wb A, B)	Severe	Severe	Severe	Severe	Severe	Severe
Water (W)	Not Rated	Not Rated	Not Rated	Not Rated	Not Rated	Not Rated

Source: Geauga County Soil Survey 1982

CHAPTER V

RECOMMENDATIONS

Purpose and Establishment of Zoning Districts

The Ohio Revised Code (Section 519.02) provides that a board of township trustees may divide a township into zones or districts for the purpose of promoting the public health, safety, and general welfare (in limited circumstances) in accordance with a comprehensive plan. Section 101.02 (in part) of the Bainbridge Township Zoning Resolution more specifically outlines the rationale for the adopted zoning regulations.

The Board of Trustees and Zoning Commission of Bainbridge Township have, through an evaluation of development factors, anticipated future growth and basic community goals, established basic guidelines and objectives for future development in the township. It has been determined, due to the location of the township within the area, the natural limitations of soil and geologic conditions which affect water supply and sewage treatment, the limited capability of the township to provide urban services, the current character of development within the township, and the expressed objective of the residents of the community, that Bainbridge Township shall be essentially a low density residential community, with nonresidential development generally limited to that necessary for the convenience of the residents. It has been further determined that a major asset to the community is the natural rural quality of the landscape, and that this quality, insofar as possible, should be preserved.

The Land Use Plan (LUP) map at the end of this chapter reflects the various recommended zones for the community. The accompanying table includes a breakdown of the acreage and percentage of the township by district. The LUP map is meant to serve as a foundation for the adopted township zoning map. Its preparation was guided by the environmental variables mapped in an earlier chapter and the composite land capability map for the township. The following is an overview of each zone. Section 131.04 of the Bainbridge Township Zoning Resolution includes a general explanation of the purposes for the districts depicted on the map and each district has an “establishment” clause set forth in the resolution.

- Rural Residential (R-3A): No more than one single family detached dwelling per three (3) acres should be permitted. The zone generally includes a composite land capability rating of slight-moderate to severe.
- Rural Open (R-5A): No more than one single family detached dwelling per five (5) acres is recommended. The district typically encompasses a composite land capability rating of severe to very severe. Steep slopes, wetlands, floodplains, or shallow depth to bedrock may impact such areas. Locations with limited expected ground water availability may be included in this zone as well.

- Convenience Business (CB): Convenience businesses ordinarily include those that provide basic goods and services on a frequent or daily basis and serve a limited, local market area. Such uses should be within an area served by adequately planned infrastructure as shown on the adopted “208 Service Plan Map” of the township.
- Mixed-Use Planned Unit Development (MUP): The purpose of the Bainbridge Township Mixed-Use Planned Unit Development District is to promote the redevelopment of a formerly regionally significant tourist area to protect the site’s plentiful natural resources while maximizing compatibility and integration with adjacent jurisdictions and existing uses (e.g., the adjacent outdoor water park and residential areas). Bainbridge Township plans to provide flexibility in site design by creating opportunities for higher density, semi-urban residential housing and mixed-uses and to improve the overall tax base of the township. The mixed-use planned unit development district intends to promote integrated developments that are compatible with adjacent neighborhoods with access and internal circulation methods that are pedestrian-friendly. Within the MUP District, the zoning regulations need not be uniform, but may vary in order to accommodate unified development and to promote the public health, safety and morals. The foregoing text is based on R.C. 519.021, Planned Unit Development.
- Professional Office (PO): This zone is meant to address existing and anticipated non-retail office needs in the community. It should be established along primary arterial roads near main intersections so as to act as a transitional district between more intensive commercial/light industrial uses and nearby residential development.
- Light Industry Restricted (LIR): Light industrial and research/development establishments may be permitted in this zone, the operation of which must be conducted entirely within enclosed buildings. Heavy industrial vehicular traffic is not encouraged and environmental hazards relating to noise, glare, smoke, dust, odors, and other impacts must be alleviated. The LIR uses should be served by suitably planned infrastructure as depicted on the adopted “208 Service Plan Map.”
- Active Public Park (APP): Publicly held land within this district should be used to achieve a balance between the residents’ need for active recreational opportunities and the preservation of open space. Facilities should be developed in a park-like setting to promote leisure time activities that enhance athletic, social, and educational opportunities.
- Passive Public Park (PPP): Sensitive environmental areas including wetlands, floodplains, steep slopes, fish and wildlife habitat, forests, and ground water recharge locations should be preserved and protected in their natural state through the establishment of the Passive Public Park District.

Review and Implementation

In the introductory segment of this chapter, it was noted that the statute enables a board of township trustees to adopt zoning regulations in accord with a comprehensive plan for the promotion of public health, safety, and morals. Consequently, it is recommended that the township officials utilize this plan, which is meant to supplement the “Bainbridge Township Guide Plan 2000” as a reference tool with respect the land use and zoning decision-making process.

Successful community planning and zoning requires a continuing commitment on behalf of public officials. In order to meet the challenges related to ongoing development activity and its impacts, periodic review of the Guide Plan and amendments to strengthen the zoning regulations included in the Bainbridge Township Zoning Resolution are warranted.

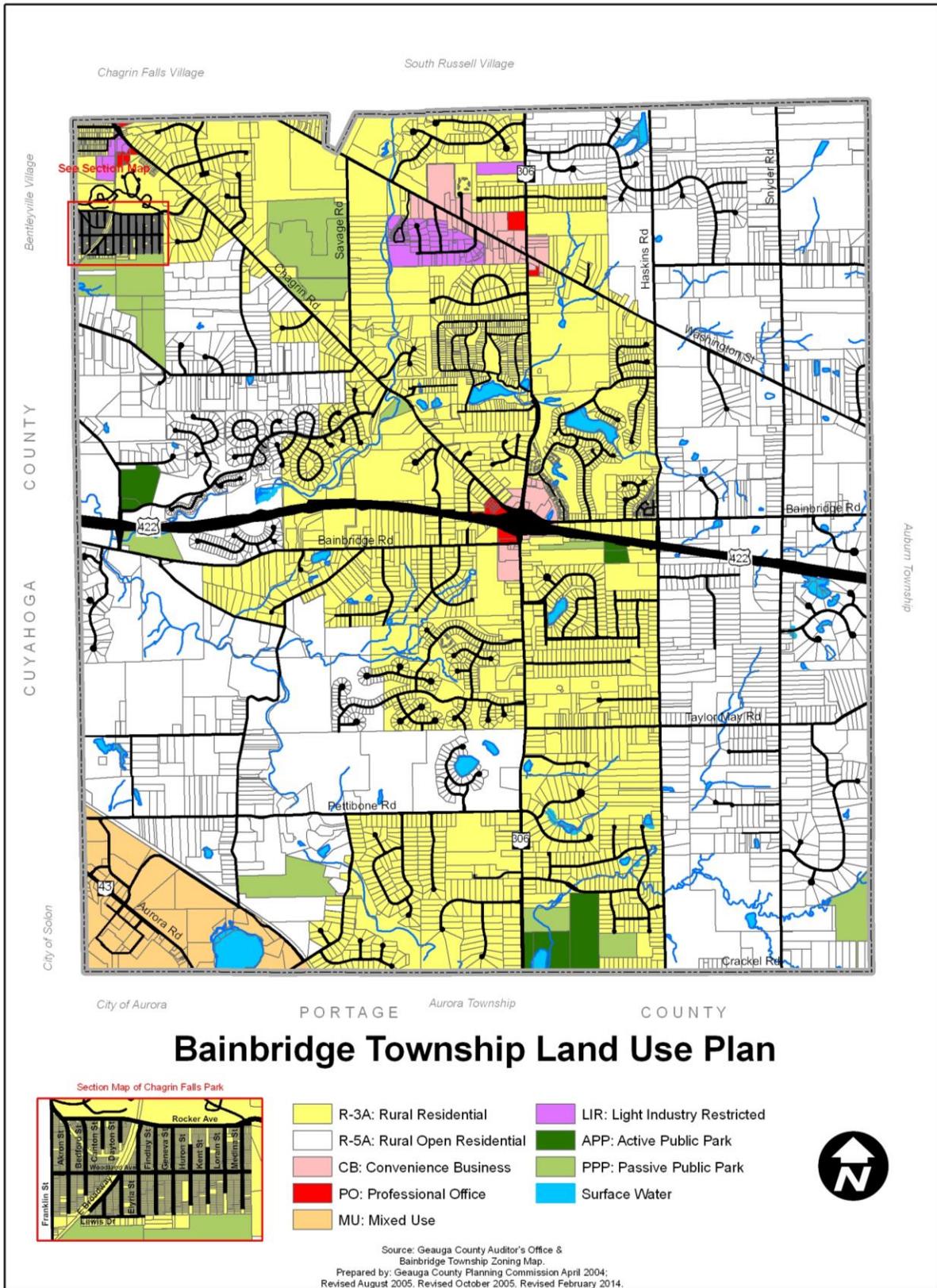
Table V-1

Land Use Plan Map Legend
Bainbridge Township

<u>Category</u>	<u>Acres</u>	<u>Percent</u>
R-3A: Rural Residential	6,531.24	38.96%
R-5A: Rural Open Residential	8,478.44	50.57%
CB: Convenience Business	208.67	1.24%
PO: Professional Office	34.01	0.2%
MUP: Mixed Use Planned Unit Development	513.54	3.06%
LIR: Light Industry Restricted	130.94	0.78%
APP: Active Public Park	150.35	0.9%
PPP: Passive Public Park	527.7	3.15%
Surface Water	190.77	1.14%

Source: Bainbridge Township Land Use Map, 2014

Map V-1



Bainbridge Township Land Use Plan



- R-3A: Rural Residential
- LIR: Light Industry Restricted
- R-5A: Rural Open Residential
- APP: Active Public Park
- CB: Convenience Business
- PPP: Passive Public Park
- PO: Professional Office
- Surface Water
- MU: Mixed Use



Source: Geauga County Auditor's Office & Bainbridge Township Zoning Map.
 Prepared by: Geauga County Planning Commission April 2004;
 Revised August 2005, Revised October 2005, Revised February 2014.

CHAPTER VI

TOWNSHIP QUESTIONNAIRES

BAINBRIDGE TOWNSHIP COMMUNITY SURVEY
MASTER RECREATION PLAN

Tabulated For:

Bainbridge Township Trustees

Tabulated By:

Business Research Services, Inc.

Spring – 2001

Summary of the Results

Household Age Demographics

A total of 1,226 households returned a survey via mail, which is 31% of the 4,017 households that were mailed a survey. The margin of error for the results of this survey is a plus or minus factor of 2.3%. The survey represents households with children, as well as those without children.

1. Please indicate the number of persons in each age category in your household.

___ Children age 0-6	___ Adults age 40-49
___ Children age 7-12	___ Adults age 50-59
___ Children age 13-17	___ Adults age 60-69
___ Adults age 18-29	___ Adults age 70 and older
___ Adults age 30-39	

2. What is your age? _____

3. What is your gender? _____ male _____ female.

In summary, 48% of the households that returned a survey have children under 18 years of age and 52% of the households have no children under 18 years of age. In addition, all adult age groups are well represented. Detailed below are the age demographics of the households that participated in this survey.

Children

- 23% have children between 0 and 6 years of age
- 26% have children between 7 and 12 years of age
- 21% have children between 13 and 17 years of age
- *48% have at least one child between 0 and 17 years of age*

Adults

- 17% have adults between the ages of 18 and 29 years of age
- 23% have adults between the ages of 30 and 39 years of age
- 40% have adults between the ages of 40 and 49 years of age
- 29% have adults between the ages of 50 and 59 years of age
- 16% have adults between the ages of 60 and 69 years of age
- 12% have adults that are 70 years of age or more
- *52% have only adults 18 years of age and above*

Usage Patterns of Outdoor Parks and Recreational Facilities

4. During the warmer months, about how often does your household use an outdoor park or recreational facility? (Include facilities that are public or private and that are in or outside of the township)

<input type="checkbox"/> Once a week or more often	<input type="checkbox"/> Once a month to once every other month
<input type="checkbox"/> 2-3 times a month	<input type="checkbox"/> Less often than once every other month
<input type="checkbox"/> About once a month	<input type="checkbox"/> Never

In total, over half (55%) of the households surveyed use outdoor parks or recreational facilities *at least once a week* during the warmer months, while an additional 17% use outdoor facilities 2 to 3 times a month. Seven percent (7%) of the total households surveyed *never* use outdoor parks or recreational facilities during the warmer months.

Among households with children, three-fourths (76%) use outdoor parks or recreational facilities *at least once a week* during the warmer months, while an additional 14% use outdoor facilities 2 to 3 times a month. Only 1% of the households with children *never* use outdoor parks or recreational facilities during the warmer months.

Among households without children, approximately one third (36%) use outdoor parks or recreational facilities *at least once a week* during the warmer months, while an additional 20% use outdoor facilities 2 to 3 times a month. Thirteen percent (13%) of the households without children *never* use outdoor parks or recreational facilities during the warmer months.

Usage Patterns of Indoor Recreational Facilities for Sports and Exercise

5. During the colder months, about how often does your household use an indoor recreational or leisure activity facility for sports and exercise? (Include facilities that are public or private and that are in or outside of the township)

<input type="checkbox"/> Once a week or more often	<input type="checkbox"/> Once a month to once every other month
<input type="checkbox"/> 2-3 times a month	<input type="checkbox"/> Less often than once every other month
<input type="checkbox"/> About once a month	<input type="checkbox"/> Never

Almost half (46%) of the households surveyed use an indoor facility for sports or exercise *at least once a week* during the colder months, while an additional 10% use indoor facilities 2 to 3 times a month. Twenty-one percent (21%) of the total households surveyed *never* use indoor recreational or leisure activity facilities during the colder months.

Among households with children, over half (58%) use an indoor facility for sports or exercise *at least once a week* during the colder months, while an additional 11% use indoor facilities 2 to 3 times a month. Only 7% of the households with children *never* use indoor facilities during the colder months.

Among households without children, approximately one third (35%) use an indoor facility for sports or exercise *at least once a week* during the colder months, while an additional 9% use indoor facilities 2 to 3 times a month. One-third (34%) of the households without children *never* use indoor facilities during the colder months.

Usage Patterns of Indoor Social and Educational Facilities

6. Throughout the year, about how often does your household use an indoor facility for community social, educational or service activities? (arts, crafts, senior activities, community education, AARP, civic groups, etc.)

- | | |
|-------------------------------|--|
| ___ Once a week or more often | ___ Once a month to once every other month |
| ___ 2 or 3 times a month | ___ Less often than once every other month |
| ___ About once a month | ___ Never |

In total, almost half (46%) of the households surveyed use an indoor facility for community social, educational or service activities *at least once a month*, while 22% of the total households surveyed *never* use indoor facility for such activities.

Among households with children, 59% use an indoor facility for community social, educational or service activities *at least once a month*, while 11% of the household with children *never* use an indoor facility for such activities.

Among households without children, 35% use an indoor facility for community social, educational or service activities *at least once a month*, while 32% of the household without children *never* use an indoor facility for such activities.

Outdoor Facilities Used Every Year

7. Which of these parks or recreation facilities do you or members of your family use at least once in a year? Place an “X” to the left of all of the facilities that you use. Do not include the school that your family members attend unless you use the facilities after school hours for non-school activities.

<u>Outdoor Facilities</u>	<u>Total Households</u>	<u>With Children</u>	<u>Without Children</u>
Beartown Lakes Reservation	61%	69%	52%
Settlers Park	53%	73%	32%
School Playgrounds	32%	55%	8%
Kenston High School	32%	39%	24%
Chagrin Valley Athletic Club	26%	39%	12%
La Due Reservoir	21%	20%	23%
Lake Lucerne Park	20%	27%	12%
Tanglewood Ballfields/Courts/Lake	15%	20%	11%
Bainbrook Pool and Tennis Courts	12%	18%	6%
Pilgrim Village Neighborhood Park	11%	15%	8%
Lake in The Woods Pool/Lake/Park	11%	17%	5%
Aurora Sunny Lake Park	11%	9%	12%
Chagrin Falls Park	10%	13%	7%

The most popular outdoor facilities, among households with and without children, are the Beartown Lakes Reservation in the Geauga Park District and Settlers Park. Beartown Lakes Reservation is used every year by over half (61%) of all the households surveyed, while Settlers Park is used at least once a year by half (53%) of the households.

Indoor Facilities Used Every Year

<u>Indoor Facilities</u>	<u>Total Households</u>	<u>With Children</u>	<u>Without Children</u>
Libraries	79%	87%	71%
Churches	44%	49%	38%
Town Halls	40%	42%	38%
Schools	37%	53%	19%
Golf Dome	33%	44%	21%
Chagrin Valley Roller Rink	29%	53%	5%
Ice Rinks	26%	45%	6%
Chagrin Valley Athletic Club	24%	36%	13%
Fine Arts Centers	18%	25%	11%
Private Health Clubs	17%	18%	16%

The most popular indoor facility among households with and without children is the Library, used every year by 79% of all the households surveyed. Churches are the second most popular indoor facility used for social and recreational activities and are used by 44% of all the households surveyed at least once a year.

- Please indicate the outdoor parks and recreational facilities that you or members of your household have used in the last year. Do not limit your response to facilities located in just Bainbridge Township or Geauga County.

Usage in the Last Year . . .

Outdoor Parks and Recreational Activities

<u>Outdoor Facilities</u>	<u>Total Households</u>	<u>With Children</u>	<u>Without Children</u>
Walkways or Bike Trails	77%	83%	70%
Picnic Tables in Open Areas	56%	68%	43%
Swimming Pool/Aquatic Center	54%	77%	30%
Picnic Shelters	52%	62%	41%
Fishing Lakes	44%	53%	35%
Playgrounds	44%	71%	15%
Greenway Corridors	28%	31%	24%
Baseball Fields	26%	45%	7%
Tennis Courts	26%	38%	14%
Soccer Fields	25%	44%	5%

Seventy-seven percent (77%) of the households surveyed used walkways or bike trails in the last year, followed by picnic tables in open areas (56%), an outdoor swimming pool or aquatic center (54%), picnic shelters (52%), fishing lakes (44%) and playgrounds (44%).

9. Please indicate the indoor recreational or leisure facilities and activities that you or members of your household have used within the last year.

Usage in the Last Year . . .

Indoor Recreational and Leisure Activities

Over half of the households surveyed (58%) used exercise equipment in the last year, followed by indoor swimming pools (53%), gymnasiums (44%), meeting rooms for social and educational programs (43%), aerobic/exercise rooms (38%), community educational programs (35%), roller skating rinks (34%) and ice skating rinks (29%).

<u>Indoor Facilities</u>	<u>Total Households</u>	<u>With Children</u>	<u>Without Children</u>
Exercise Equipment	58%	66%	48%
Swimming Pool	53%	69%	34%
Gymnasium	44%	62%	24%
Social/Educational Meeting Rooms	43%	45%	40%
Aerobics/Exercise Room	38%	46%	30%
Community Education Programs	35%	43%	26%
Roller Skating Rink	34%	58%	6%
Ice Skating Rink	29%	48%	7%
Sauna and Steam Rooms	27%	31%	22%
Indoor Track	26%	30%	21%

Outdoor Parks and Recreational Facilities Needed

10. We need to know what type of park and recreational facilities are needed in Bainbridge Township. For each type of facility listed, please check if your household has a strong need, a slight need or no need for that kind of new facility to be built.

The survey questionnaire presented a listing of outdoor parks and recreational facilities (aiding the respondents) and the households were asked to check if they have a strong need, slight need or no need for that king of new facility to be built.

Undeveloped land in the form of walkways, bike trails, greenspace land for future parks and greenway corridors is the most needed outdoor item for Bainbridge Township. Detailed below is a recap of all the parks and recreational facilities rated on an aided basis.

<u>Parks and Recreational Facilities Needed in the Township</u>	<u>Total Need</u>	<u>Strong Need</u>	<u>Slight Need</u>
Walkways and Bike Trails	89%	65%	24%
Greenspace Land	89%	71%	18%
Greenway Corridors	80%	45%	35%
Picnic Tables in Open Areas	77%	34%	43%
Picnic Shelters	77%	34%	43%
Playgrounds	62%	34%	28%
Aquatic Center	60%	35%	25%
Swimming Pool	59%	32%	27%
Environmental Education Center	55%	18%	37%
Amphitheater	54%	17%	37%
Baseball Fields	54%	30%	24%
Softball Fields	53%	26%	27%
Basketball Courts	53%	23%	30%
Tennis Courts	52%	20%	32%
Soccer Fields	51%	26%	25%
Volleyball Courts	48%	14%	34%
Fishing Lakes	50%	17%	33%
Mountain Bike Trails	47%	18%	29%
Skate Park	39%	17%	22%
Football Fields	37%	14%	23%
Horseback Riding Trails	34%	11%	23%
Roller Hockey Facility	21%	6%	15%

Indoor Facilities Needed

11. Is there a strong need, slight need or no need for the following facilities to be built?

The survey presented a listing of indoor facilities (aiding the respondents) and the households were asked to check if they have a strong need, slight need or no need for that kind of facility to be built.

Physical fitness items in the form of exercise equipment, exercise rooms, an indoor track and an indoor swimming pool are the most needed indoor facilities for Bainbridge Township; in addition to meeting rooms for social and educational programs. Detailed below is a recap of all the indoor facilities rated on an aided basis.

<u><i>Indoor Facilities</i></u>	<u><i>Total Need</i></u>	<u><i>Strong Need</i></u>	<u><i>Slight Need</i></u>
Exercise Equipment	75%	47%	28%
Meeting Rooms – Social/Educational	74%	35%	39%
Aerobics/Exercise Room	73%	41%	32%
Indoor Track	72%	44%	28%
Swimming Pool	72%	53%	19%
Youth Center	71%	43%	28%
Gymnasium	68%	42%	26%
Arts and Crafts Rooms	68%	30%	38%
Senior Citizen Center	67%	36%	31%
Aquatic Center	61%	36%	25%
Stage for Performing Arts	60%	29%	31%
Cultural Arts Center	58%	24%	34%
Racquetball/Handball Court	50%	16%	34%
Sauna and Steam Room	46%	20%	26%
Game Room	41%	12%	29%
Ice Skating Rink	31%	10%	21%
Roller Skating Rink	29%	8%	21%

Recreational Facilities Needed Most – Unaided Responses

12. From the outdoor and indoor facilities identified in the previous questions, please list the facilities that are most needed in Bainbridge Township. Please list in order of preference.

The survey respondents were then asked on an “unaided” basis to write down the three outdoor facilities and three indoor facilities that are most needed in Bainbridge Township.

On an unaided basis, walkways/bike trails received the most write-in mentions for outdoor facilities (54% of total mentions), followed by an outdoor swimming pool/aquatic center (43%), greenspace (29%) and greenway corridors (17%).

<u><i>Outdoor Facilities Most Needed</i></u>	<u><i>Total Households</i></u>	<u><i>Households With Children</i></u>	<u><i>Households Without Children</i></u>
Walkways/Bike Trails	54%	50%	60%
Swimming Pool	43%	59%	24%
Greenspace	29%	21%	38%
Greenway Corridors	17%	14%	21%

On an unaided basis, a swimming pool received the most mentions for indoor facilities (48% of total mentions), followed by a youth center (25%), gymnasium (24%) and senior center (20%).

<u>Indoor Facilities Most Needed</u>	<u>Total Households</u>	<u>Households With Children</u>	<u>Households Without Children</u>
Swimming Pool	48%	56%	40%
Youth Center	25%	31%	18%
Gymnasium	24%	34%	12%
Senior Center	20%	10%	32%

Community Education Programs

13. How familiar are you with the Kenston Community Education recreation and education programs offered by the Auburn-Bainbridge Recreation Board?

___ Very familiar ___ Somewhat familiar ___ Not familiar

Eighty-nine percent (89%) of the households surveyed are “familiar” with the Community Recreational and Educational Programs offered by the Auburn-Bainbridge Recreation Board; 48% said they are “very” familiar and 41% said “somewhat” familiar. Fifty-eight percent (58%) of the households with children are “very” familiar with the programs, compared to 37% of the households without children.

14. How often do members of your family participate in these programs?

___ Very often ___ Occasionally ___ Not at all

15. How would you rate the Kenston Community Education programs?

___ Excellent ___ Good ___ Fair ___ Poor ___ Do not know

In total, 19% of the households surveyed rated the Community Recreational and Educational Programs “excellent”, 58% rated them “good”, 19% rated them “fair” and 4% rated them “poor”.

16. What programs would you like to see added?

Two-thirds (68%) of all the households surveyed participate in the Community Recreational and Educational Programs offered by the Auburn-Bainbridge Recreation Board; 18% participate “very” often, while 50% participate “occasionally”. Thirty percent (30%) of the households with children participate “very” often in the programs, compared to 7% of the households without children. Swimming lessons were recommended most frequently as a program to add, being mentioned by 4% of all the households surveyed. These results are for Survey Questions #14 and #16.

<u>Rating</u>	<u>Total Households</u>	<u>Households With Children</u>	<u>Households Without Children</u>
Excellent	19%	19%	19%
Good	58%	59%	58%
Fair	19%	20%	18%
Poor	4%	2%	5%
Total	100%	100%	100%

Kenston Athletic Association Programs

17. How often do you or members of your household participate in any of the Kentson Athletic Association (KAA) programs?

___ Very often ___ Occasionally ___ Not at all

Almost half (44%) of the households surveyed participate in KAA Programs; 27% participate “very” often and 17% “occasionally” participate. Seventy-three percent (73%) of the households with children participate in KAA Programs, compared to 17% of the households without children.

18. If you participate in KAA, how would you rate the programs?

___ Excellent ___ Good ___ Fair ___ Poor

Twenty-one percent (21%) of all the households that participated in KAA Programs rated them “excellent”, 57% rated them “good”, 19% rated them “fair” and 3% rated them “poor”.

<u>Rating</u>	<u>Total Households</u>	<u>Households With Children</u>	<u>Households Without Children</u>
Excellent	21%	20%	25%
Good	57%	57%	57%
Fair	19%	20%	17%
Poor	3%	3%	1%
Total	100%	100%	100%

Indoor Community Recreation Center

19. How likely would you be to pay a fee to become a member of an indoor community/recreation center if one were built?

___ Very likely ___ Not very likely ___ Do not know
 ___ Somewhat likely ___ Not at all likely

Seventy-five percent (75%) of all the households surveyed would be “likely” to pay a fee and become a member of an Indoor Community Recreation Center if one were built; 88% of the households with children and 62% of the households without children.

<u>Rating</u>	<u>Total Households</u>	<u>Households With Children</u>	<u>Households Without Children</u>
Very Likely	46%	60%	31%
Somewhat Likely	29%	28%	31%
<i>Likely Sub-Total</i>	<i>(75%)</i>	<i>(88%)</i>	<i>(62%)</i>
Not Very Likely	10%	7%	13%
Not At All Likely	15%	5%	25%
<i>Not Likely Sub-Total</i>	<i>(25%)</i>	<i>(12%)</i>	<i>(38%)</i>

Future Land Purchases

20. Should the Township continue to purchase land for parks and recreational uses?

___ Yes ___ No

21. Should the Township continue to purchase land for greenspace? (Greenspace is undeveloped land that is reserved for future parks or that remains undeveloped).

___ Yes ___ No

Eighty-nine percent (89%) of all the households surveyed indicated that the Township should continue purchasing land for “greenspace” and 87% indicated that land should continue to be purchased for “parks and recreational” uses.

<u>Land Purchases Agreed With</u>	<u>Total Households</u>	<u>Households With Children</u>	<u>Households Without Children</u>
Greenspace	89%	90%	88%
Parks/Recreation	87%	93%	82%

The Township Trustees would like to ask one additional question on a related, but separate issue.

Frohring Estate Tax Funds

22. Although this questionnaire relates primarily to recreational uses, the Township Trustees would like you to indicate your support of the following additional uses to which excess funds (e.g. the Frohring Estate tax funds) could continue to be allocated.

	<u>Strongly Support</u>	<u>Somewhat Support</u>	<u>Do Not Support</u>
Buying Land	_____	_____	_____
Township Services (Police, Fire Road)	_____	_____	_____
Recreational Facilities	_____	_____	_____

The households surveyed supported Land Purchase the most (91%), followed by “additional recreational facilities” (88%) and township services including police, fire and roads (81%).

<u>Total Households</u>	<u>Total Support</u>	<u>Strongly Support</u>	<u>Somewhat Support</u>	<u>Do Not Support</u>
Land for Various Uses	91%	61%	30%	9%
Recreational Facilities	88%	64%	24%	12%
Township Services	81%	43%	38%	19%

The households with children were in more support of land and recreational facilities, while the households without children were in more support of services for the township like police, fire and roads.

<u>Land Purchases Agreed With</u>	<u>Total Households</u>	<u>Households With Children</u>	<u>Households Without Children</u>
Land for Various Uses	91%	93%	89%
Recreational Facilities	88%	95%	82%
Township Services	81%	80%	82%

Other Miscellaneous Comments Written

Finally, the survey gave members of the community an opportunity to write-in additional comments. In total, 471 households wrote additional comments out of the 1,226 that responded to the survey (38%). Detailed below are the top five most popular comments written and the percentages are based upon the entire sample that responded to the survey.

<u>Additional Comments</u>	<u>Total Households</u>	<u>Households With Children</u>	<u>Households Without Children</u>
A Recreation Center Is Needed	8%	10%	5%
Do Not Use Fund for Chagrin Falls Park	4%	4%	4%
Limit Development Keep Rural Setting	4%	3%	4%
Buy Land/Preserve Greenspace	4%	3%	4%
A Pool Is Needed	3%	3%	2%

**UNIVERSITY OF AKRON
INSTITUTE FOR POLICY STUDIES
SURVEY RESEARCH CENTER
PROJECT REPORT**

***Bainbridge Township
Comprehensive Planning Survey***

FEBRUARY 1999

Bainbridge Township Comprehensive Planning Survey

Section 1 - General assessment

For each of the following questions please circle the appropriate answer.

- Q1. Overall, I would rate the current quality of life in Bainbridge as:
(1) Excellent (2) Good (3) Fair (4) Poor (5) Very Poor (9) Don't Know
- Q2. Please indicate which **one** of the following statements comes **closest** to your view of future zoning and land use choices.
- (A) I would like to maintain the current zoning and land use, and would accept fewer township services and higher taxes to protect it.
 - (B) I would like to maintain the current zoning and land use, and would accept fewer township services to maintain current tax levels.
 - (C) I would like to maintain the current zoning and land use, and would pay higher taxes if needed, to maintain current township service levels.
 - (D) I would accept somewhat higher intensity land use and traffic in selected areas if it meant lower taxes for the same township services we have now.
 - (E) I would accept somewhat higher intensity land use and traffic in selected areas if it meant improved township services for the same tax rates we have now.
 - (F) I would accept substantially higher intensity land use and traffic in selected areas if it means lower taxes and improved services in the township.
- Q3. Overall, how important do you believe additional non-residential development is to the economic viability of Bainbridge township?
(1) Very important (2) Somewhat important (3) Not necessary (4) Unsure
- Q4. How important do you believe additional non-residential development is to the viability of the Kenston school district?
(1) Very important (2) Somewhat important (3) Not necessary (4) Unsure

Section 2 - We currently have no control over the following issues. However, we would appreciate your response to these questions.

- Q5. Should the township have control over building styles in the community? (1)Yes (2)No (3)Don't Know
- Q6. As a means of decreasing cost, would you be willing to have the township select one waste hauler to provide service to the entire township? Residents would still be billed individually. (1)Yes (2)No (3)Don't Know
- Q7. Should the township have control over speed limits? (1)Yes (2)No (3)Don't Know
- Q8. Should the township have control over the use of firearms in the township limits? (1)Yes (2)No (3)Don't Know
- Q9. Should the township have control over truck traffic? (1)Yes (2)No (3)Don't Know

Section 3 - Community Services Quality

For each of the following service areas, please indicate your satisfaction with current service delivery by circling the appropriate number on the scale or 'No Opinion'.

	<u>Very Dissatisfied</u>										<u>Very Satisfied</u>											
	1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8	9	10		
Q10. Bainbridge police	1	2	3	4	5	6	7	8	9	10												No Opinion
Q11. Bainbridge Fire Department	1	2	3	4	5	6	7	8	9	10												No Opinion
Q12. Bainbridge Rescue	1	2	3	4	5	6	7	8	9	10												No Opinion
Q13. Kenston Public Schools	1	2	3	4	5	6	7	8	9	10												No Opinion
Q14. Township form of government	1	2	3	4	5	6	7	8	9	10												No Opinion
Q15. Access to township officials	1	2	3	4	5	6	7	8	9	10												No Opinion
Q16. Communication with residents	1	2	3	4	5	6	7	8	9	10												No Opinion
Q17. Recreational facilities	1	2	3	4	5	6	7	8	9	10												No Opinion
Q18. Availability of parks	1	2	3	4	5	6	7	8	9	10												No Opinion
Q19. Township Road Maintenance	1	2	3	4	5	6	7	8	9	10												No Opinion
Q20. County Road Maintenance (Chagrin Road, Bainbridge Road, E. Washington Street)	1	2	3	4	5	6	7	8	9	10												No Opinion
Q21. State Road Maintenance (Rt. 306, Rt 422, RT 43)	1	2	3	4	5	6	7	8	9	10												No Opinion
Q22. Township Snow Removal	1	2	3	4	5	6	7	8	9	10												No Opinion
Q23. County Snow Removal (Chagrin Road, Bainbridge Road, E. Washington Street)	1	2	3	4	5	6	7	8	9	10												No Opinion
Q24. State Snow Removal (Rt. 306, Rt 422, RT 43)	1	2	3	4	5	6	7	8	9	10												No Opinion
Q25. Maintenance of road ditches	1	2	3	4	5	6	7	8	9	10												No Opinion
Q26. Waste Hauler - please enter Service Provider	1	2	3	4	5	6	7	8	9	10												No Opinion

Section 4 - Opinion on value received

Q27. Given the quality of township services, I feel that township property taxes of approximately \$443 per \$100,000 of market value are:

- (1) Too high (2) About right (3) Quite low

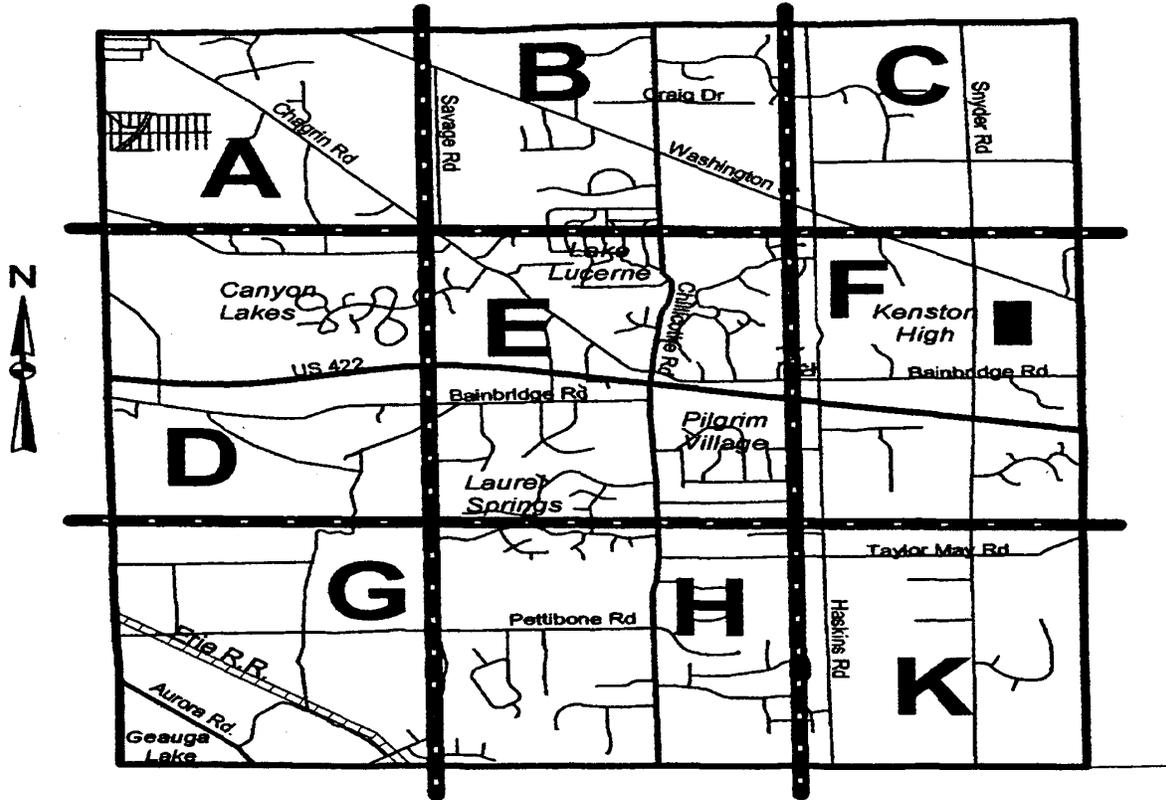
Q28. Given the quality of county services, I feel that my county property taxes approximately \$361 per \$100,000 of market value are:

- (1) Too high (2) About right (3) Quite low

Q29. Given the quality of the Kenston schools, I feel that my school district property taxes approximately \$1,190 per \$100,000 of market value are:

- (1) Too high (2) About right (3) Quite low

Location Map of Bainbridge Township



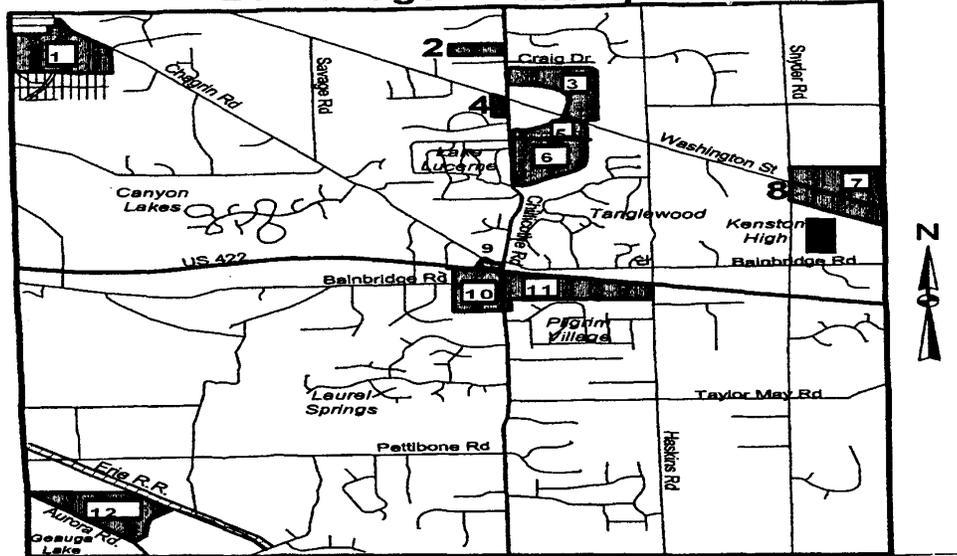
Please refer to the map above to answer these questions. For each of the following housing types or land uses, please circle the letter corresponding to any map location where you believe the housing type or land use should be permitted by the township plan. If you think the housing type or land use activity is appropriate *ANYWHERE* in the township, please circle the phrase **Permit** for that use. If you think the housing type or land use is appropriate *NOWHERE* in the township please circle the phrase **Not Permit** for that use. If you are unsure about a particular use please circle the phrase **Don't Know** for that use.

PERMIT *ONLY* IN AREA

Q30. Single-family houses on smaller clustered lots to conserve natural open spaces. The current 5 and 3 acre density would still be required. Permit A B C D E F G H K Not Permit Don't Know

Q31. Larger minimum lot sizes. Permit A B C D E F G H K Not Permit Don't Know

Bainbridge Township



For items 32-42, please refer to the road segment numbers on the detail map above. Use the same approach as in the earlier items. Our current zoning requires three or five acres per residence. Note that questions 41 and 42 ask for locations where services are NEEDED.

PERMIT ONLY AT SEGMENT

Q32. Smaller residential lot sizes at greater densities for a retirement development.	Permit 1 2 3 4 5 6 7 8 9 10 11 12 Not Permit Don't Know
Q33. Smaller minimum lot sizes.	Permit 1 2 3 4 5 6 7 8 9 10 11 12 Not Permit Don't Know
Q34. Retirement communities at less than the current 1 residence per three or five acres.	Permit 1 2 3 4 5 6 7 8 9 10 11 12 Not Permit Don't Know
Q35. High density multi family development such as town houses.	Permit 1 2 3 4 5 6 7 8 9 10 11 12 Not Permit Don't Know
Q36. Assisted living facilities.	Permit 1 2 3 4 5 6 7 8 9 10 11 12 Not Permit Don't Know
Q37. Additional Neighborhood retail.	Permit 1 2 3 4 5 6 7 8 9 10 11 12 Not Permit Don't Know
Q38. Regional Retail Stores.	Permit 1 2 3 4 5 6 7 8 9 10 11 12 Not Permit Don't Know
Q39. Additional Offices.	Permit 1 2 3 4 5 6 7 8 9 10 11 12 Not Permit Don't Know
Q40. Additional Light Industrial.	Permit 1 2 3 4 5 6 7 8 9 10 11 12 Not Permit Don't Know
Q41. Additional traffic Signals on signs.	Needed 1 2 3 4 5 6 7 8 9 10 11 12 Not Needed Don't Know
Q42. Road improvements needed to correct traffic flow problems.	Needed 1 2 3 4 5 6 7 8 9 10 11 12 Not Needed Don't Know

Section 6 - Proposed new township features

Several proposals have been made for new township services and features. On average, residents currently pay a total of \$1,980 per \$100,000 of market value of residential property. Thinking in terms of additional taxes per \$100,000 of market value, how much more in township taxes would you be willing to pay per year for each facility.

- Q43. To establish and maintain a Historic District consisting of older buildings of the township? \$ _____
- Q44. To establish and maintain land for Passive Parks to be used for hiking and conservation activities? \$ _____
- Q45. To establish and maintain Active Parks for sports and picnic areas? \$ _____
- Q46. To establish and maintain a Community Center for indoor activities? \$ _____
- Q47. To establish and maintain pedestrian and/or bike trails? \$ _____
- Q48. To establish and maintain a Conservation District to set aside land for perpetual conservation from development? \$ _____
- Q49. To establish a fund for the purchase of farm or open land development rights? \$ _____
- Q50. Overall limit on additional township taxes you would be willing to pay for any combination of these activities? \$ _____

Section 7 - Demographic background

Q51. Please indicate the location of your residence by circling the appropriate section letter from the detail map on page 3. A B C D E F G H K

Q52. How long have you lived at your current residence? Years _____

Q53. How long have you lived in Bainbridge township? Years _____

Q54. Do you currently own or rent your place of residence?
(1) Own (2) Rent

Q55. For those who own, please estimate the current market value of your residence.
\$ _____

Q56. Reason for moving to Bainbridge? Circle all that apply.
(1) Always lived here (2) Rural character (3) Schools
(4) Proximity to work (5) Land Values (6) Close to Family
(7) Quality of neighborhoods (8) Other

- Q57. Before moving to this address, where did you live?
 (1) Within the Township (2) Metro Cleveland (3) Cleveland Suburbs
 (4) Other location in Ohio (5) Out of State (6) Out of the Country
- Q58. Do you expect to remain in this home for the next two years, or do you think you might move by then?
 (1) Remain (skip to question 60) (2) Might move
- Q59. Why are you thinking of moving?
 (1) Job change (2) School (3) Taxes (4) Retirement
 (5) To Improve Quality of Life (6) Traffic/Congestion (7) Other
- Q60. Please circle the type of water system you have:
 (1) Individual well (2) Central well system (3) Public water system
- Q61. How would you rate your water quality?
 (1) Excellent (2) Good (3) Fair (4) Poor (5) Very Poor
- Q62. Do you have any problems with the quantity (supply) of water in your well?
 (1) Yes (2) No
- Q63. How large is the lot size for your residence?
 [Your best estimate in acres or fractions of acres.] _____
- Q64. Is your residence a condominium? (1) Yes (2) No
- Q65. How many school age children are living at your residence? _____
- Q66. What type of school do those children attend. Circle all that apply:
 (1) Kenston Public Schools (2) Private school (3) Home School (4) Other
- Q67. How many people live at this residence? _____
- Q68. If you work outside the home, please indicate the Zip Code of your place of employment? _____
- Q69. How many miles do you travel to work? _____
- Q70. Do you have a need for purchases or services, not met in the township which you feel should be met here? (1) Yes (2) No
- Q71. If so, what? _____

- Q72. Would you find an Internet Web site devoted to township affairs to be:
 (1) Very useful (2) Somewhat useful (3) Not at all useful
 (4) I don't use the Web.
- Q73. Are you registered to vote? (1) Yes (2) No

Executive Summary

The Bainbridge Township Comprehensive Planning Survey was commissioned by the Bainbridge Township Zoning and Planning Committee in Fall 1998. Using a mail survey design, a questionnaire instrument was developed by the University of Akron Institute for Policy Studies in consultation with the Bainbridge Zoning Commission, and a committee of interested citizens. The questionnaire was designed to provide Bainbridge township residents with the opportunity to give their opinions and views on issues relating to zoning laws and land use policies. Respondents were also asked to rate their satisfaction with general service delivery and township infrastructure services. Finally, respondents were asked to indicate their level of willingness to pay additional taxes for new projects and initiatives in the township.

The survey was mailed out to all identifiable households in Bainbridge Township for a total of 3,839 surveys. In order to provide the opportunity for each adult township resident to participate, the cover letter requested that the adult member of the household who had the most recent birthday complete the questionnaire. The ‘last birthday’ method of respondent selection is one of the standard practices used for selecting a random respondent within a household. Two mailings were conducted; the first mailing generated approximately 1,100 completed surveys. A second mailing was sent out three weeks following the first one to approximately 2,000 households. In the final count, 1,538 completed surveys were returned out of the 3,839 surveys mailed to households. One hundred and thirty four surveys were found to be undeliverable. This return result represents a high response rate in excess of 40% and should be viewed as a positive indication of citizen interest in participating in the Bainbridge Township planning process. Every effort was made to ensure that Bainbridge township citizens had the opportunity to participate in the study. Questions regarding the nature and purpose of the study were handled by the University of Akron Institute for Policy Studies and the Bainbridge Township Zoning Commission.

Overall, Bainbridge residents like their township for its rural character and quality of life. There is an understanding expressed that additional non-residential development is important to the economic viability of the township and the school district. There is also a stated unwillingness to permit the building of high density housing or the creation of smaller lot sizes. The township is divided on the issue of maintaining the current zoning versus land use policies and permitting more intense development of the township.

The major findings are summarized as follows:

1. Bainbridge township residents like their township because of its rural character and are resistant to the idea of additional development and zoning changes. There is a diverse population living in Bainbridge described best as young residents, those who have lived in Bainbridge less than fifteen years and old residents, those who have lived over sixteen years in the township. Twenty three percent of the respondents have moved into the area in the past five years. However, length of residence does not appear to have any effect upon reported attitudes towards the township’s quality of life.

2. Respondents report moving to Bainbridge because of its rural character and the quality of the neighborhoods. Over fifty percent of those who have moved to Bainbridge came from Cleveland suburbs while another six percent moved in from the Metro Cleveland area.
3. Bainbridge residents are highly satisfied with their Rescue, Fire and Police services and the level of access to township officials. Bainbridge residents also indicate satisfaction with the schools, the township form of government and communication with the residents. Services such as the parks and recreation facilities do not garner equally high levels of satisfaction.
4. The majority of respondents consider additional non-development as being important to the economic viability of Bainbridge Township and the school district. However, later questions reveal that there is a lack of willingness to fund new projects and initiatives through additional taxes.
5. Respondents were asked to choose between increasing or decreasing development in the township, living with the same, more or less services and paying more, less or the same level of taxes. These options were presented in a series of statements and respondents chose the one that best matched their opinion. To summarize the findings, there is no definitive attitude towards land use options in Bainbridge Township. Respondents split nearly evenly on the issue of maintaining the current zoning practices or intensifying the use of land in the township. Length of residence in the township had little effect on the attitude reported towards zoning and land use policies.
6. Respondents were also not very supportive of a shopping list of proposed changes in land use policies and approval for housing types in the township. There is less opposition to the proposed development of retirement communities, additional offices and some light industrial facilities.
7. Respondents were asked to indicate locations, on maps provided with the questionnaire, where they might accept the development of specific types of housing or other development projects. There is little support for the creation of smaller minimum lot sizes or the development of high density multi family facilities such as townhouses.
8. Township residents feel that the township should have control over issues that range from building styles to truck traffic through the township.
9. While there may be support for a variety of new initiatives in the township, there is a general unwillingness to support tax increases for these projects.
10. Township residents perceive their township taxes as being about right. County taxes are perceived as too high for the service received as are the school district taxes.

Analysis

Methodology

The Bainbridge Township Comprehensive Planning Survey was commissioned by the Bainbridge Township Zoning and Planning Committee in Fall 1998. Planning for the survey began in August 1998. Using a mail survey design, a questionnaire instrument was designed by the University of Akron Institute for Policy Studies in consultation with the Bainbridge Zoning Commission, and a committee of interested citizens. A draft instrument was forwarded to the Bainbridge Zoning Commission and a copy was mailed to the Bainbridge Citizen Committee, comprised of thirty Bainbridge community citizens, for their review and comments. These comments and recommendations were forwarded to the UA Survey Research Center for inclusion in the revised final instrument. The draft document was also reviewed by the Bainbridge Township Trustees and their comments and recommendations for revision were forwarded to the UA Survey Research Center for inclusion in the final questionnaire. The final survey contained eight areas of inquiry.

Section 1 dealt with a general assessment by the respondents of their perceived quality of life in Bainbridge, attitudes and views towards current zoning and land use. Respondents were asked to choose from a series of statements that best describes their evaluation of the level of zoning and land use, delivery of services and tax levels. Respondents were also asked to give their views and opinions about the impact of the non-additional economic viability of Bainbridge Township and the viability of the Bainbridge school district.

The second section of the questionnaire dealt with the community's perception of the need for township control over such issues as building styles, speed limits, the use of firearms within township limits and truck traffic. Respondents were also asked to indicate whether they would be willing, as a means of decreasing costs, to have the township select one waste hauler to provide service to the entire township.

The third section of the questionnaire dealt with the respondents' evaluation of a variety of community services, including police, fire, recreational facilities, road maintenance and snow removal among others. The fourth section dealt with an evaluation of the level of township, county and school district property taxes currently being paid in Bainbridge Township.

Section five dealt with questions related to preferences of housing types and land uses. In this section, respondents were provided with two detailed and segmented maps of the township and were asked to indicate where a variety of land uses and building types ought to be permitted in each of the labeled segmented areas by township area on the first map and by identified road segments on the second map. The pattern of response for these questions were that the respondent could:

- a) Indicate that the use should be permitted ANYWHERE in the township, or
- b) indicate that the use should NOT be permitted ANYWHERE in the township, or
- c) indicate where use should be permitted by circling the appropriately labeled region.

The sixth section presented a number of proposed new township features and asked respondents to identify how much more in township taxes they would be willing to pay for each facility. Section seven administered a number of demographic characteristics of the respondents and the eighth and final section contained three open-ended questions and asked respondents to identify the five best and five worst things about living in Bainbridge and finally to describe the kind of community they would like Bainbridge to be in ten years.

Sampling Issues

The survey was mailed out to all identifiable households in Bainbridge Township for a total of 3,839 surveys. In order to provide the opportunity for each adult township resident to participate, the cover letter requested that the adult member of the household who had the most recent birthday complete the questionnaire. The ‘last birthday’ method of respondent selection is considered one of the standard practices used for selecting a random respondent within a household. Two mailings were conducted; the first mailing generated approximately 1,100 completed surveys. A second mailing was sent out three weeks following the first one to approximately 2,000 households. In the final count, 1,538 completed surveys were returned out of the 3,839 surveys mailed to households. One hundred and thirty four surveys were found to be undeliverable. This return result represents a high response rate in excess of 40% and should be viewed as a positive indication of citizen interest in participating in the Bainbridge Township planning process.

Every effort was made to ensure that Bainbridge township citizens had the opportunity to participate in the study. Questions regarding the nature and purpose of the study were handled by the University of Akron Institute for Policy Studies and the Bainbridge Township Zoning Commission

Rating of Current Quality of Life in Bainbridge

Ninety percent of the Bainbridge respondents give their township a rating of ‘Excellent’ or ‘Good’ (Figure VI-1, Q.1). Twenty three percent (23%) of the respondents have lived in Bainbridge Township less than five years and over half of the respondents have lived in the township for fifteen years (Figure VI-2, Q. 52). However, length of residence in Bainbridge Township does not affect the reported attitude towards the township’s quality of life (Figure VI-3).

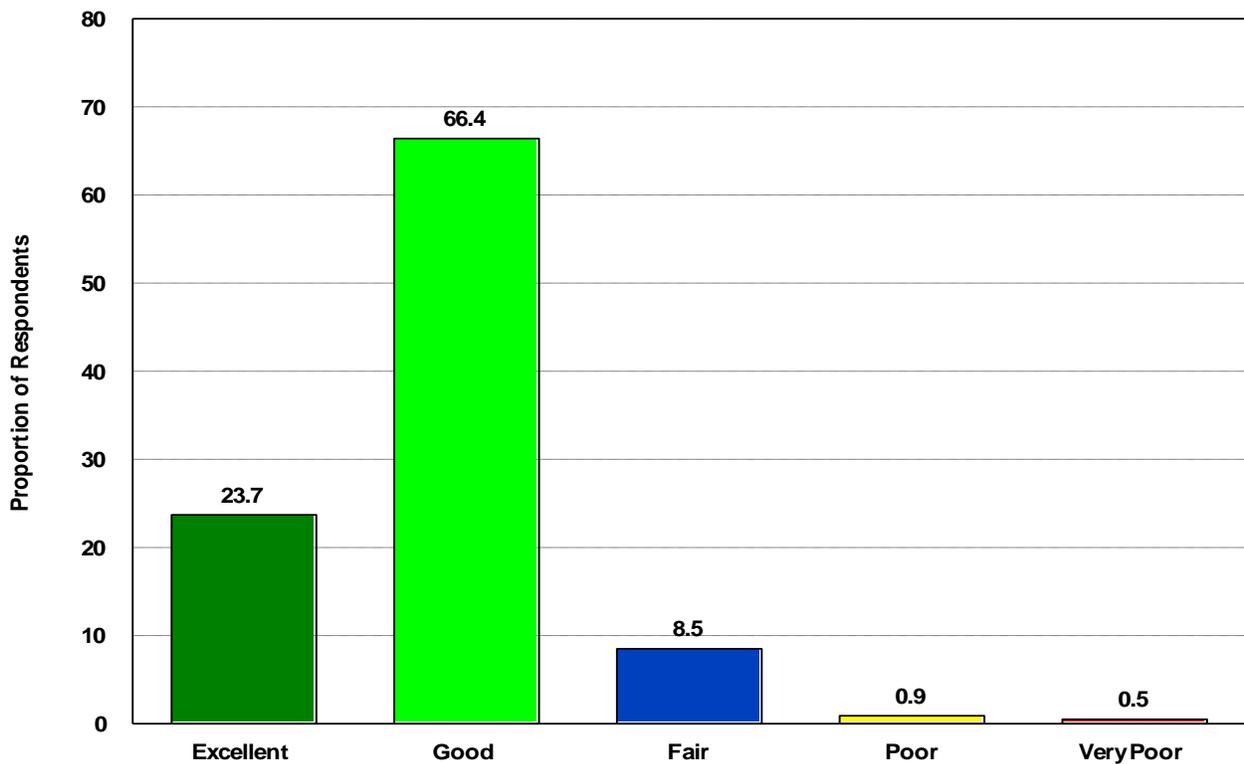
Respondents were asked for their reasons for moving to Bainbridge and the results are displayed in Figure VI-4 (Q. 56). The rural character of the township and the quality of the neighborhoods are the most frequently mentioned reasons for moving followed by schools and the value of land. Eight percent of the respondents (8%) have always lived there.

Fifty one percent (51%) of the respondents who have moved into Bainbridge have moved from the Cleveland suburbs while another six percent (6%) have moved from the Metro Cleveland area. Thirteen percent (13%) of the respondents have moved in from other areas in Ohio and another twelve percent (12%) have moved around in the township (Figure VI-5, Q. 57).

Ninety eight percent (98%) of the respondents own their own home (Q. 54). Seven percent (7%) of the respondents live in condominiums in Bainbridge Township (Q. 64). Less than sixteen percent (16%) of the respondents are contemplating a move in the next two years (Q. 58). The issues of taxes and traffic congestion were most frequently mentioned as reasons for moving in the next two years (Q. 59).

Figure VI-1

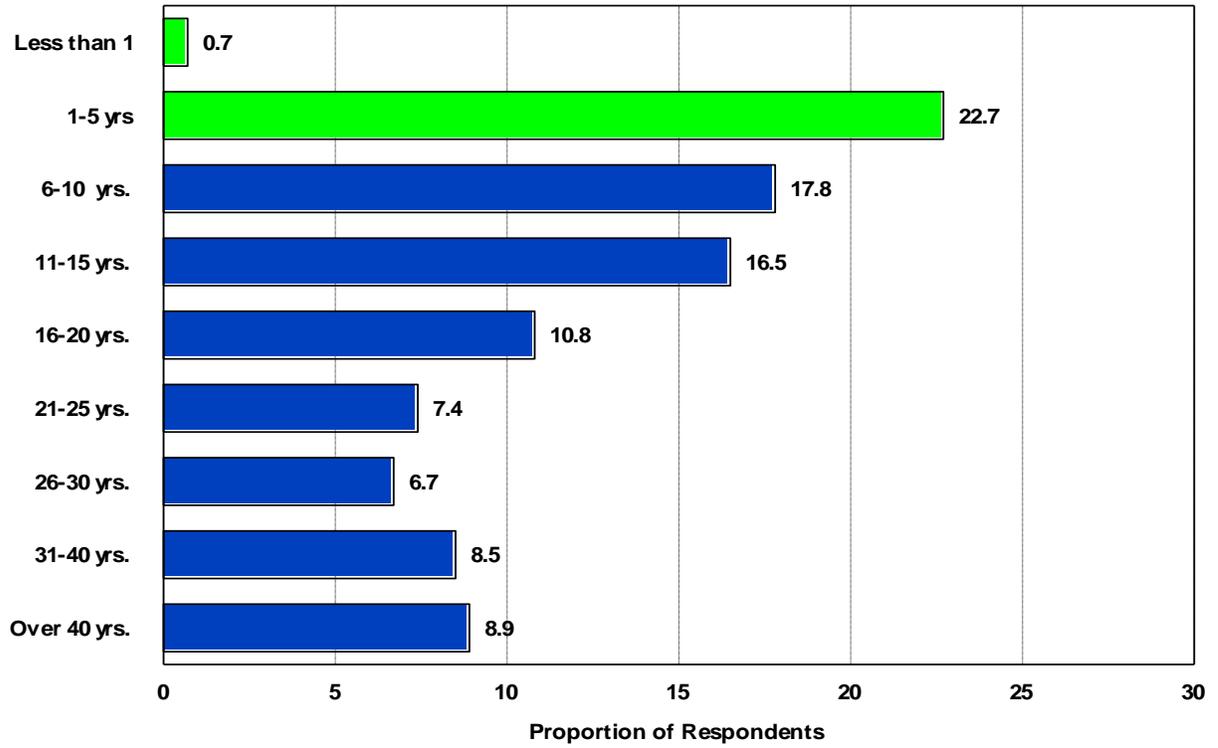
Rating of Quality of Life in Bainbridge Township



Institute for Policy Studies - Spring, 1999.

Figure VI-2

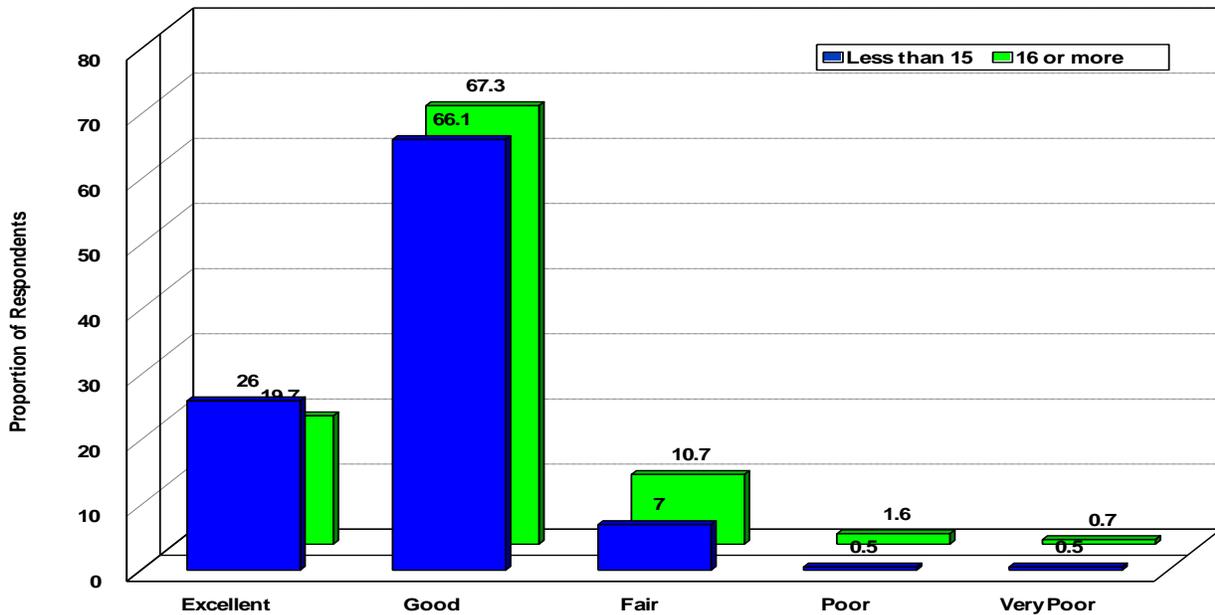
Length of Time Lived in Bainbridge Township



Institute for Policy Studies - Spring, 1999.

Figure VI-3

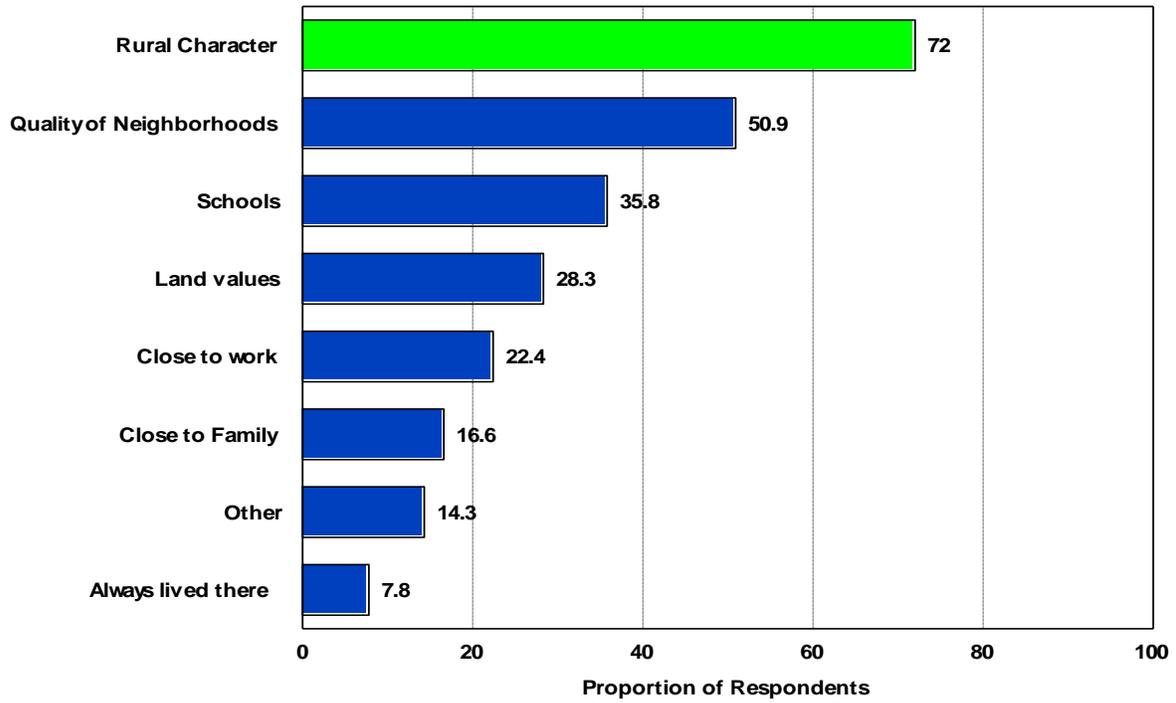
Rating of Quality of Life by Length of Residence in Bainbridge Township



Institute for Policy Studies - Spring, 1999.

Figure VI-4

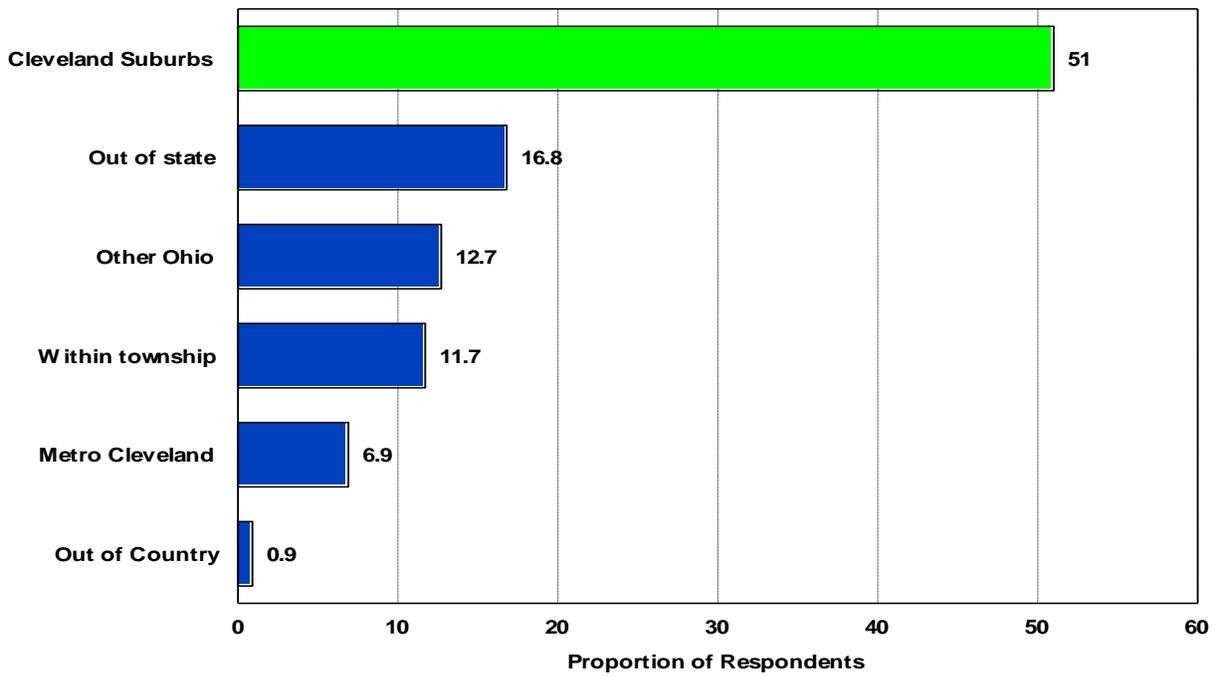
Reasons for Moving to Bainbridge Township



Institute for Policy Studies - Spring, 1999.

Figure VI-5

Location of Previous Residence



Institute for Policy Studies - Spring, 1999.

Forty nine percent (49%) of the respondents have school age children living in their household (Q. 65). Thirty five percent (35%) of these children attend Kenston High School and another eight percent (8%) attend a private school (Q. 66).

Perceived Importance Non-Residential Development to Economic Viability

Respondents are asked to respond to a series of statements regarding the perceived importance of additional non-development to the economic viability of Bainbridge Township and the school district. Responses are displayed in Figure VI-6. Overall, economic development in Bainbridge Township and the school district is viewed as important (Qs. 3 & 4). That is not to say that this is an agreement to approve funding for these issues. Sixty nine percent (69%) see additional development as important for the township. Twenty seven percent (27%) do not feel that this additional development is necessary. Seventy two percent (72%) see additional development as important for the school district. Again nearly twenty three percent (23%) of the respondents do not feel that this development is necessary

Reported Views of Future Zoning and Land Use Choices

In Question Two, respondents were asked to respond to a series of statements and to select the statement that came closest to their view of future zoning and land use policy choices. These statements were designed to evaluate respondents' preferences for changes in the zoning and land use policy, their expectations regarding the delivery level of services and their willingness to pay more taxes to cover the cost of these services. The responses for the total sample are displayed in Figure VI-7.

Those respondents who wish to maintain the current zoning and land use policies are displayed in the green section of Figure VI-7. Overall, fifty percent of the respondents wish to maintain the current zoning and land use policies. Within this group and moving from the left to right side of the green section, eighteen percent (18%) favor keeping the same services and are willing to pay more taxes, twenty seven percent (27%) are willing to take fewer services paying the same level of taxes. Nearly five percent (5%) are willing to take fewer services and pay more taxes to maintain the current zoning and land use policies in Bainbridge Township.

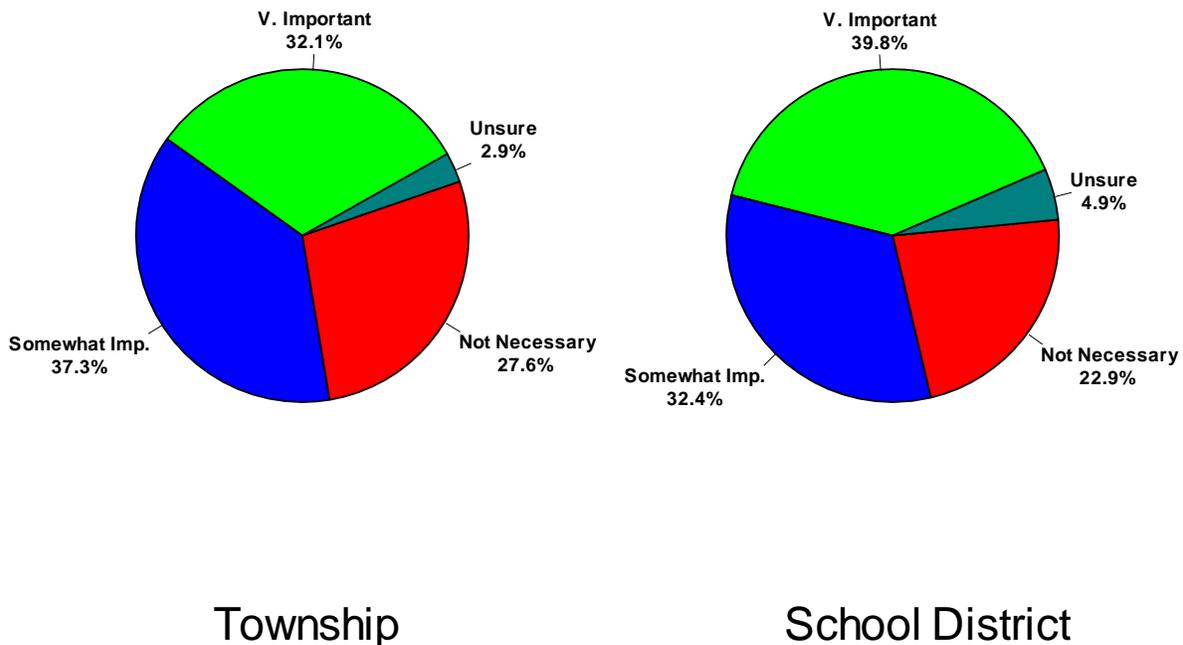
Looking now at the lower red colored section of Figure VI-7, fifty percent of the respondents are willing to permit development in Bainbridge Township. Moving from the left to right side of the table, twenty percent (20%) of the respondents would like to have the same services and pay fewer taxes. Another twenty percent would like to have more services but pay the same level of taxes and nearly eleven percent of the respondents who favor development would expect to have more services and pay fewer taxes.

There is a nearly even split between maintaining the current zoning and increase development use of the land in Bainbridge Township. However, there is a wide range of opinions regarding the expectations of service and willingness to pay additional taxes expressed and displayed in Figure VI-7. Tests conducted to identify any differences in opinions between newer and older residents did not yield any substantive differences (Figure VI-8).

Respondents were asked to view the map included in the questionnaire and to indicate their support for suggested changes in land use policies in Bainbridge Township. Data displayed in Figure VI-9 indicate the level of *non-support* for these suggested changes anywhere in the township. The areas that receive the strongest lack of support are the suggestions to develop smaller minimum lot sizes or the development of high density multi-family areas such as town houses. There is less opposition seen to the suggestions of developing retirement communities, additional offices and additional light industrial facilities in the township.

Figure VI-6

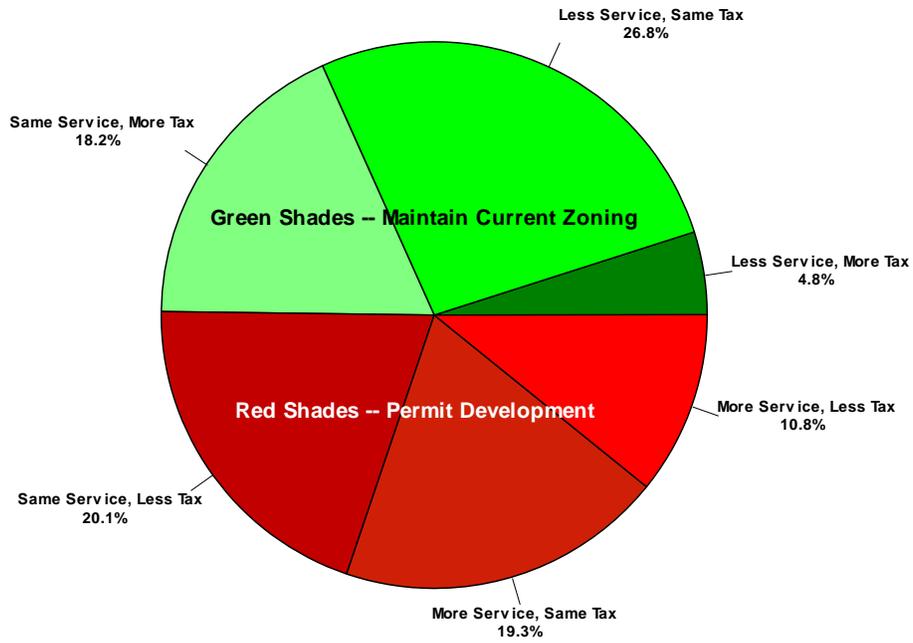
**Attitude Toward Area Viability and Economic Development in
Bainbridge Township**



Institute for Policy Studies - Spring, 1999.

Figure VI-7

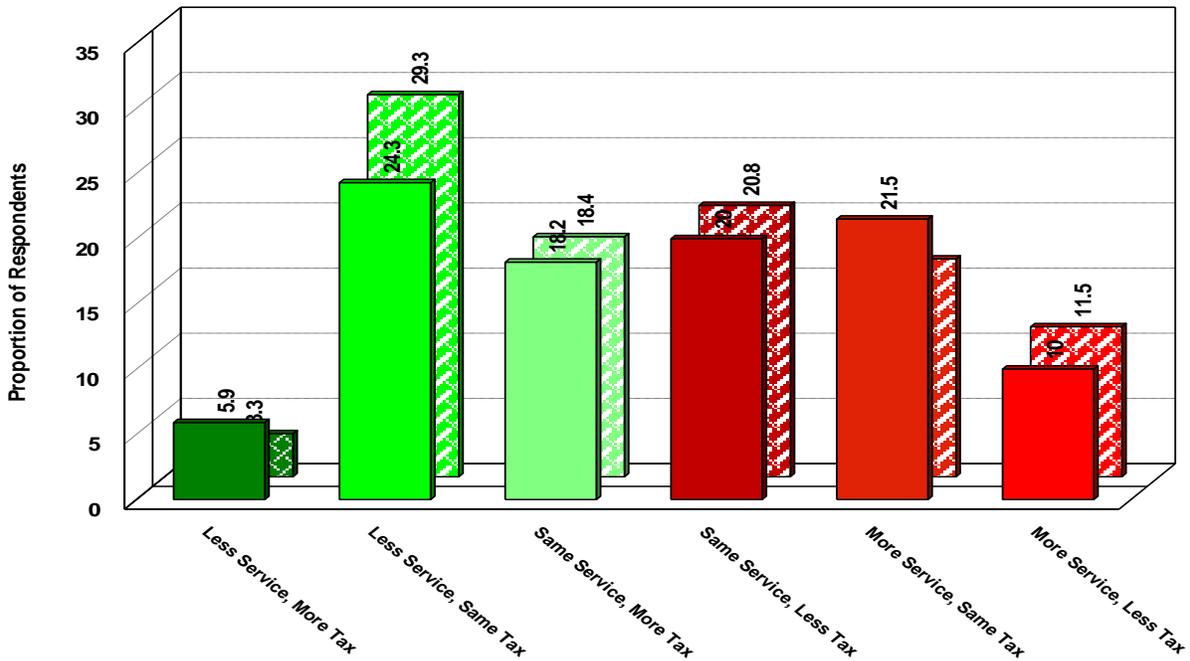
Attitude Toward Land Use Options in Bainbridge Township



Institute for Policy Studies - Spring, 1999.

Figure VI-8

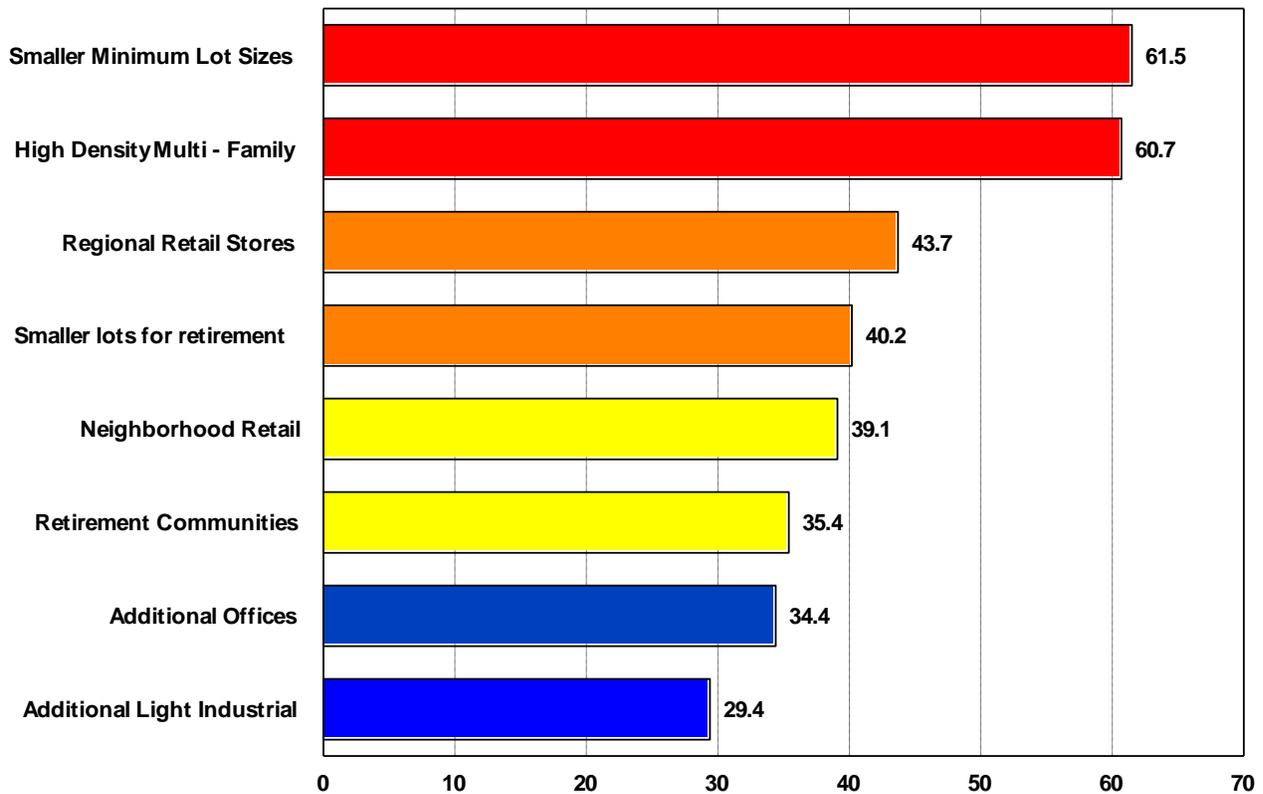
Zoning Attitude by Length of Residence in Bainbridge Township



Institute for Policy Studies - Spring, 1999. Solid = less than fifteen years. Shaded = Sixteen years or more.

Figure VI-9

**Proportion Not Supporting Land Use Change, by Suggested Change in
Bainbridge Township**



Institute for Policy Studies - Spring, 1999.

A series of maps with embedded data follow which display the responses to questions 30 through 42. Using the maps provided in the questionnaire, respondents were asked to indicate the ONE place out of eleven possible labeled locations where they felt that specific types of houses or land uses ought to take place.

Questions 30 and 31 asked the respondents to identify where, in Bainbridge Township, that they would permit a) the development of single family houses on smaller clustered lots to conserve natural open spaces with the understanding that the current 5 and 3 acre density would still be required and b) Larger minimum lot sizes. Data are displayed on the following maps identified by question number in the bottom right hand corner of the table. The values displayed are the percentage of responses in favor of the development of these housing types or land use activities. As can be seen from the data relating to Questions 30 and 31, support is displayed as less than fifty percent (50%) for any area in Bainbridge Township.

The remainder of the maps displayed refer to data gathered for questions 32 through 42 and refer to road segments displayed on the second map included in the questionnaire. A color ramp, displayed on the left hand side of the road segment maps, goes from red signifying a low level of acceptance to green for a higher level of acceptance.

Data displayed for Question 32 concerning the issue of permitting smaller residential lots at greater densities for a retirement development is more likely to be accepted in areas 1 and 12 on the map. Other areas displayed range from an acceptance range between fifteen (15%) and twenty five percent (25%).

Map VI-1

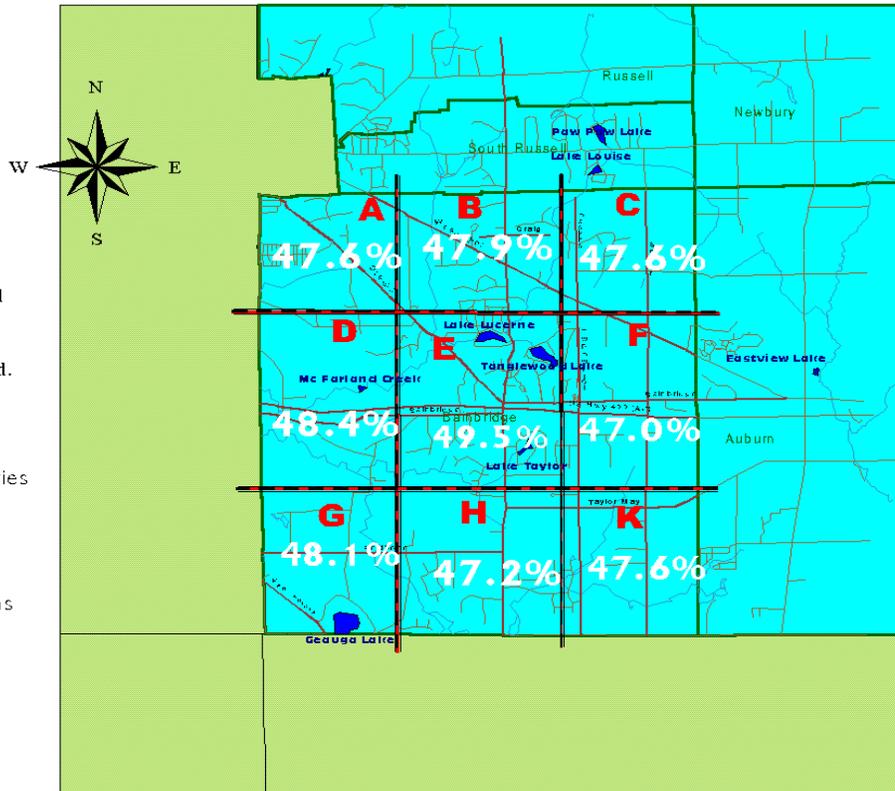
Question 30 in the Comprehensive Planning Survey

Bainbridge Township

Percent of respondents who believe that: Single family houses on small clustered lots to conserve natural open spaces should be permitted. The current 5 and 3 acre density would still be required.

-  Regional Division Boundaries
-  Select streets
-  Bodies of Water
-  Geauga Streets
-  Geauga Rivers and Streams
-  Minor Civil Divisions
-  Ohio Counties

Shape data are from the U.S. Census Bureau Tiger map files. [Provided by ESR]



Provided by:
The Institute for Policy Studies
at The University of Akron



Question 30

Map VI-2

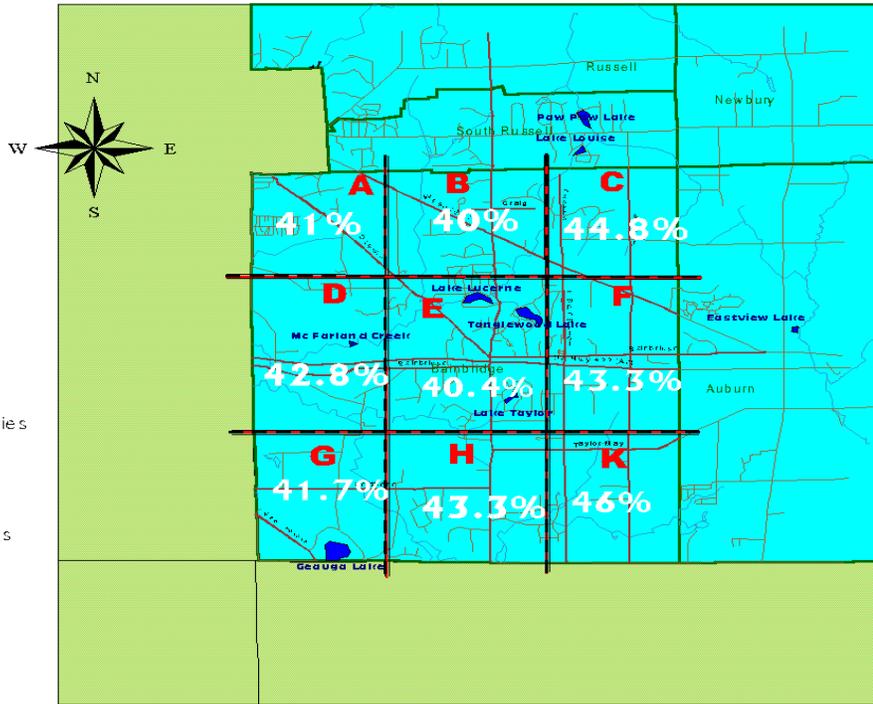
Question 31 in the Comprehensive Planning Survey

Bainbridge Township

Percent of respondents who believe that:
Larger minimum lot sizes should be permitted.

-  Regional Division Boundaries
-  Select streets
-  Bodies of Water
-  Geauga Streets
-  Geauga Rivers and Streams
-  Minor Civil Divisions
-  Ohio Counties

Shape data are from the U.S. Census Bureau Tiger map files. [Provided by ESR]



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Question 31

Map VI-3

Question 32 in the Comprehensive Planning Survey

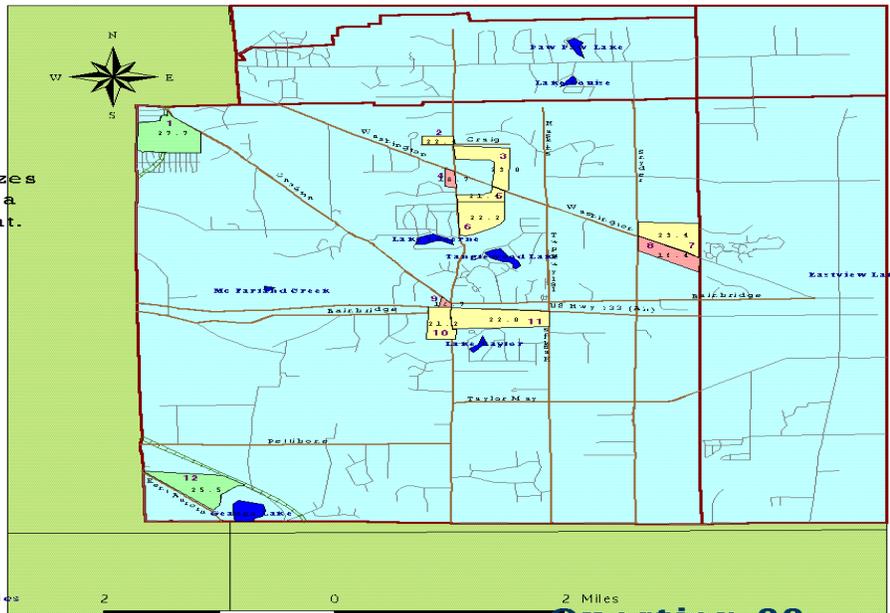
Bainbridge Township

Would permit:
Smaller residential lot sizes at greater densities for a retirement development.

- Proposed Areas of Change
-  Under 15%
 -  15 - 20%
 -  20 - 25%
 -  25 - 30%
 -  over 30%
 -  Select Bainbridge Streets
 -  Rail Lines
 -  Water - Geauga County
 -  Geauga County Streets
 -  Minor Civil Divisions
 -  Ohio Counties

Shape data are from U.S. Census Bureau Tiger Map files, 1990-1996 [Provided by ESR]

Provided by:
The Institute for Policy Studies
at The University of Akron



Question 32

Question 33 deals with the issue of permitting smaller minimum lot sizes and the map data display an overall lack of support for this proposed change.

The issue of permitting retirement communities at less than the current one resident per three or five acres is displayed in the map for Question 34. Support is higher for areas 1, 3, 7, 8 and 12 with the remainder of the areas receiving a range of support of about twenty to twenty five percent.

Question 35 looks at the level of support for high density multi family development such as townhouses. As can be seen from the data displayed on the map there is little support for this proposed change. The proposed development of assisted living facilities receives a higher level of support for most areas in the data displayed for Question 36.

The development of additional neighborhood retail receives lukewarm support in most areas displayed in the map for Question 37. Two areas, 10 and 11 are given a higher level of support for this proposed change. When considering the issue of permitting the development of regional retail stores in Question 38, area 10 is the only one given a high level of support.

Data displayed for Question 39 which considered the development of additional offices was supported in areas 1, 10, and 11 and less likely to be supported in other township areas. Respondents were also asked to consider the development of additional light industrial and the data displayed for Question 40 indicate that there is a green light for areas 1, 7, 12 and to a lesser extent area 2.

Last but by no means least, respondents were asked to consider the location for additional traffic signals on signs and road improvements to correct traffic flow problems. Data displayed for Question 41 indicate that respondents would support the development of additional traffic signals first in areas 10 and 11 and to a lesser extent in areas 4, 6, and 8. A moderate to high level of support is displayed for traffic flow correction strategies in all areas except area 1 (Q.42)

Map VI-4

Question 33 in the Comprehensive Planning Survey

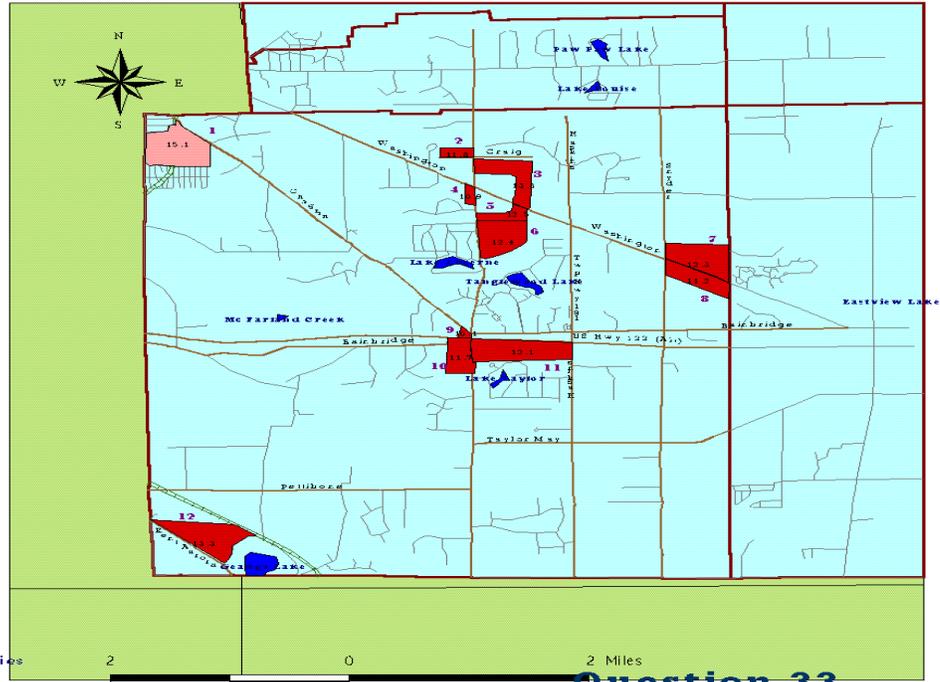
Bainbridge Township

Would permit:
Smaller minimum
lot size.

- Proposed Areas of Change
- Under 1 5%
 - 15 - 20%
 - 20 - 25%
 - 25 - 30%
 - over 30%
 - Select Bainbridge Streets
 - Rail Lines
 - Water - Geauga County
 - Geauga County Streets
 - Minor Civil Divisions
 - Ohio Counties

Shape data are from U.S. Census
Bureau Tiger Map files, 1990-1995
(Provided by ESRI)

Provided by:
The Institute for Policy Studies
at The University of Akron



Question 33

Map VI-5

Question 34 in the Comprehensive Planning Survey

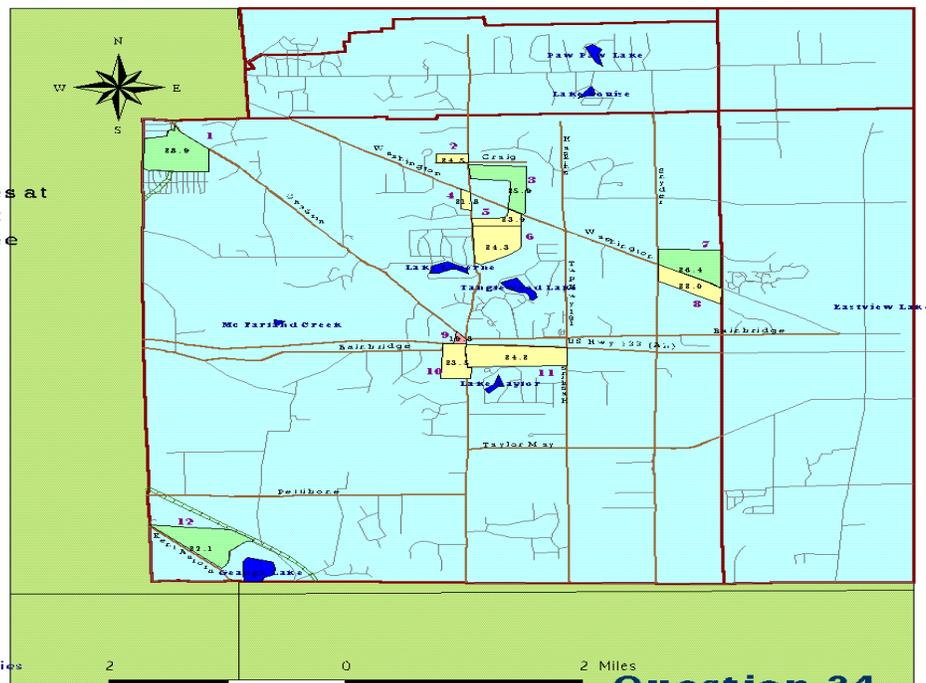
Bainbridge Township

Would permit:
Retirement communities at
less than the current
one resident per three
or five acres.

- Proposed Areas of Change
- Under 1 5%
 - 15 - 20%
 - 20 - 25%
 - 25 - 30%
 - over 30%
 - Select Bainbridge Streets
 - Rail Lines
 - Water - Geauga County
 - Geauga County Streets
 - Minor Civil Divisions
 - Ohio Counties

Shape data are from U.S. Census
Bureau Tiger Map files, 1990-1995
(Provided by ESRI)

Provided by:
The Institute for Policy Studies
at The University of Akron



Question 34

Map VI-6

Question 35 in the Comprehensive Planning Survey

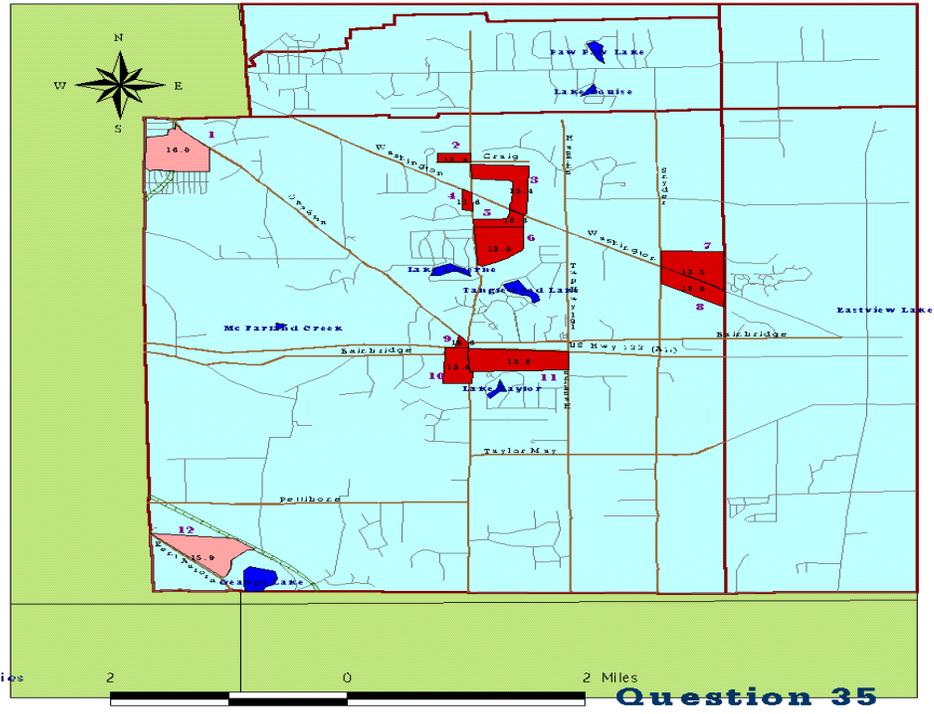
Bainbridge Township

Would permit:
High density multi family development such as town houses.

- Proposed Areas of Change
- Under 15%
 - 15 - 20%
 - 20 - 25%
 - 25 - 30%
 - over 30%
 - Select Bainbridge Streets
 - Rail Lines
 - Water - Geauga County
 - Geauga County Streets
 - Minor Civil Divisions
 - Ohio Counties

Shape data are from U.S. Census Bureau Tiger Map files, 1990-1995 (Provided by ESRI)

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Map VI-7

Question 36 in the Comprehensive Planning Survey

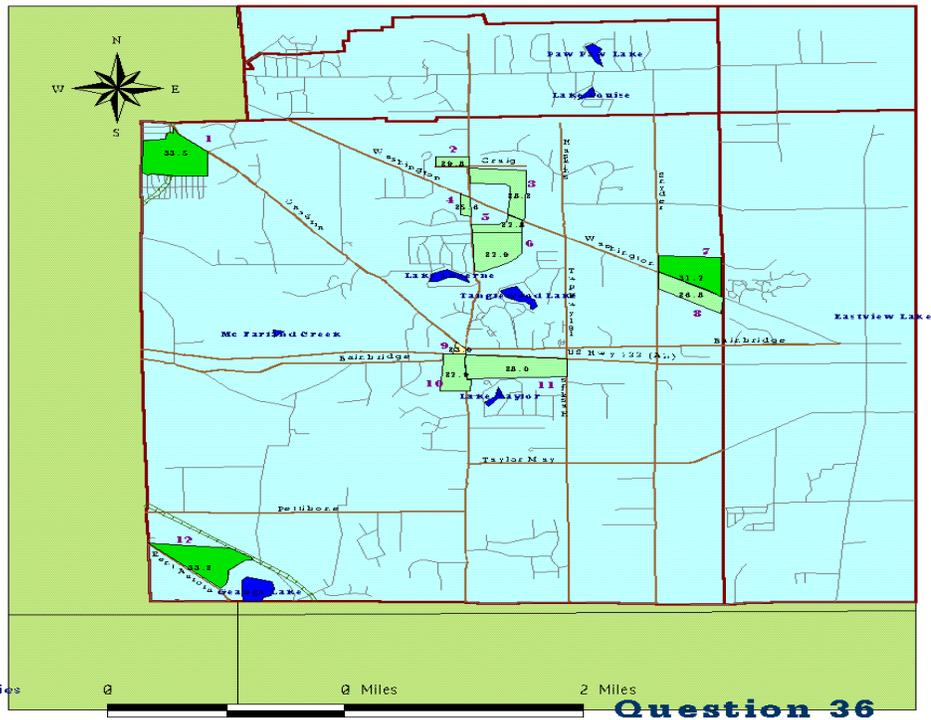
Bainbridge Township

Would permit:
Assisted living facilities.

- Proposed Areas of Change
- Under 15%
 - 15 - 20%
 - 20 - 25%
 - 25 - 30%
 - over 30%
 - Select Bainbridge Streets
 - Rail Lines
 - Water - Geauga County
 - Geauga County Streets
 - Minor Civil Divisions
 - Ohio Counties

Shape data are from U.S. Census Bureau Tiger Map files, 1990-1995 (Provided by ESRI)

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Map VI-8

Question 37 in the Comprehensive Planning Survey

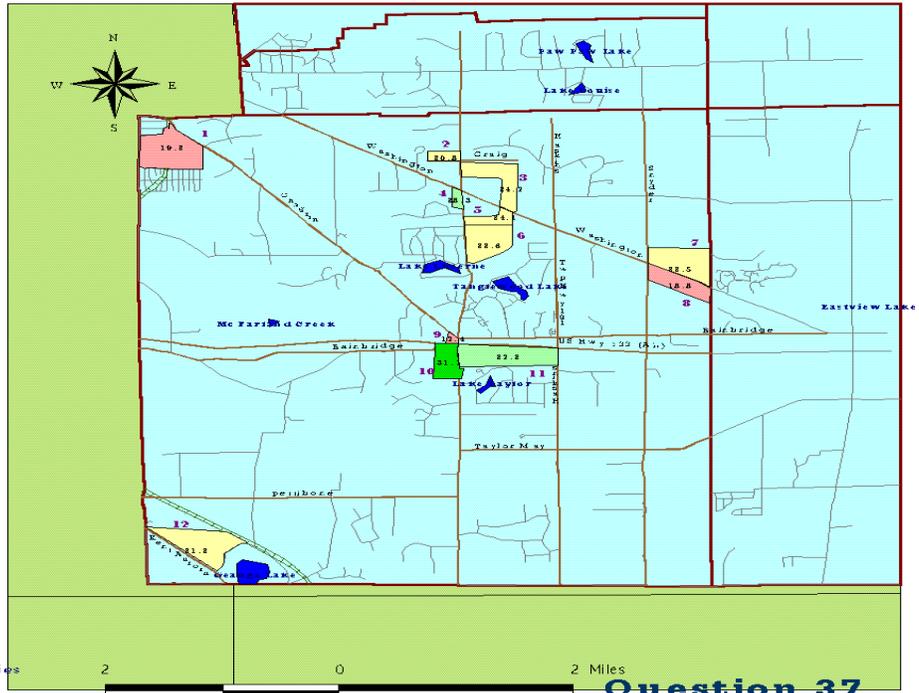
Bainbridge Township

Would permit:
**Additional
Neighborhood
retail.**

- Proposed Areas of Change
- Under 1 5%
 - 15 - 20%
 - 20 - 25%
 - 25 - 30%
 - over 30%
 - Select Bainbridge Streets
 - Rail Lines
 - Water - Geauga County
 - Gauga County Streets
 - Minor Civil Divisions
 - Ohio Counties

Shape data are from U.S. Census
Bureau Tiger Map files, 1990-1993
(Provided by ESRI)

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Map VI-9

Question 38 in the Comprehensive Planning Survey

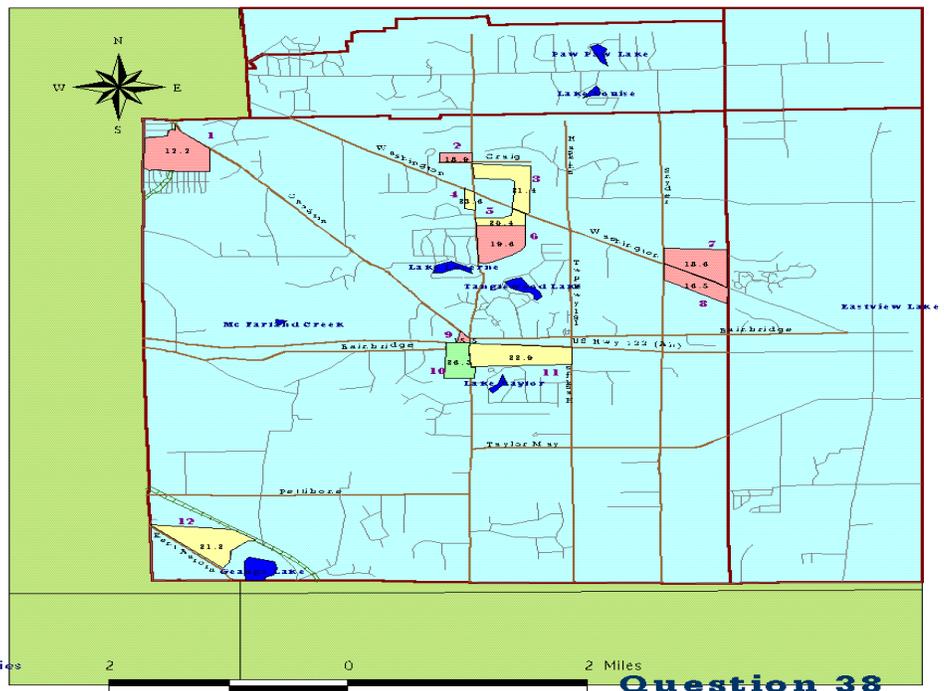
Bainbridge Township

Would permit:
**Regional
Retail
Stores.**

- Proposed Areas of Change
- Under 1 5%
 - 15 - 20%
 - 20 - 25%
 - 25 - 30%
 - over 30%
 - Select Bainbridge Streets
 - Rail Lines
 - Water - Geauga County
 - Gauga County Streets
 - Minor Civil Divisions
 - Ohio Counties

Shape data are from U.S. Census
Bureau Tiger Map files, 1990-1993
(Provided by ESRI)

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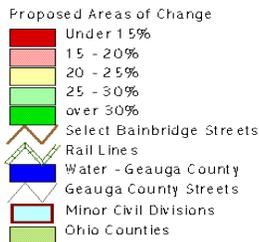


Map VI-10

Question 39 in the Comprehensive Planning Survey

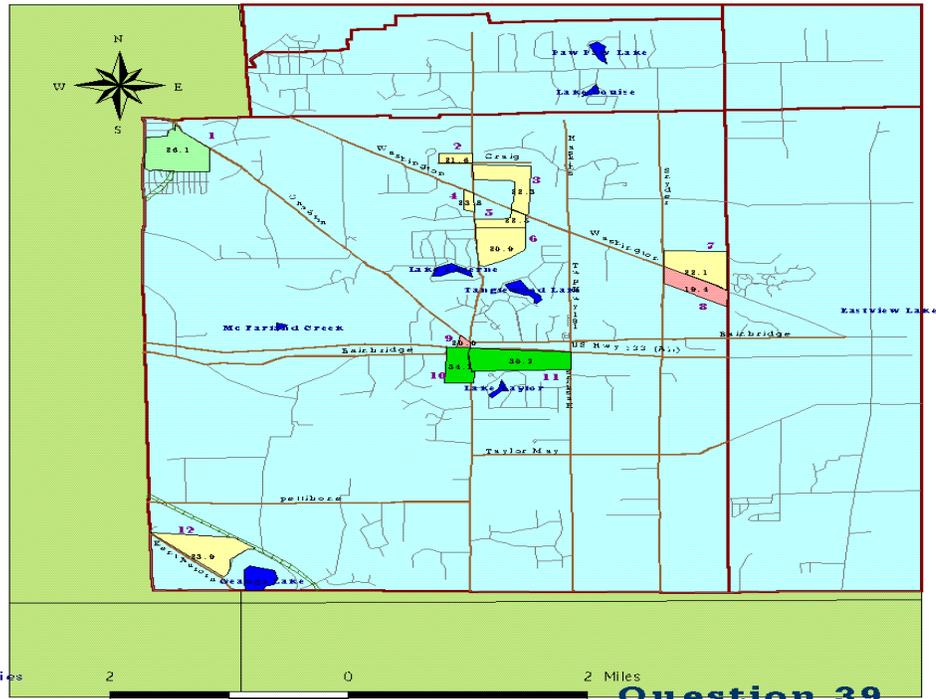
Bainbridge Township

Would permit:
Additional
Offices.



Shape data are from U.S. Census
Bureau Tiger Map files, 1990-1995
(Provided by ESRD)

Provided by:
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at The University of Akron



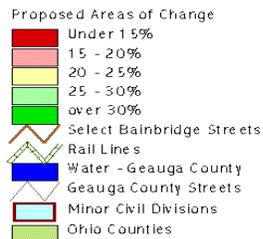
Question 39

Map VI-11

Question 40 in the Comprehensive Planning Survey

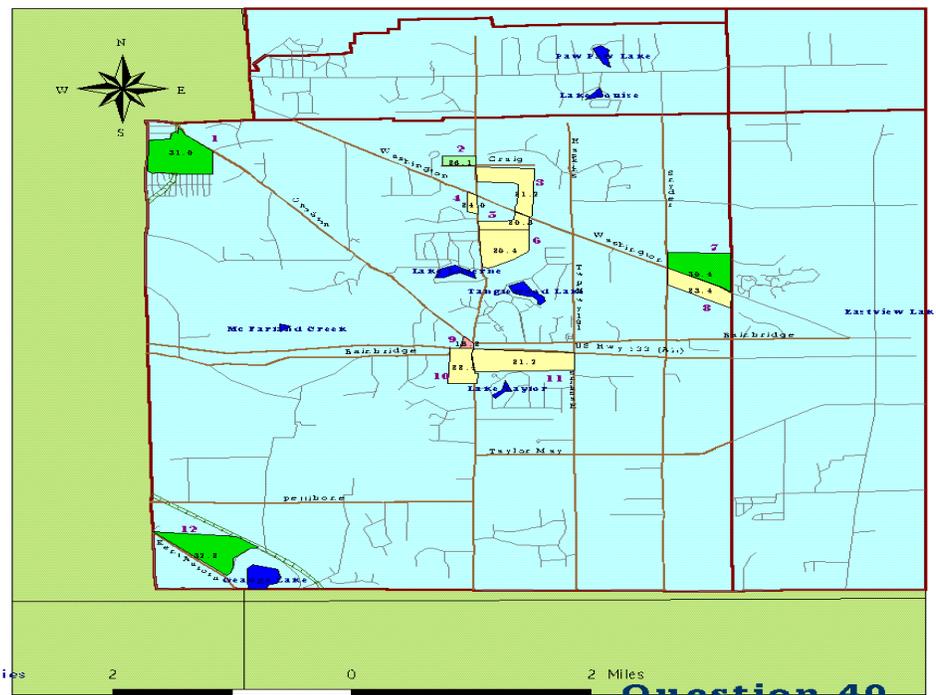
Bainbridge Township

Would permit:
Additional
Light
Industrial.



Shape data are from U.S. Census
Bureau Tiger Map files, 1990-1995
(Provided by ESRD)

Provided by:
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Question 40

Map VI-12

Question 41 in the Comprehensive Planning Survey

Bainbridge Township

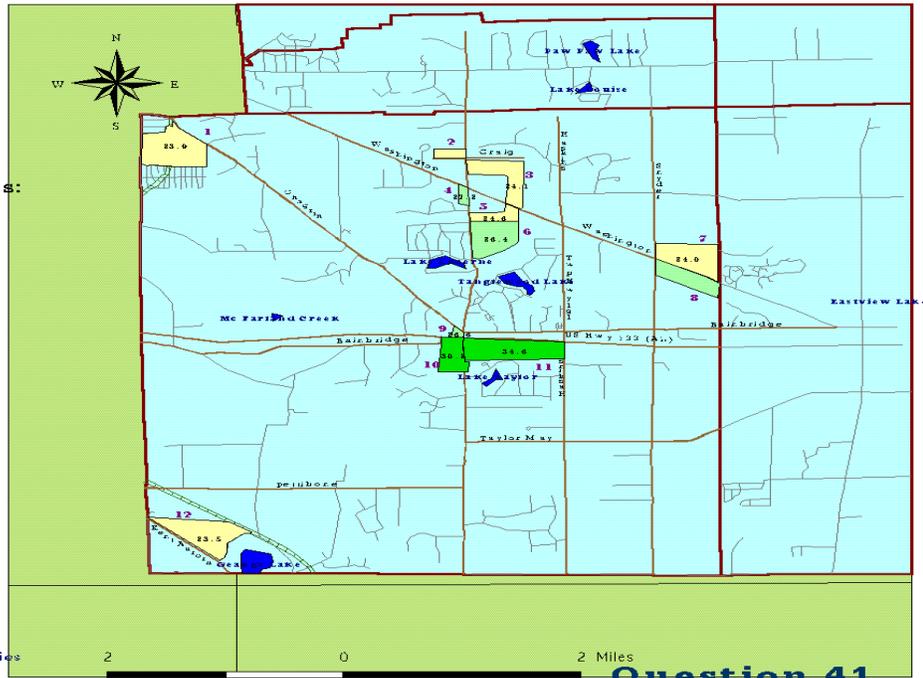
Believe location needs:
Additional traffic
signals on signs.

Proposed Areas of Change

- Under 15%
- 15 - 20%
- 20 - 25%
- 25 - 30%
- over 30%
- Select Bainbridge Streets
- Rail Lines
- Water - Geauga County
- Geauga County Streets
- Minor Civil Divisions
- Ohio Counties

Shape data are from U.S. Census
Bureau Tiger Map files, 1990-1996
(Provided by ESRI)

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Map VI-13

Question 42 in the Comprehensive Planning Survey

Bainbridge Township

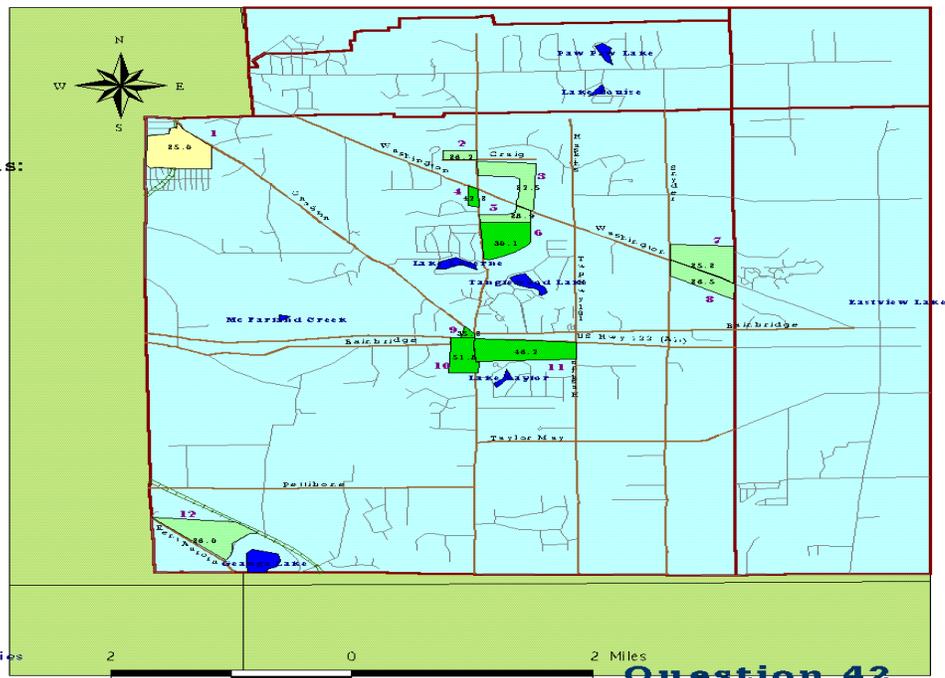
Believe location needs:
Road improvements
to correct traffic
flow problems.

Proposed Areas of Change

- Under 15%
- 15 - 20%
- 20 - 25%
- 25 - 30%
- over 30%
- Select Bainbridge Streets
- Rail Lines
- Water - Geauga County
- Geauga County Streets
- Minor Civil Divisions
- Ohio Counties

Shape data are from U.S. Census
Bureau Tiger Map files, 1990-1996
(Provided by ESRI)

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Attitudes Towards Service Delivery

Respondents were asked to rate their satisfaction with selected areas of current township service delivery in Bainbridge township (Questions 10-12). The average rating score for each service mentioned are displayed in Figure VI-10. Respondents were asked to rate the services on a scale from 1 to 10 from which an average rating was calculated.

Rescue, Fire and Police services were highly rated by the Bainbridge respondents. Respondents also indicated their satisfaction with other services such as the schools, the township form of government and communication between the township and the residents. Service delivery in areas like the parks and recreational facilities earned the lowest average rating (Figure VI-10, Qs. 19-26).

Respondents were also asked to rate infrastructure services such as waste haulage, road maintenance and snow service. Again using the average rating score, waste haulers received a high positive rating followed by the Bainbridge township snow maintenance service. Overall, the respondents are satisfied with road maintenance and snow removal in the township (Figure VI-11).

What are the opinions and views of Bainbridge township respondents towards their property taxes? Looking at Figure VI-12, data appear to indicate that the majority see township taxes for the service level provided as being about right. The majority feel that county taxes are too high for the service received and an even larger majority indicate that school taxes are too high for the service received (Section 4, Qs. 27- 29).

Figure VI-10

Average Ratings for Township Services in Bainbridge Township

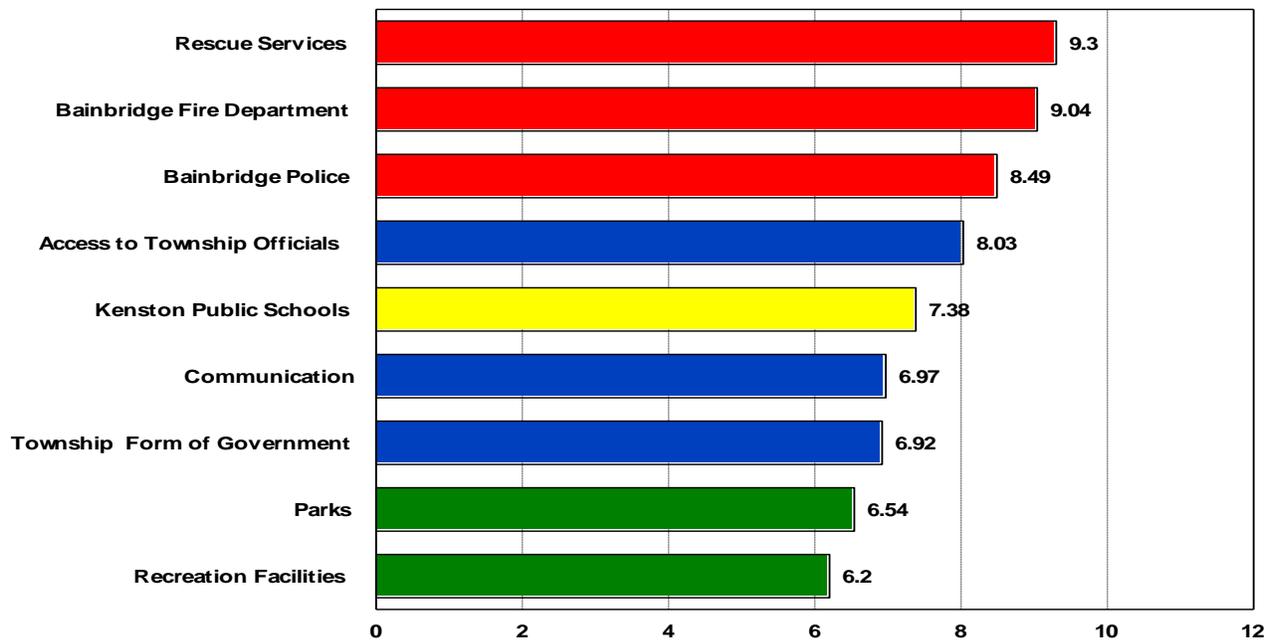
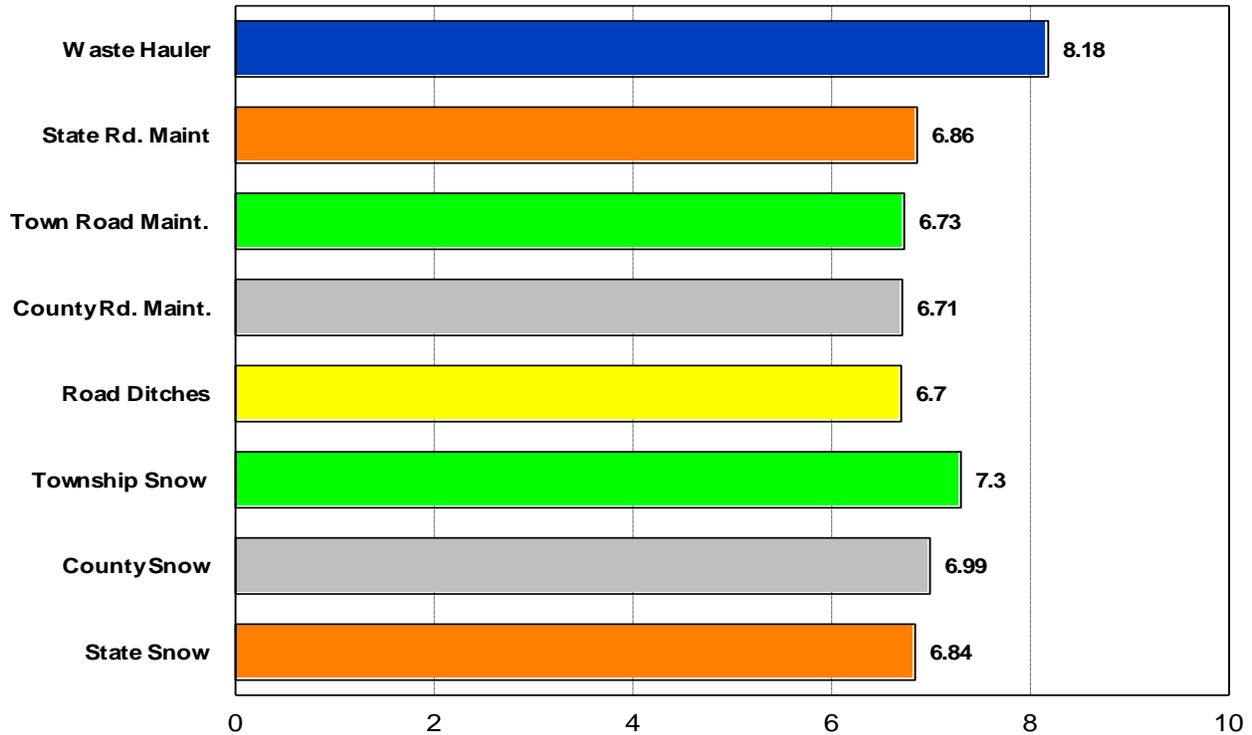


Figure VI-11

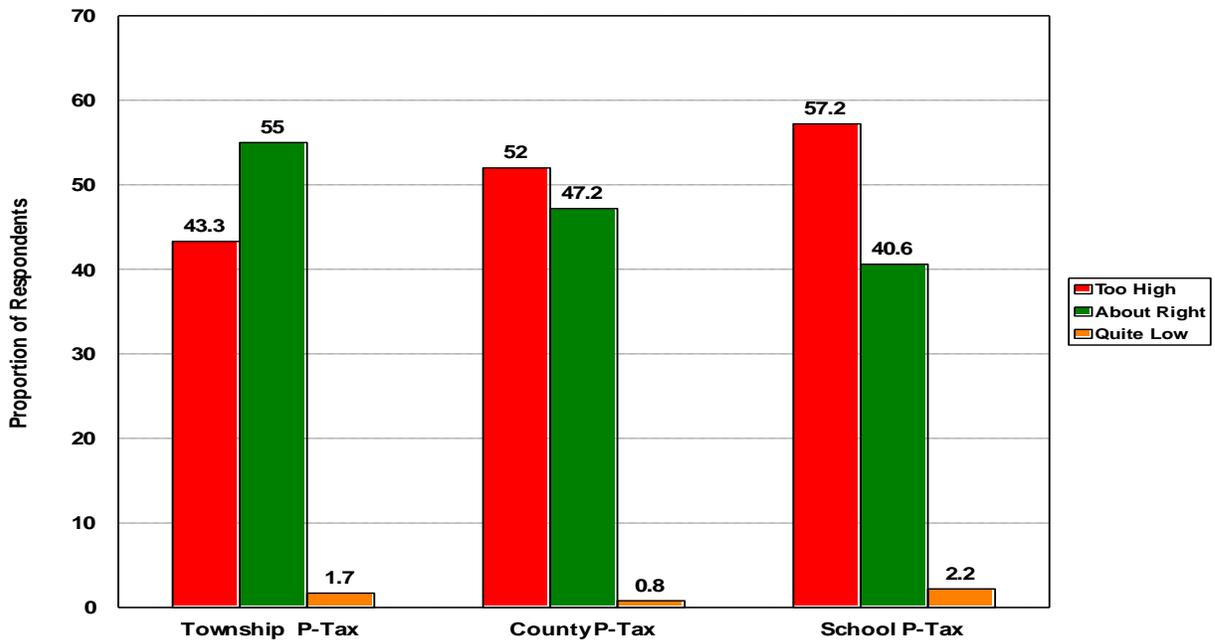
Average Ratings for Infrastructure Services in Bainbridge Township



Institute for Policy Studies - Spring, 1999.

Figure VI-12

Level of Local Taxes Based on Quality of Service in Bainbridge Township



Institute for Policy Studies - Spring, 1999.

Other areas of interest to the Bainbridge Zoning Commission were the issues of who should have control over new projects and the potential level of support for new initiatives. First, respondents were asked to indicate whether or not the township ought to have control over issues pertaining to certain services such as waste haulage, speed limits and truck traffic. As can be seen in Figure VI-13 there is an overall measure of support for the township to have control over truck traffic, speed limits, firearms and to a lesser extent control over building styles and waste hauler contracts (Section 2, Qs. 5-9).

A list of possible new township projects was presented and respondents were asked to indicate the amount of additional taxes that they would be willing to pay per year for each new facility. Figure VI-14 displays the level of **unwillingness** to pay additional taxes for these proposed initiatives. While generally unwilling to support tax increases for these new township projects, there is less opposition to projects concerning park preservation and conservation. These results should not be interpreted as a vote of opposition to the proposed initiatives but overall there is little enthusiasm for projects that will increase taxes (Section 6, Qs. 43- 50).

The Best, the Worst, the Preferred Future of Bainbridge.

The *rural character* and *quality of life* are the most frequently mentioned best features of Bainbridge Township (Figure VI-16, Q. 74). As might be expected, there is a wide diversity of responses which cannot be adequately displayed in graphic format.

Traffic Congestion and *Development* are among the most frequently mentioned worst features of Bainbridge Township (Figure VI-16, Q. 75).

Figure VI-13

Need for Bainbridge Township Control

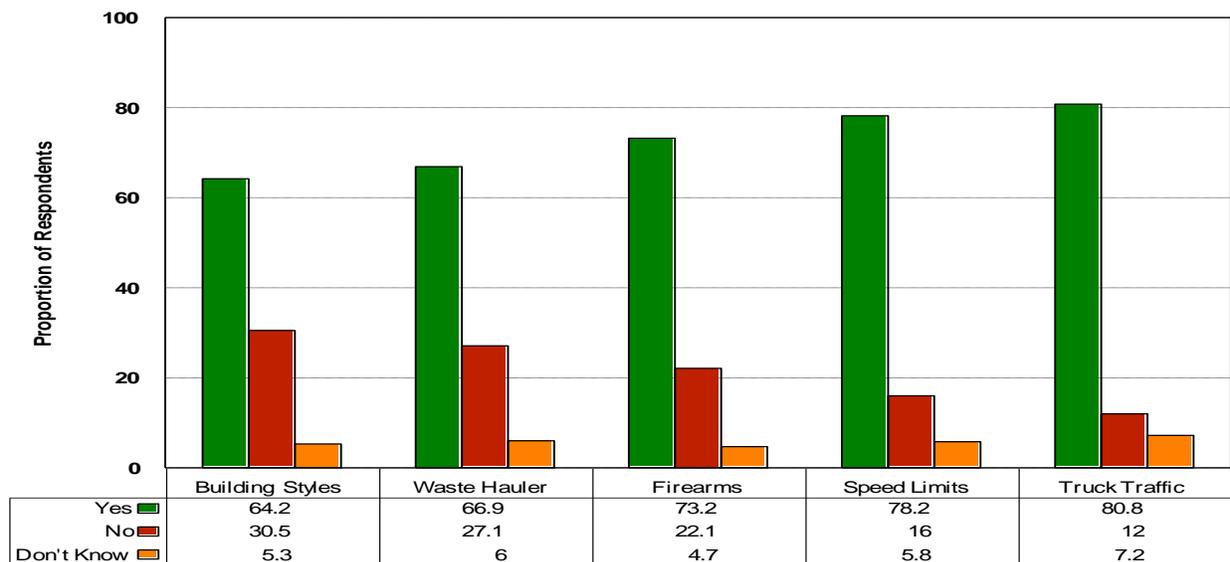
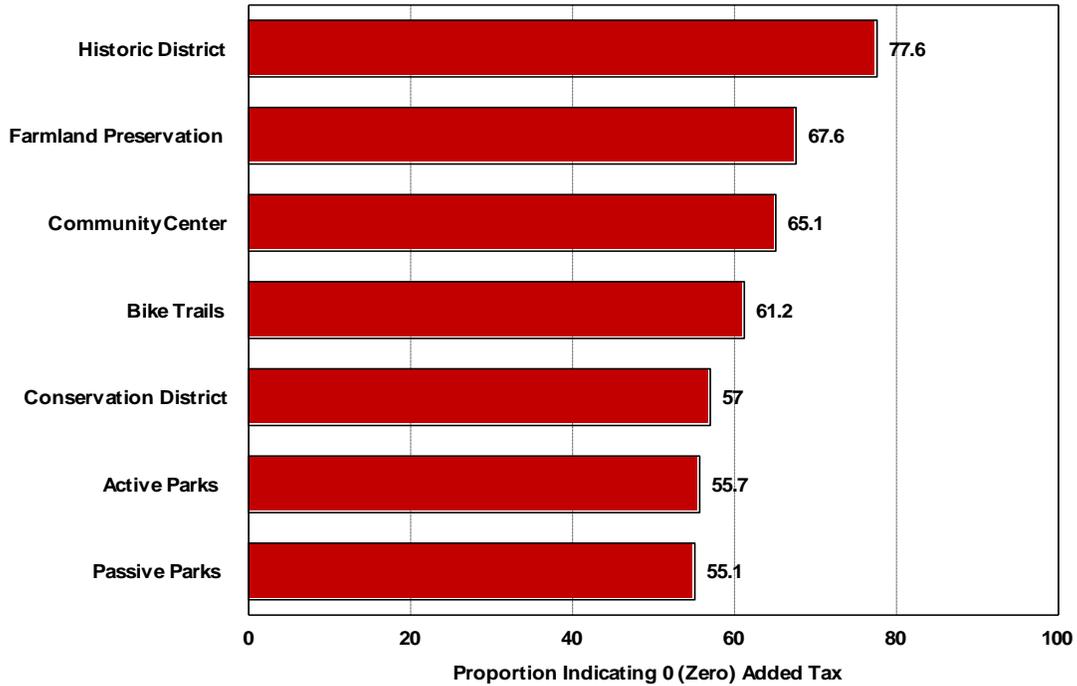


Figure VI-14

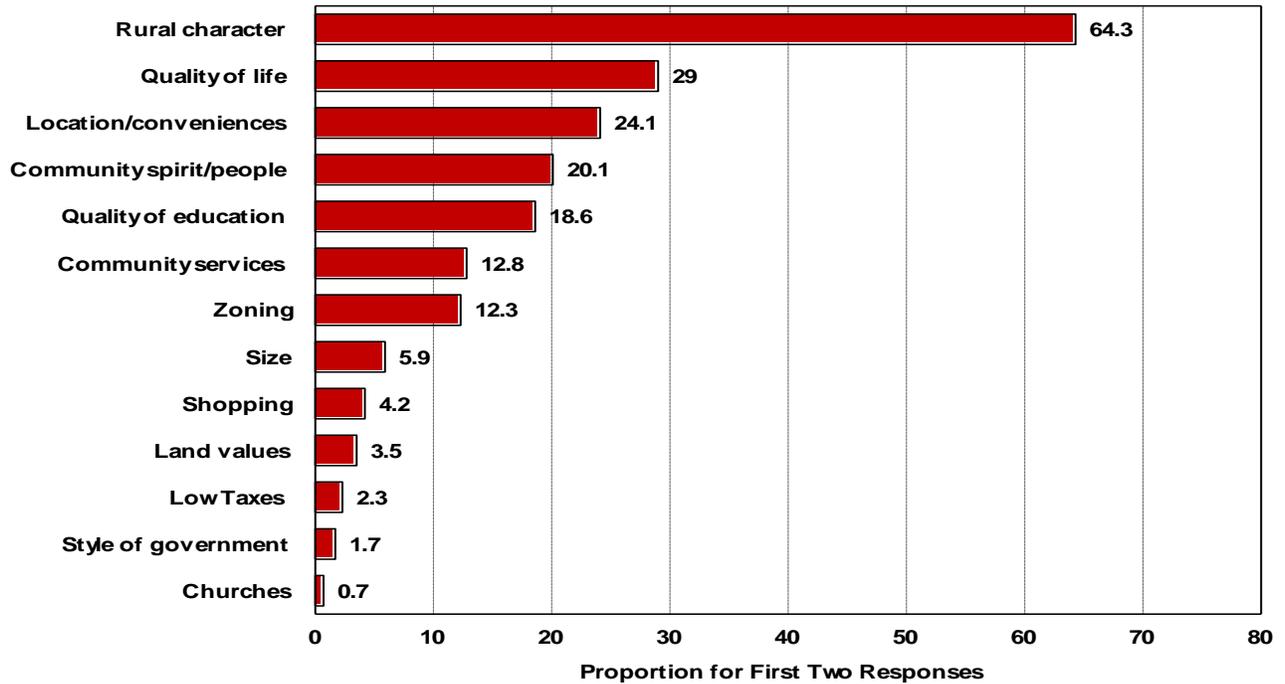
Proportion Rejecting Additional Tax for New Initiatives in Bainbridge Township



Institute for Policy Studies - Spring, 1999.

Figure VI-15

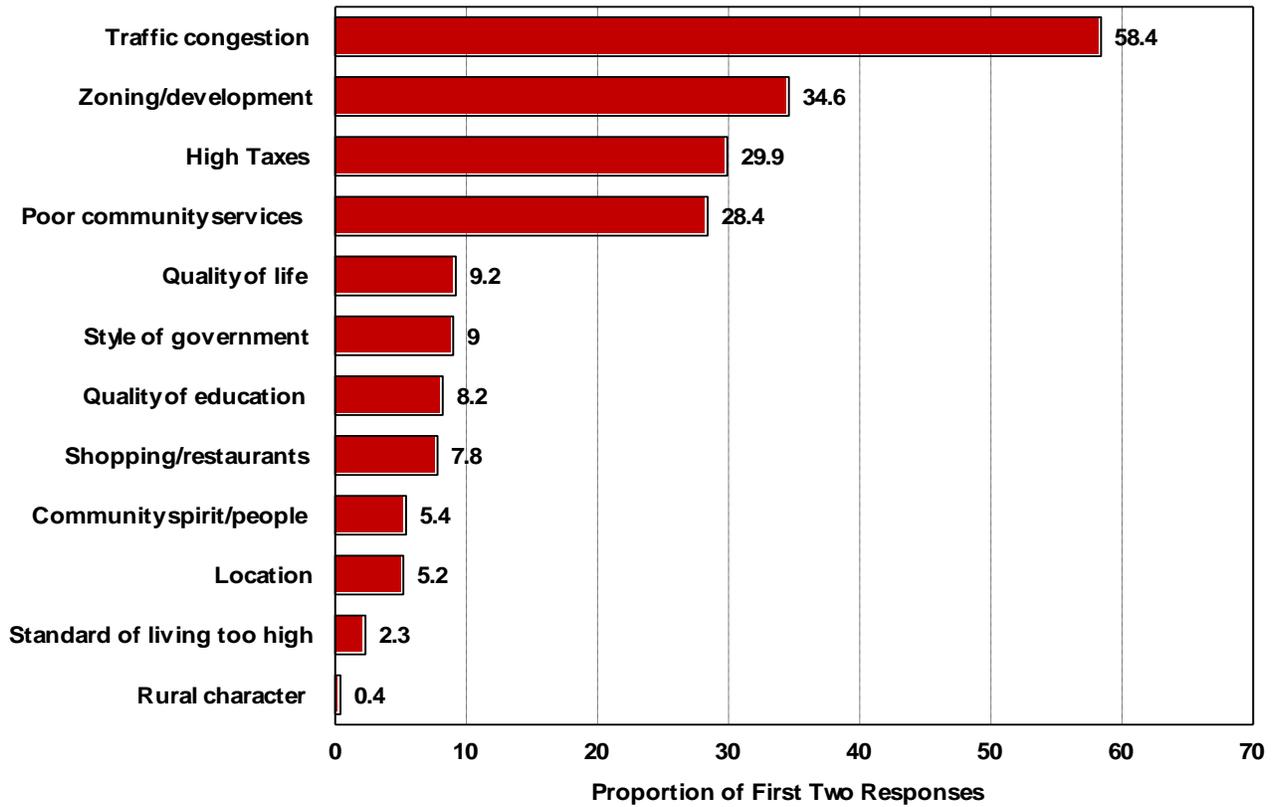
Best Things About Bainbridge Township



Institute for Policy Studies - Spring, 1999.

Figure VI-16

Worst Things About Bainbridge Township

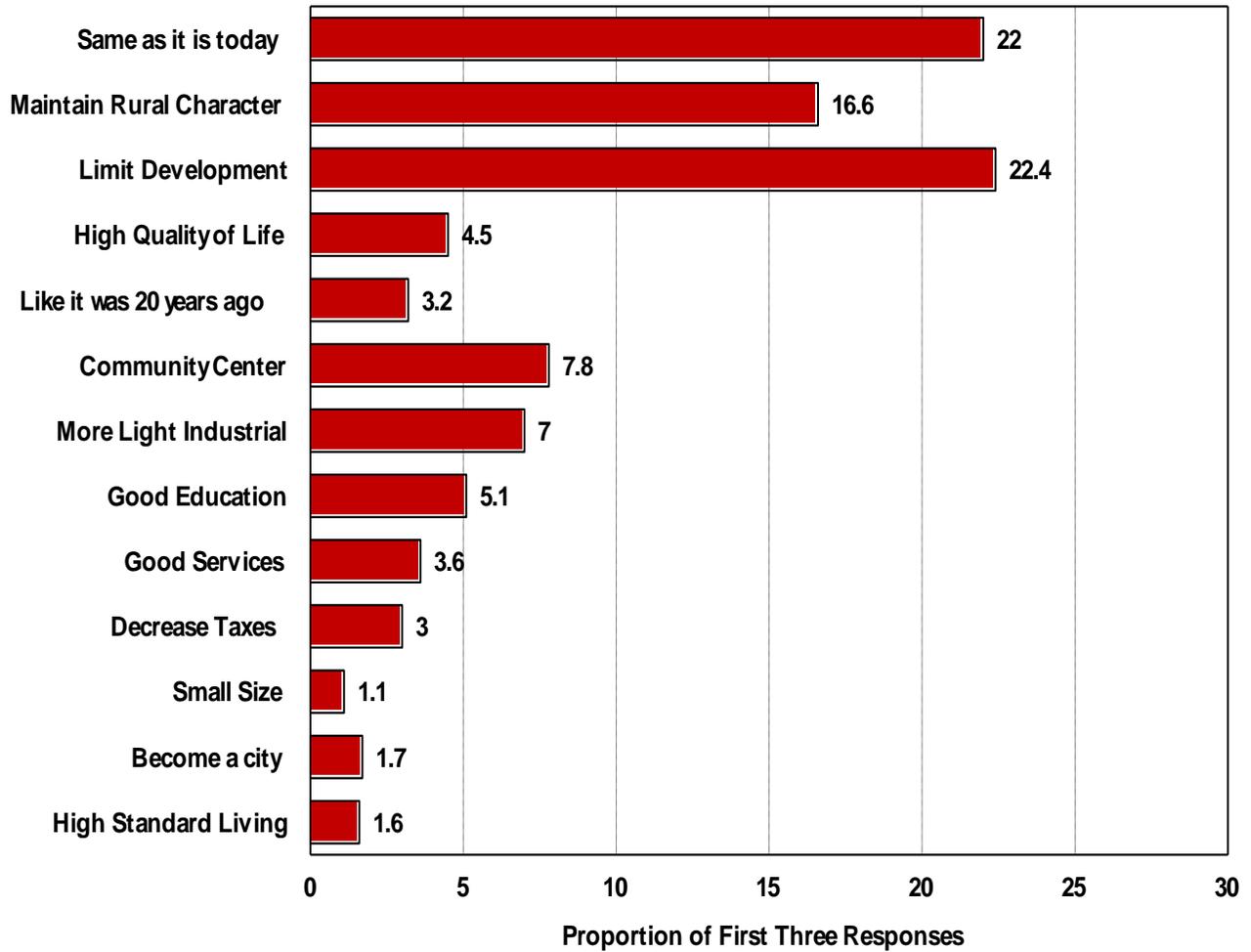


Institute for Policy Studies - Spring, 1999.

Looking at the type of Bainbridge that respondents would like to see in ten years, an average score was calculated using the first three sets of responses to the question and as can be seen in Figure VI-17, question 76, there was a close tie between keeping Bainbridge the ‘same as today’ and a limit to development. The preservation of the rural character of the area was also a frequently quoted wish. Respondents were given the opportunity to give at least three suggestions for the future of Bainbridge Township.

Figure VI-17

Bainbridge Township of the Future



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