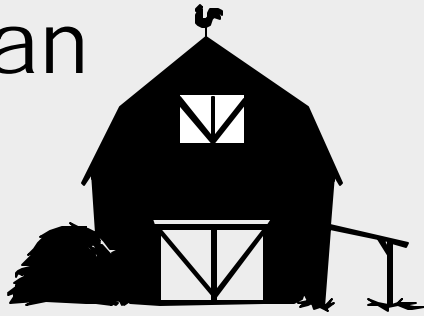


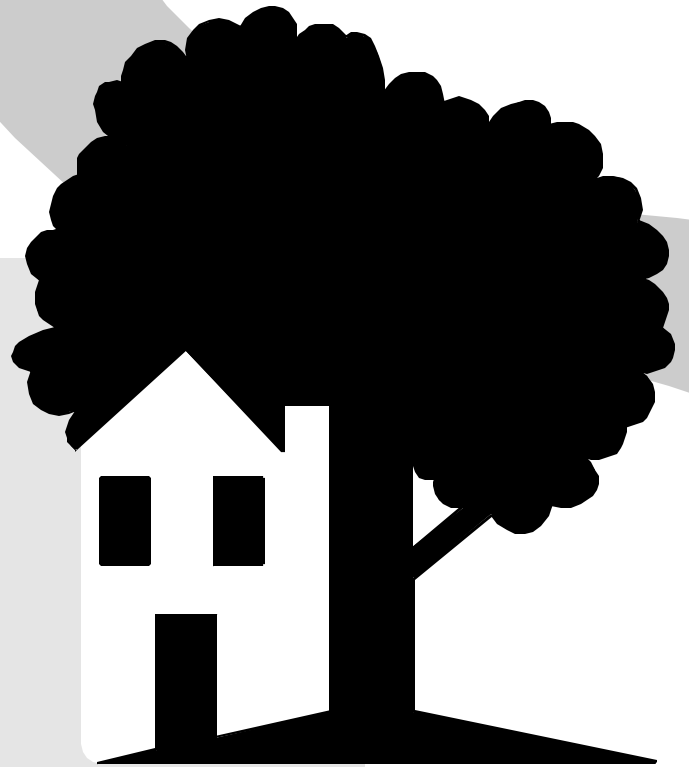
2011



Master
Plan



Cohoctah
Township,
Michigan



Cohoctah Township Master Plan

Cohoctah Township, Michigan

January, 2011

Written by the Cohoctah Township Planning Commission
with assistance from the Livingston County Department of Planning

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Cohoctah Township Master Plan Overview

The Cohoctah Township Master Plan is adopted pursuant to the authority of the Michigan Planning Enabling Act, Public Act 33 of 2008. It serves as the guide for the Cohoctah Township Zoning Ordinance pursuant to the Michigan Zoning Enabling Act, Public Act 110 of 2006 as amended.

The Master Plan is not the same as the Zoning Ordinance. A Zoning Ordinance is enforceable by law, whereas a Master Plan is not. Zoning is public regulation of the use of land; a community's land is divided into various zoning districts which permit certain uses of land within that zone (residential, commercial, industrial, etc.). Typical zoning regulations address building height, bulk, lot area, setbacks, parking and landscaping.

By contrast, a Master Plan is a guide to the future use of land in Cohoctah Township. Local officials use this document as a decision-making guide when considering rezonings and other development requests, potential public improvements and other investments that have long-term implications for the community. The Master Plan identifies and examines a wide range of physical issues including population, housing, natural resources, traffic and circulation, public services, and land use. The analysis of each of these physical issues is then translated into a series of goals and objectives for the Township. The Master Plan process culminates into the creation of a Future Land Use Plan and Map, which divides the land into future land use designations (not districts) with recommended development guidelines and illustrates how the Township should develop over time.

Purpose

The Plan is intended to be a tool to assist decision making for a number of planning related issues. The Plan and its supporting documentation contain most of the data necessary to assist elected and appointed officials and the public with:

- 1. Zoning Decisions**
This Master Plan blueprints the future of Cohoctah Township. Zoning decisions should be in keeping with the goals and objectives of the plan. The Cohoctah Township Zoning Ordinance, when aligned with the Cohoctah Township Master Plan, will be the Plan's main tool for implementation.
- 2. Land Use Decisions**
A primary function of Cohoctah Township government is the recommendation and review of land use decisions that preserve the health, safety and welfare of its residents. Decisions regarding special uses, variances, site plans, and transportation are regular agenda items for the Township Board and Planning Commission. The Master Plan provides necessary land use information for making difficult decisions.
- 3. Public Infrastructure**
Prime development land combined with highway access and location within easy commuting distance of several major labor markets, has made Livingston County one of the fastest growing counties in Michigan. This rapid growth is steadily moving from the southeast corner of the county to the rest of the county, and it is straining local infrastructure. The Master Plan is a component of the decision-making process when proposing public services. While public water and sewer service is not currently an issue in Cohoctah Township, it could be in the future. Roads also play an important role in growth. To be fiscally responsible and give the township a measure of control over future growth, new infrastructure must correspond with the Master Plan.

4. **Vision**

The development of this Plan required many different entities concerned with the future of Cohoctah Township to work together. Through a combination of public meetings, surveys, and inventories of existing land uses, the community has developed this Plan to preserve and protect the rural character of Cohoctah Township.

Plan Components

Background Studies and Trends

Many chapters of the Master Plan provide an inventory of specific conditions. For example, Chapter 2: Community Character explains the location, history and community resources of the Township; and Chapter 3: Demographic Profile summarizes the population, housing, income, occupations, education and agricultural data and trends of the Township. These background studies allow the Planning Commission and Township Board to develop and implement a Master Plan based on an assessment of the existing and future trends of Cohoctah Township.

Goals & Objectives

A vital part of the Master Plan is the goals and objectives, often called policy statements. These statements aid in decision making based on principles the Township has decided are vital to the future well being of the community. The goals and objectives also provide valuable background in the development of the future land use plan and map. The goals and objectives state what the community plans to do when faced with certain decisions. For example, the Township could have as a goal “the protection of the Township’s rural character”. When faced with a rezoning or site plan that would involve inappropriately high densities or an inordinate number of curb cuts, the Township may be justified in denying the request based on the Master Plan goal and related objectives.

Future Land Use Plan

The Master Plan also contains a description of the kinds of land uses planned for the future and a map showing the areas proposed for each kind of use. The Plan designations (or categories) identify portions of the Township for specific land uses. These may include residential, commercial, agricultural, etc. This section of the Plan will probably be the most used of the entire plan due to its relationship to other planning issues.

Appendices

The appendices of the Master Plan contain a variety of resources that were key components in establishing the body of the Plan. They include the following:

Citizen Survey – 1,600 surveys were mailed out to township property owners. The survey asked a number of questions related to the future vision of the Township. Three hundred seventy one (371) residents responded to the survey, resulting in a 23% return rate. These responses contributed to the development of Master Plan goals and objectives, which in turn were used to develop the plan map.

Cohoctah Township Master Plan Goals & Objectives Fact Sheet – This reference list of demographics and planning trends were identified through the research and analysis that went into creating chapters of the 2010 Cohoctah Township Master Plan. The fact sheet was used as a source material for developing the goals and objectives of the Plan.

How the Plan was Prepared

The current Cohoctah Township Comprehensive Plan was adopted in December 2002. With the passage of more than eight years, the 2002 plan no longer reflects current conditions and issues. Additionally, the passage of the Michigan Planning Enabling Act (Public Act 33) in 2008, requires that master plans be reviewed and updated no less than once every five years. With these facts in mind, the Cohoctah Township Planning Commission recognized the need for an updated Master Plan and began preliminary work. A citizen survey was sent out by mail in early 2008 to obtain citizen input in the Master Plan. The surveys were due in February of 2008. In January of 2009 the Township hired the Livingston County Department of Planning to assist the Cohoctah Township Planning Commission with the preparation of the plan. From the winter of 2009 through the summer of 2010, working sessions were held at each month's Township Planning Commission meeting.

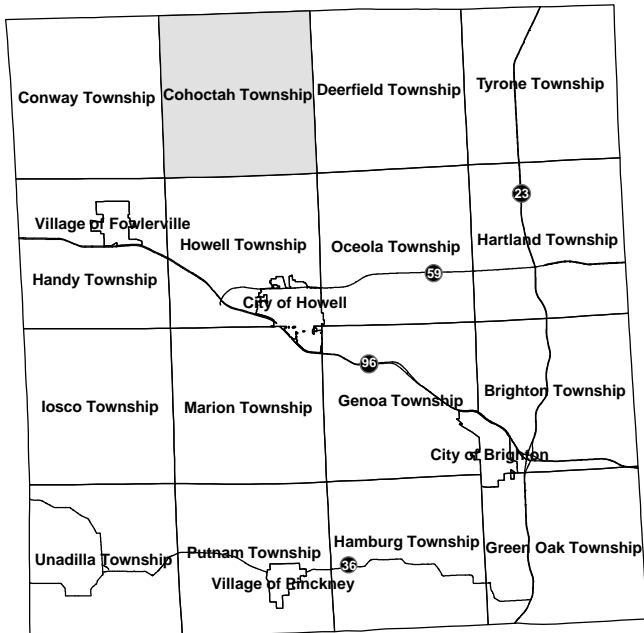
After the Cohoctah Township Planning Commission proposed a draft Master Plan, the Plan was submitted to the Cohoctah Township Board for review and comment. The Township Board approved the distribution of the proposed draft, and it was sent to the notice list that received the notice of intent to plan.

A public hearing was noticed and held after the public comment period ended. The hearing was held on December 2, 2010 at the Cohoctah Township Hall. The Cohoctah Township Master Plan was adopted by the Township Board on January 13, 2011. Following adoption the Planning Commission Secretary submitted copies of the adopted master plan to the same entities to which copies of the proposed master plan were required to be submitted.

Cohoctah Township Community Character

Livingston County has been ranked the fastest growing county in Michigan for over ten consecutive years, and because of this distinction, Cohoctah Township has also experienced development pressures and population growth. The location, history and facilities of the Township have shaped and continue to shape, the character of this rural community.

Location



Cohoctah Township is located in the northern most tier of Livingston County townships. The Township borders the Livingston County communities of Conway Township to the west, Howell Township to the south and Deerfield Township to the east. The Township borders Burns Township in Shiawassee County to the north.

The Township is approximately 36 square miles in land area. A commuter life-style is prevalent in Cohoctah Township since there are no major employers located within the Township. The center of Cohoctah Township is approximately nine (9) miles north of I-96, approximately thirteen (13) miles west of U.S. 23, and ten (10) miles south of I-69 between Lansing and Flint. Therefore, the Township is not highly accessible from a regional perspective. State Highway M-59

which travels east-west is slightly closer to the Township at approximately 8 miles south of the Township, and State Highway M-52 which travels in a north-south direction, is approximately nine (9) miles to the west.

The Township has three settlements: Cohoctah Center in the northwest, Cohoctah in the northeast, and Oak Grove in the southeast. The City of Howell lies approximately six miles south of the township, and the Village of Fowlerville is approximately a four mile drive from Cohoctah Township's southwestern corner. The Village of Byron lies four miles north of the Cohoctah settlement.

The Southeast Michigan Council of Governments (SEMCOG) is the regional planning agency for a seven county area, including Cohoctah Township in Livingston County. The remaining SEMCOG counties include: Washtenaw, Oakland, Wayne, Monroe, Macomb and St. Clair.

Community History

Cohoctah Township was originally known as Tuscola Township. In 1857 the name was changed to Bristol Township, and in 1867 it was changed again, to its present name. It is believed that Cohoctah was the name of a former Indian chief, although no one knows for sure.

Settlers and speculators began purchasing land in Cohoctah Township in 1833. At that time there were many more swamps and marshes which have since been drained to make the land tillable. There was much evidence of the Native American population, although reportedly none were permanent inhabitants of the township at the time of white settlement. Many were seen on hunting excursions, however, or on their way to Detroit.

The territory was bought by two types of purchasers; those intending to settle and develop the land, and investors. A trader named Gilbert W. Prentiss was the first settler in the township. He made two claims in the NE ¼ of Section 22, totaling 120 acres, in 1833. The first permanent resident, and second settler, was John Sanford from New York. He came in the summer of 1834 and began what was known as Sanford Settlement in Section 27 (Byron and Chase Lake Road) which was for some time the center of the township's population. Three-quarters of the township's acreage was purchased in one year, beginning in May of 1836, with an average size of 146 acres per sale. The first surveyor's record of the first regular highway in Cohoctah was in 1836 from Howell to John Sanford's residence.

In 1846 the first grist mill and dam were built on a 40 acre tract of land in the north part of Section 36 on Bo-bish-e-nung Creek, which at this point had a fall of over 13 feet. About the same time a small store was also built, and soon a village began to develop. It was called Chemungville after a county in New York. The post office was called Oak Grove.

There were a number of German-speaking settlers in early Cohoctah. In the late 1850's or 1860's, the area known as Sprungtown grew around a steam sawmill near the current Cohoctah Center. It was named after a prominent citizen, Isaac Sprung, and at its peak Sprungtown contained two stores, two blacksmith shops, about a dozen homes, and a population of fifty. It was hoped that the railroad would come to Sprungtown. In 1857 Tuscola was renamed Bristol Township, and in 1867 it was changed again to Cohoctah. In 1874 the Sprungtown post office was moved to Cohoctah.

Sources: Mrs. Chester Randles in *History & Folklore of Livingston County* (1969, Livingston County Extension Council) and *History of Livingston County, Michigan, 1880*.

Community Resources

Over time, community resources in Cohoctah Township have grown to meet the increased needs of the township population. Those needs have changed because of the gradual transition from an agricultural community to a more rural residential community. It is anticipated that the demands on community resources will continue to increase as the township's population grows (see Map 1 Cohoctah Township Community Resources).

Township Offices

The Cohoctah Township Hall is located at 10518 Antcliff Road in the settlement of Cohoctah Center. The Township Hall was previously a general store. The facility has been utilized for township government since 1950. The Township Hall houses the offices of Cohoctah Township elected officials such as the Township Supervisor, Clerk, Treasurer, and various other township personnel. In anticipation of future growth in the Township, the Township Board recently purchased approximately 42 acres of land across from the current township hall. The property may be used for a future township hall, a second fire station, a township park, or a combination thereof.

Public Safety and Emergency Services

Cohoctah Township is serviced by the Howell Area Fire Department which maintains a fire substation in the Township. The substation is located at Oak Grove Road and Chase Lake Road near the settlement of Oak Grove. The substation is manned by two firefighters on weekdays and by on-call firefighters on the weekends.

Police protection is provided by the Livingston County Sheriff Department and the Michigan State Police. Police are dispatched under the "closest car" policy. If there is an emergency requiring police service, the closest car to the emergency is dispatched to the scene. The closest car could be either a County Sheriff car or a State Police car. Back-up assistance is provided under the same policy.

Emergency ambulance service in Cohoctah Township is provided by Livingston County Ambulance Service. The closest hospital facility is Saint Joseph Mercy Livingston Hospital in the City of Howell (14.5 miles south).

Utilities

Cohoctah Township residents are served by individual septic systems and private wells. One development in the Township (the Church of Nazarene camp) is serviced by a private water system, however there is currently no municipal sewer or water provision in the Township.

Cemeteries

The township has two cemeteries located in the southeast quadrant of the Township. Sanford Cemetery is an eight (8) acre cemetery located in Section 27, and Boutel Cemetery is an approximate two and 1/2 (2.5) acre cemetery located in Section 24. Cohoctah Township is currently expanding the Boutel Cemetery.

School Districts

Cohoctah Township is part of three public school districts, the largest being Howell Public Schools. A northern segment of the township is part of Byron Area Schools, while a western segment of the township is part of Fowlerville Community Schools. Cohoctah Township does not contain any school facilities that are a part of these school districts.

In addition to Cohoctah Township, the Howell Public School District includes all of the City of Howell, much of Genoa, Marion, Oceola, Howell and Deerfield Townships, and parts of Iosco, Handy and Putnam Townships. The School District includes twelve (12) school facilities within a 143 square mile area, eight of which are located in the City of Howell.

Byron Area Schools contain three (3) school facilities that are located in the Village of Byron in Shiawassee County. The school district is 80 square miles in size.

Fowlerville Community Schools not only includes a portion of Cohoctah Township, it includes all of the Village of Fowlerville, most of Conway, Handy and Iosco Townships, and parts of Howell and Unadilla Townships. The school district contains five (5) school facilities within a 113 square mile area.

Recreation

The two primary recreational resources in Cohoctah Township are the Cohoctah Township Park and the Oak Grove State Game Area.

Cohoctah Township Park is located at the corner of Preston and Allen Roads in the southeast corner of the Township, and it is easily accessed from Oak Grove Road, a paved primary roadway. The 40 acre park is open from April 1 through October 31 from dawn to dusk each day. Two riding rings, an announcer's booth, a gravel parking facility and a playground are the only improvements to the park at this time. Many 4-H and equestrian events are held at this recreation site.

The Oak Grove State Game Area is located along the eastern boundary of Cohoctah Township and western Deerfield Township. The Cohoctah portion of the game area consists of over 800 acres of land located in Sections 24, 25 and 36. The Game Area provides natural habitat for hunting and hiking.

Residents of Cohoctah Township also have access to additional public recreational resources through Lutz County Park and the Howell Area Parks & Recreation Authority. Lutz County Park is located in the northwest portion of Deerfield Township near the Cohoctah Township line. This county park opened in 2008 and it contains hiking trails and picnic facilities. Howell Area Parks & Recreation Authority offers a variety of programs for a non-contributing government participation fee.

Private recreational resources are also present in the Township, such as Hunters Ridge Golf Course on Byron Road in Section 22 of the Township.

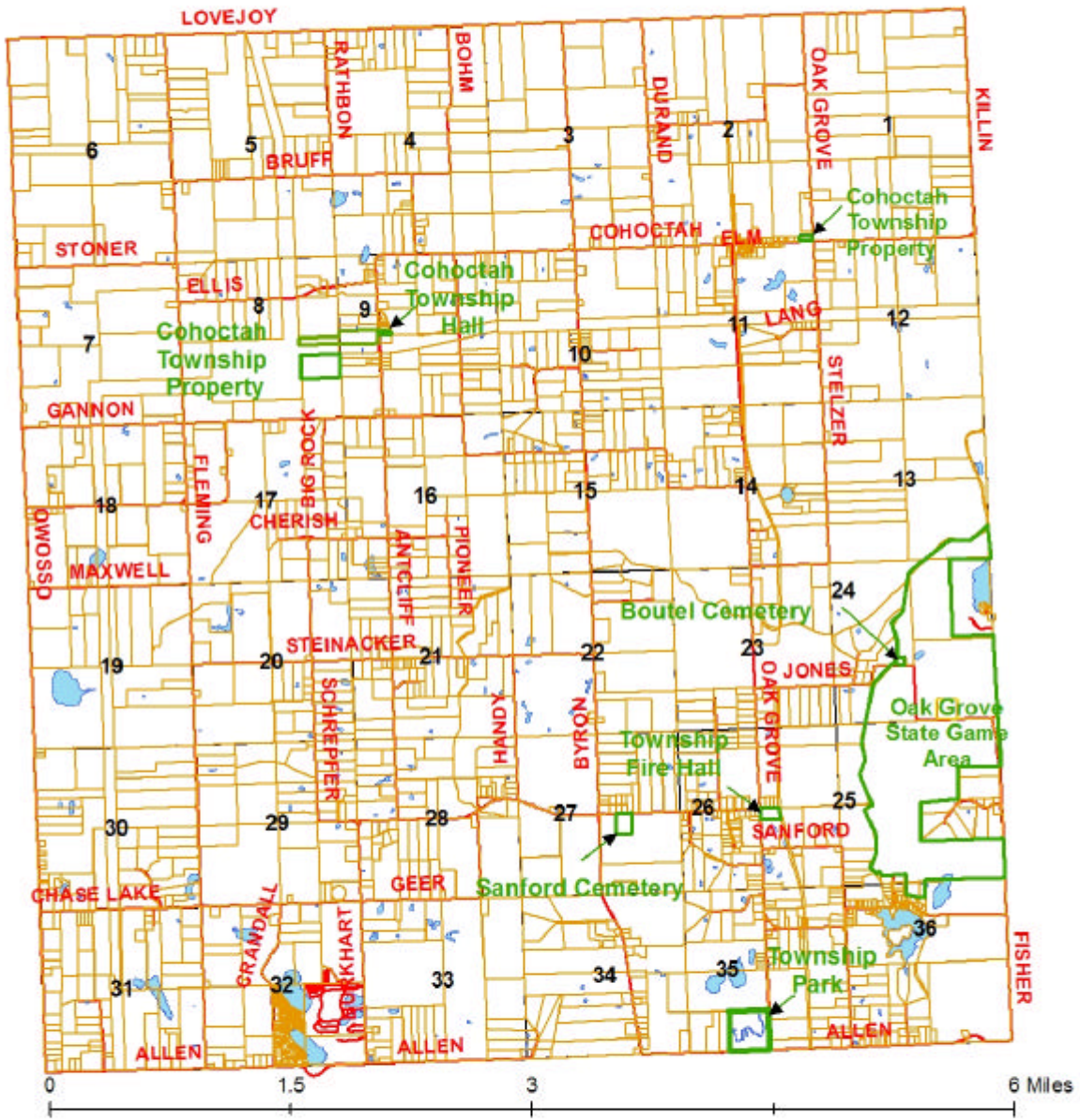
Other Community Facilities






A U.S. Post Office is located in the settlement of Cohoctah on Cohoctah Road.

Resources in Neighboring Communities

Cohoctah Township is located between the Village of Fowlerville and the City of Howell where many additional community resources are located. For instance, Township residents in the Fowlerville School District have access to the Fowlerville District Library in the Village of Fowlerville and Township residents in the Howell School District have access to the Howell Carnegie District Library in the City of Howell.

Map 1 Cohoctah Township Community Resources



| Legend | |
|---|-------------------|
|  | Cohoctah_parcel |
|  | Cohoctah_lakes |
|  | Cohoctah_roads |
|  | Public Land |
|  | Township Sections |

Prepared by: Livingston County
Department of Planning, July 2009
Source: Livingston County
Geographic Information System

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Cohoctah Township Demographic Profile

In preparation for the development and amendment of the Cohoctah Township Master Plan, several demographic characteristics were compiled and analyzed to add understanding to the unique community needs of Cohoctah Township as compared to surrounding communities and Livingston County as a whole. 2010 Census figures were not available at the time of this Master Plan amendment, therefore 2000 Census figures were utilized.

Population

The Township's population remained relatively stable for decades until more rapid population growth occurred after 1960. For nearly 100 years between 1870 and 1960, the decennial census recorded a Township population that fluctuated by no more than 188 persons per decade.

| TABLE 3-1: HISTORICAL POPULATION PROFILE | | | | | | | | | |
|---|-------|-------|-------|-------|-------|-------|------|-------|-------|
| 1870 | 1880 | 1890 | 1900 | 1910 | 1920 | 1930 | 1940 | 1950 | 1960 |
| 1,177 | 1,276 | 1,286 | 1,340 | 1,152 | 1,113 | 1,057 | 976 | 1,015 | 1,160 |

Source: U.S. Bureau of the Census

Between the 1970 and 1980 censuses, the Township population finally exceeded 2,000 persons. This decade was also the period of time in which the percent population growth was most dramatic, mirroring the most dramatic period of growth for the county as a whole. The population has since risen to a 2000 Census population of 3,394.

Cohoctah Township's percent population change was most dramatic between 1970 and 1980

| TABLE 3-2: PERCENT POPULATION CHANGE | | | | | | | | |
|---|----------------------|-------------|----------------------|-------------|----------------------|-------------|----------------------|-------------|
| 1960 Census | % change 1960 - 1970 | 1970 Census | % change 1970 - 1980 | 1980 Census | % change 1980 - 1990 | 1990 Census | % change 1990 - 2000 | 2000 Census |
| 1,160 | 25.3% | 1,454 | 67.5% | 2,436 | 10.6% | 2,693 | 26.0% | 3,394 |

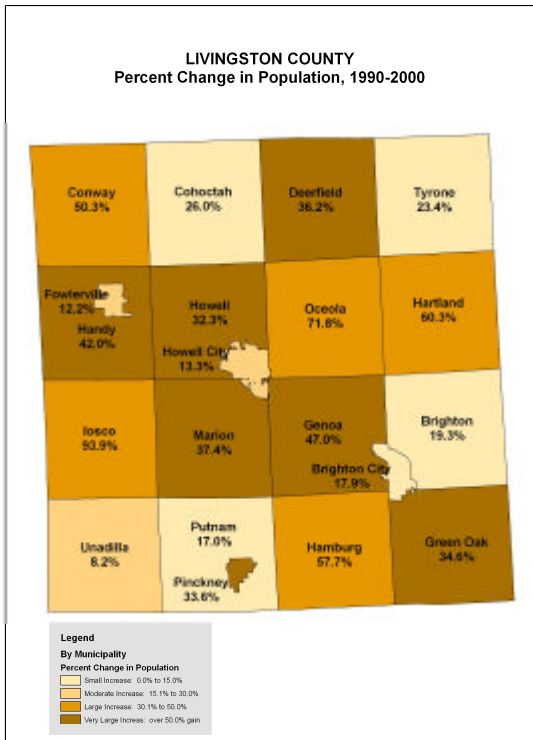
Source: U.S. Bureau of the Census

Compared with the surrounding communities of Conway, Deerfield, and Howell Townships in Livingston County, and Burns Township In Shiawassee County, Cohoctah Township only surpassed Burns Township in population gain between the 1990 and 2000 Censuses.

| TABLE 3-3: 1990 - 2000 POPULATION COMPARISON | | | | |
|---|-----------------|-----------------|------------------------------|----------------------|
| Community | 1990 Population | 2000 Population | Numerical Change 1990 - 2000 | % Change 1990 - 2000 |
| Cohoctah Township | 2,693 | 3,394 | 701 | 26.0% |
| Conway Township | 1,818 | 2,732 | 914 | 50.3% |
| Deerfield Township | 3,000 | 4,087 | 1,087 | 36.2% |
| Howell Township | 4,294 | 5,679 | 1,385 | 32.3% |
| Burns Township | 3,019 | 3,500 | 481 | 15.9% |
| LIVINGSTON COUNTY | 115,645 | 156,951 | 41,306 | 35.7% |

Source: U.S. Bureau of the Census, 1990 and 2000 Census

Cohoctah Township gained 701 new residents during this time period. Although Cohoctah Township's 26% population increase was significant, it was lower than that of most surrounding communities and lower than Livingston County's growth rate of 35.7% during this decade.



The Southeast Michigan Council of Governments (SEMCOG) estimates that Cohoctah Township's December 31, 2009, population is 3,180. This reflects a numerical change of -214 persons in a ten year time period. This estimate suggests a -6.3% population growth for this decade, which is considerably less than the 26% growth rate of the 1990 – 2000 decade.

In the long term, SEMCOG forecasts that Cohoctah Township's population will grow to 3,742 by 2010, 3,960 by 2020 and 4,449 by 2035. This reflects a 2000 to 2035 population gain of 1,055 persons for a percent change of 31.1%. Growth is expected to be very incremental between the years 2005 and 2035, with the largest gains in population expected between 2005 and 2010 (232) and 2030 and 2035 (234). For each five year period in between, SEMCOG forecasts that the Township will gain less population, ranging from a 7 person gain to a 211 person gain.

Between 2005 and 2035, Cohoctah Township's largest periods of growth are forecast to be between the years 2005 and 2010 and the years 2030 and 2035

| 2005 | Pop. Gain 2005 - 2010 | 2010 | Pop. Gain 2010 - 2015 | 2015 | Pop. Gain 2015 - 2020 | 2020 | Pop. Gain 2020 - 2025 | 2025 | Pop. Gain 2025 - 2030 | 2030 | Pop. Gain 2030 - 2035 | 2035 |
|-------|-----------------------|-------|-----------------------|-------|-----------------------|-------|-----------------------|-------|-----------------------|-------|-----------------------|-------|
| 3,510 | 232 | 3,742 | 7 | 3,749 | 211 | 3,960 | 112 | 4,072 | 143 | 4,215 | 234 | 4,449 |

Source: Southeast Michigan Council of Governments 2035 Regional Development Forecast

Compared to the three surrounding Livingston County communities, Cohoctah Township is expected to gain slightly less population than Conway and Deerfield Townships between 2000 and 2035. A total gain of 1,055 persons is expected in Cohoctah Township, while Conway Township is expected to gain 1,131 new residents, and Deerfield Township is expected to gain 1,314 new residents. Howell Township is expected to gain significantly more new residents in this 2000 to 2035 time frame (4,373).

Dependent Population

The dependent population consists of persons under the age of 18, and persons that are age 65 and older. When the total number of persons in these age categories is divided by the total number of persons considered to be the non-dependent ages of 18 through 64, a dependency ratio results. This ratio can help a community plan for housing and services that primarily serve the dependent population.

In Cohoctah Township the dependency ratio derived from the 2000 Census is 56%, which means that there are approximately 56 dependent persons for every 100 non-dependent persons in the Township.

| Community | Under 18 Population | % of Total Population | 65 and Older Population | % of Total Population | Dependency Ratio |
|---------------------------------|----------------------------|------------------------------|--------------------------------|------------------------------|-------------------------|
| <i>Cohoctah Township</i> | 985 | 29.0% | 233 | 6.9% | 56% |
| Conway Township | 855 | 31.3% | 202 | 7.4% | 63% |
| Deerfield Township | 1,220 | 29.9% | 266 | 6.5% | 57% |
| Howell Township | 1,558 | 28.0% | 582 | 10.2% | 60% |
| Burns Township | 1,022 | 29.2% | 321 | 9.2% | 62% |
| LIVINGSTON COUNTY | 45,125 | 28.8% | 13,037 | 8.3% | 59% |

Source: U.S. Bureau of the Census, 2000 Census

In comparison with the surrounding four municipalities, Cohoctah Township has a low percentage of population that is under eighteen and a low percentage of population that is age 65 and older. As a result, Cohoctah Township's dependency ratio is lower than all neighboring communities and Livingston County as a whole.

There are approximately 56 dependent persons for every 100 non-dependent persons in Cohoctah Township

Housing

Housing Units

Although population is an important factor to consider when contemplating the potential future impacts upon a community, it is the built environment or housing units that will accommodate this future population growth and have the most impact on future land use.

| Community | Total Housing Units | | | |
|---------------------------------|----------------------------|---------------|---------------|--------------|
| | 1990 | 2000 | Change | |
| | | | # | % |
| <i>Cohoctah Township</i> | 900 | 1,206 | 306 | 34% |
| Conway Township | 581 | 919 | 338 | 58.2% |
| Deerfield Township | 1,057 | 1,495 | 438 | 41.4% |
| Howell Township | 1,358 | 1,993 | 635 | 46.8% |
| Burns Township | 1,044 | 1,230 | 186 | 17.8% |
| LIVINGSTON COUNTY | 41,863 | 58,919 | 17,056 | 40.7% |

Source: U.S. Bureau of the Census, 1990 and 2000 Census

The number of housing units in Cohoctah Township grew steadily between 1990 when the Census recorded 900 housing units and 2000 when the Census recorded 1,206 housing units. These figures reflect a growth of 306 new housing units (a 34% increase). Cohoctah Township's growth in housing units is somewhat lower than that of surrounding Livingston County communities, although significantly higher than the growth in housing units experienced by Burns Township in Shiawassee County. In terms of total housing units, the surrounding communities of Deerfield, Howell and Burns Townships surpass Cohoctah Township; however, Cohoctah Township has a larger stock of housing units than neighboring Conway Township.

Households

| Community | Total Households | | 2000 Census Family Households | | 2000 Census Non Family Households | | Average Household Size | Average Family Size |
|--------------------------|------------------|---------------|-------------------------------|--------------|-----------------------------------|--------------|------------------------|---------------------|
| | 1990 | 2000 | # | % | # | % | | |
| Cohoctah Township | 841 | 1,124 | 939 | 83.5% | 185 | 16.5% | 3.02 | 3.30 |
| Conway Township | 561 | 887 | 749 | 84.4% | 138 | 15.6% | 3.08 | 3.38 |
| Deerfield Township | 961 | 1,386 | 1,119 | 80.7% | 267 | 19.3% | 2.95 | 3.30 |
| Howell Township | 1,338 | 1,902 | 1,566 | 82.3% | 336 | 17.7% | 2.91 | 3.20 |
| Burns Township | 1,010 | 1,191 | 993 | 83.4% | 198 | 16.6% | 2.94 | 3.20 |
| LIVINGSTON COUNTY | 38,887 | 55,384 | 43,506 | 78.6% | 11,878 | 21.4% | 2.80 | 3.18 |

Source: U.S. Bureau of the Census, 1990 and 2000 Census

Cohoctah Township has gained 283 households since 1990, which represents a 33.7% percent change. This 1990 – 2000 numerical change in households is less than all surrounding communities except for Burns Township. The Township's 1,124 households contain a larger average household size (3.02 persons) and a larger average family size (3.30 persons) than the surrounding Livingston County communities except Conway Township; most of the surrounding communities have average household sizes under 3 persons whereas Cohoctah and Conway Townships have an average household size over 3 persons. Like all Livingston County townships, Cohoctah Township households are predominantly composed of families (83.5%) with a lesser number of households consisting of a non-family composition (16.5%). Most Cohoctah Township family households are headed by a married couple (73.3%), while a lesser number of family households are headed by a female (6.0%) or a male parent (4.2%). Non-family households in Cohoctah Township are primarily comprised of householders living alone.

| Household Type | 2010 | Change 2010 - 2015 | 2015 | Change 2015 - 2020 | 2020 | Change 2020 - 2025 | 2025 | Change 2025 - 2030 | 2030 | Change 2025 - 2035 | 2035 |
|-----------------------------|--------------|--------------------|--------------|--------------------|--------------|--------------------|--------------|--------------------|--------------|--------------------|--------------|
| Households With Children | 540 | -49 | 491 | 0 | 491 | 26 | 517 | 41 | 558 | 15 | 573 |
| Households Without Children | 799 | 91 | 890 | 86 | 976 | 24 | 1,000 | 29 | 1,029 | 65 | 1,094 |
| Total Households | 1,339 | 42 | 1,381 | 86 | 1,467 | 50 | 1,517 | 70 | 1,587 | 80 | 1,667 |

Source: Southeast Michigan Council of Governments 2035 Regional Development Forecast

SEMCOG forecasts that Cohoctah Township will experience growth in households with children and even more substantially, in households without children. This is contrary to the region which is expected to experience a decline in the number of households with children. Between 2010 and 2035 Cohoctah Township is expected to gain 33 new households with children and a more dramatic 295 households without children. Growth in Cohoctah Township households with children is not anticipated under after 2025. Growth in households without children is expected during each five year period between 2010 and 2035. SEMCOG forecasts that Cohoctah Township will gain the most new households between 2015 and 2020 (86 households).

Between the year 2010 and the year 2035 Cohoctah Township is expected to gain 328 households for a 24.5% change

Housing Value

Census 2000 figures show that among all eighty-three counties in Michigan, Livingston County has the highest median housing value for owner-occupied housing units (\$187,500). Cohoctah Township’s median housing value of \$159,400 is significantly lower than the county’s median value and lower than the median housing value of thirteen townships in Livingston County. The Village of Fowlerville, and Conway, Handy and Unadilla Townships, are the only Livingston County communities that have lower median housing values. The value of most Cohoctah Township homes range from \$50,000 to \$299,999, with the largest number of

The value of most Cohoctah Township homes fall in the \$100,000 to \$149,999 category

homes valued in the \$100,000 to \$149,999 category. The change in these values over the last 10 years has been dramatic. Between the 1990 and 2000 censuses, Cohoctah Township’s median housing value doubled (from \$70,800 to \$159,400 for a percent change of 125%).

In comparison, most surrounding communities had less of a change in numeric value, and only Burns Township surpassed Cohoctah Township in terms of percent change in median housing value over the 10 year period.

| TABLE 3-9: COMPARISON OF MEDIAN HOUSING VALUES | | | | |
|---|--------------------------------------|-------------------------|------------------------|--------------------|
| Community | Median Value of Owner-Occupied Units | | | |
| | 1990 | 2000 | # Change | % Change |
| <i>Cohoctah Township</i> | <i>\$70,800</i> | <i>\$159,400</i> | <i>\$88,600</i> | <i>125%</i> |
| Conway Township | \$73,700 | \$154,200 | \$80,500 | 109% |
| Deerfield Township | \$83,100 | \$172,300 | \$89,200 | 107% |
| Howell Township | \$89,500 | \$161,200 | \$71,700 | 80% |
| Burns Township | \$52,600 | \$119,300 | \$66,700 | 127% |
| LIVINGSTON COUNTY | \$97,300 | \$187,500 | \$90,200 | 93% |

Source: U.S. Bureau of the Census, 1990 and 2000 Census

According to the Livingston County Planning Department’s housing sale price database, the southeast quadrant of Livingston County has long maintained the highest median housing sale price in the county, followed by the northeast quadrant, the central portion of the county, and then the western portion of the county which includes Cohoctah Township.

Income

Livingston County has the highest 1999 median household income in the state (\$67,400), and is second only to Oakland County for the highest 1999 median family income (\$75,284). Cohoctah Township’s median values of \$57,500 (household) and \$63,182 (family) are in the lower half of

TABLE 3-10: MEDIAN INCOME COMPARISON

| Community | Median Income 1989 | | Median Income 1999 | | Household Change | |
|--------------------------|--------------------|-----------------|--------------------|-----------------|------------------|--------------|
| | Household | Family | Household | Family | # | % |
| Cohoctah Township | \$43,944 | \$46,098 | \$57,500 | \$63,182 | \$13,556 | 30.8% |
| Conway Township | \$41,312 | \$43,017 | \$64,306 | \$67,206 | \$22,994 | 55.7% |
| Deerfield Township | \$42,805 | \$44,394 | \$65,756 | \$69,750 | \$22,951 | 53.6% |
| Howell Township | \$47,784 | \$49,367 | \$63,114 | \$67,034 | \$15,330 | 32.1% |
| Burns Township | \$33,577 | \$36,861 | \$49,671 | \$52,888 | \$16,094 | 47.9% |
| LIVINGSTON COUNTY | \$45,439 | \$49,910 | \$67,400 | \$75,284 | \$21,961 | 48.3% |

Source: U.S. Bureau of the Census, 1990 and 2000 Census

Compared with surrounding communities, Cohoctah Township has the lowest 1999 household median income and 1999 family median income. The Township's income figures are most comparable to Howell and Conway Townships.

Over the last ten years, Cohoctah Township's household median income has increased by \$13,556 or 30.8%. Most Cohoctah Township households have a household and family income in the \$75,000 and \$99,999 range.

Most Cohoctah Township households have an income range of \$75,000 to \$99,999

Occupations

According to the 2000 Census, Cohoctah Township has an employed civilian population aged 16 and over, consisting of 1,670 workers. Most of these workers (87.5%) are private wage and salary workers with self-employed workers in their own unincorporated business comprising the second largest class of workers in the Township (7.1%) and government workers comprising the third largest class of workers in the Township (5%).

As recorded in the 2000 Census, the dominant occupation category in Cohoctah Township is *Sales and Office Occupations*. 565 or 33.8% of the 1,670 workers claim this as their occupation. *Management, Professional, and Related Occupations* is the second largest occupation category with 441 workers or 26.4% of the employed civilian population aged 16 and over. The third largest occupation category in the Township is *Production, Transportation, and Material Moving Occupations*. This occupational category has 275 workers or 16.5% of workers.

TABLE 3-11: COHOCTAH TOWNSHIP OCCUPATIONS

| Occupation | Number | Percent |
|---|--------|---------|
| Sales and Office Occupations | 565 | 33.8% |
| Management, Professional, and Related Occupations | 441 | 26.4% |
| Production, Transportation, and Material Moving Occupations | 275 | 16.5% |

Source: U.S. Bureau of the Census

Education

Cohoctah Township is part of three public school districts, the largest being Howell Public Schools. A western segment of the township is in the Fowlerville Community Schools district, while a northern segment of the township is in the Byron Area Schools district. Cohoctah Township does not contain any of school facilities that are a part of these districts.

The 2000 Census recorded 1,012 Cohoctah Township residents age 3 years and older that are enrolled in school. The majority of these students (43.7%) are enrolled in elementary school grades 1 through 8. The second largest percent of students (27.2%) are enrolled in high school grades 9 through 12 and the third largest percent of students are enrolled in college or graduate school (21%).

Cohoctah Township consists of a well educated population age 25 years and older. 88.2% of this adult population group has graduated from high school or obtained a higher degree level. Cohoctah Township's educational attainment level is slightly lower than Livingston County's 91.4% high school graduate or higher attainment, and slightly lower than that achieved by most surrounding communities. However, Cohoctah Township's percentages of educational attainment are very comparable to that of Burns Township.

**TABLE 3-12: EDUCATIONAL ATTAINMENT COMPARISON
Population 25 years and over**

| Community | Population 25 years and over | Less than 9 th grade | 9 th – 12 th grade, no diploma | High School graduate | % High School graduate or higher | % Bachelor's degree or higher |
|--------------------------|------------------------------|---------------------------------|--|----------------------|----------------------------------|-------------------------------|
| Cohoctah Township | 2,167 | 60 | 196 | 674 | 88.2% | 12.8% |
| Conway Township | 1,683 | 20 | 192 | 692 | 87.4% | 10.8% |
| Deerfield Township | 2,594 | 41 | 192 | 877 | 91% | 18.6% |
| Howell Township | 3,685 | 52 | 417 | 1,293 | 87.3% | 18.6% |
| Burns Township | 2,197 | 30 | 212 | 894 | 89% | 13.2% |
| LIVINGSTON COUNTY | 101,381 | 1,701 | 7,030 | 28,702 | 91.4% | 28.2% |

Source: U.S. Bureau of the Census, 2000 Census

Cohoctah Township does not have as large a percent of population 25 years and over that have obtained a bachelor's degree or higher. 12.8% of this adult population group in Cohoctah Township has obtained a bachelor's degree or higher as compared to 28.2% in Livingston County as a whole.

Agriculture

Agricultural activities figure prominently in the Cohoctah Township way of life. U.S. Census of Agriculture figures are only compiled on a county-wide basis, therefore the best local indicator of agricultural activity is by tracking the number of farms enrolled in Public Act 116 Farmland and Open Space Preservation contracts.

Each of these agreements between the State and a landowner, represents a temporary restrictive covenant regarding the use of the land. A landowner voluntarily agrees to preserve their land for agriculture in exchange for certain tax benefits and exemptions for various special assessments. An agreement runs with the land and is for a jointly agreed upon length of time (at least 10 years).

The twenty-seven (27) current Farmland and Open Space Preservation contracts in Cohoctah Township far outnumber most other Livingston County communities with the exception of Conway, Handy and Unadilla Townships. The table below illustrates the location of the Farmland and Open Space Preservation contracts in Cohoctah Township.

TABLE 3-13: COHOCTAH TOWNSHIP FARMLAND AND OPEN SPACE PRESERVATION CONTRACTS

| Size in Acres | Section Number | Quadrant of Township |
|---------------|----------------|----------------------|
| 65 | 3 | Northeast |
| 69 | 3 | Northeast |
| 118 | 12 | Northeast |
| 10 | 12 | Northeast |
| 10 | 12 | Northeast |
| 44 | 3 | Northeast |
| 100 | 3 | Northeast |
| 60 | 3 | Northeast |
| 85 | 17 | Northwest |
| 98 | 7 | Northwest |
| Unk. | 7 | Northwest |
| 91 | 7 | Northwest |
| Unk. | 17 | Northwest |
| 120 | 6 | Northwest |

| Size in Acres | Section Number | Quadrant of Township |
|---------------|----------------|----------------------|
| 40 | 8 | Northwest |
| 64 | 18 | Northwest |
| 190 | 6 | Northwest |
| 11 | 6 | Northwest |
| 20 | 35 | Southeast |
| 10 | 35 | Southeast |
| 130 | 35 | Southeast |
| 176 | 36 | Southeast |
| 91 | 36 | Southeast |
| 130 | 33 | Southwest |
| 160 | 33 | Southwest |
| 40 | 33 | Southwest |
| 75 | 32 | Southwest |

TABLE 3-14: Summary Table of Farmland and Open Space Preservation Contracts

| Quadrant of the Township | Total Number of Contracts | Total Number of Acres Under Contract |
|--------------------------|---------------------------|--------------------------------------|
| Northeast | 8 | 476 |
| Northwest | 10 | 699+ |
| Southeast | 5 | 427 |
| Southwest | 4 | 405 |
| TOTALS | 27 | 2,007 |

Source: Michigan Department of Agriculture, Farmland and Open Space Preservation Program, April 2009

Most of the Farmland and Open Space Preservation contracts in Cohoctah Township (37%) are in the northwest quadrant of the township; particularly sections 6,7 and 17. The second highest number of contracts are in northeast quadrant, followed by the southeast and southwest quadrants.

The largest amount of acreage held in these contracts was also in the northwest quadrant where over 699 acres (35% of the acreage preserved in all Cohoctah Township contracts) are preserved in 10 contracts. The largest amount of acreage held in a single contract is 190 acres in section 6 of the

northwest quadrant. More than half of the contracts (17 out of 27) in Cohoctah Township are for less than 100 acres.

Like most communities in Livingston County, agriculture is not as prominent in Cohoctah Township as it was in years past. Each decade, agricultural land use has diminished due to various circumstances such as future generations choosing not to farm, low return on commodities making farming unprofitable, and increased residential growth and development.

Demographic Trends in Cohoctah Township

From the demographics analyzed in this section, we can identify some trends that should influence future planning and development in Cohoctah Township. Following are identified trends and how they may impact Township planning.

- **Trend:** In comparison with the surrounding four municipalities, Cohoctah Township has a low percentage of population that is age 65 and older. **Planning Implication:** Although the need does not appear to be great, a small portion of the Township could be master planned for senior living. Settlement areas in the Township are the logical location for senior uses because these areas offer more services (post office, stores, etc.) than more rural areas of the Township.
- **Trend:** Cohoctah Township has the third lowest number of rental housing units in Livingston County. **Planning Implication:** A small portion of the township could be master planned for high density multiple family uses such as rental housing.
- **Trend:** Cohoctah Township has a larger average household size and a larger average family size than most surrounding Livingston County communities. **Planning Implication:** Larger dwelling units may prevail in the Township. Future residential land use should accommodate family-scale housing. Future recreation planning should consider the activity needs of families.
- **Trend:** Compared with surrounding communities, Cohoctah Township has the lowest 1999 household median income and family median income. **Planning Implication:** The Master Plan could allow for limited expansion of commercial and industrial development that may add employment opportunities in the community, thereby impacting income. Commercial and industrial future land use planning could concentrate on growth in agricultural-related commerce and industry.
- **Trend:** Agricultural activities figure prominently in the Cohoctah Township way of life. The twenty-seven (27) current Farmland and Open Space Preservation contracts in Cohoctah Township far outnumber most other Livingston County communities with the exception of Conway, Handy and Unadilla Townships. **Planning Implication:** A future land use classification in Cohoctah Township could encourage the continuation of agricultural activities.

Cohoctah Township Transportation Profile

This chapter of the Plan will address transportation issues within Cohoctah Township. This information is helpful when weighing the impacts of proposed development in the community.

Cohoctah Township is not highly accessible from a regional perspective. The center of Cohoctah Township is approximately nine (9) miles north of I-96, approximately thirteen (13) miles west of U.S. 23, and ten (10) miles south of I-69 between Lansing and Flint. State Highway M-59 which travels east-west is slightly closer to the Township at approximately 8 miles south of the Township, and State Highway M-52 which travels in a north-south direction, is approximately nine (9) miles to the west.

Existing Road Conditions

Cohoctah Township’s existing roadway system is predominantly made up of county primary and county local roads. County local roads are designed to receive traffic from the larger county primary roads and redistribute the traffic throughout the Township to dwelling units. Cohoctah Township contains 25.75 miles of county primary roads and 54.46 miles of county local roads. There are very few smaller roadways in Cohoctah Township, such as subdivision roads or private roads.

The surface of most roads in Cohoctah Township are gravel. The table below shows that Cohoctah Township has 60.88 miles of gravel roads as compared to only 19.33 miles of paved roadway. In comparison to surrounding Livingston County townships, Cohoctah Township has more paved roadway than Conway (13.13 miles) and Deerfield Townships (18.58 miles), but significantly less than Howell Township (35.19 miles). Interestingly, Cohoctah Township’s 80.21 total miles of county primary and local roadway is higher than most other Livingston County townships; only the more urbanized communities of Tyrone, Hartland, Brighton, Green Oak, Genoa and Hamburg Township have more total miles of county roadway.

| TABLE 4-1: COHOCTAH TOWNSHIP ROAD SURFACE TYPE (IN MILES) | | | | | | | | | |
|--|--------------------|-------------------|--------------------------|--------------------------|-----------------------|---------------------|-------------------|---------------------------|---------------------------|
| Primary Paved | Local Paved | Subs Paved | Total Local Paved | Total Roads Paved | Primary Gravel | Local Gravel | Subs Paved | Total Local Gravel | Total Roads Gravel |
| 17.95 | 1.13 | 0.25 | 1.38 | 19.33 | 7.80 | 53.08 | 0 | 53.08 | 60.88 |

Source: Livingston County Road Commission, December 2008

Livingston County Department of Planning’s publication *Gravel Road Capacity Analysis (2005)*, determined that Cohoctah Township has 69 county gravel road segments totaling 60.1 miles, which is approximately 10% of the county’s total 625 miles of gravel roadway. Cohoctah Township has more total gravel roadway than any other Livingston County community; only Conway Township comes close with 69 gravel road segments totaling 55.3 miles. In the analysis Livingston County Road Commission Gravel Road Inventory Field Worksheets were used to assess each gravel road segment and score it on the following five physical feature variables: width; surface type; width of the clear zone next to the road; speed of comfortable travel on the road; and road drainage. Letter grades were assigned to each gravel road segment in order to simplify its score.

The findings of the analysis as noted in the table on the next page, indicate that most of the gravel roads in Cohoctah Township are of good status. Eighty-nine percent (89%) are Grade B or higher as compared to sixty-three percent (63%) county-wide. This indicates that county gravel roads in Cohoctah Township are of better quality, and can accommodate more traffic, than the countywide average.

TABLE 4-2: COHOCTAH TOWNSHIP GRAVEL ROAD CAPACITY ANALYSIS

| Status of Cohoctah Township Gravel Road Segments | Number of Gravel Road Segments | Percentage of Gravel Road Segments |
|--|--------------------------------|------------------------------------|
| Grade A | 15 | 22% |
| Grade B | 46 | 67% |
| Grade C | 6 | 9% |
| Grade D | 2 | 3% |
| Grade E | 0 | 0% |
| Number of Segments | 69 | 100% |

Source: Livingston County Department of Planning, 2005

TABLE NOTES:

Grade A – Has the appearance of a paved road. There are many layers of hard packed limestone chips. The widths are wide enough to allow traffic to travel at moderate speeds without slowing down. The surface has been treated to stabilize dust and provide proper drainage. No sign of road distress. Examples of Grade A Roads in Cohoctah Township: Partial segments of Byron, Fleming, and Owosso.

Grade B – Has good crown and drainage. There may be some loose aggregate or slight washboarding. The width still allows for vehicles to travel in both directions without slowing down for each other. Examples of Grade B Roads in Cohoctah Township: Chase Lake, Gannon, and Bohm.

Grade C – Width allows for two-way traffic, but only at slow speeds. The aggregate surface is fairly loose which can mean moderate dust and an obstruction of vision. Moderate washboarding (1 to 2 inch holes) may be present. Drainage may be a concern in small areas of the roadway, particularly in the springtime months after heavy rains. Examples of Grade C Roads in Cohoctah Township: Crandal, Handy and Maxwell.

Grade D – Has significant ponding problems after rains. Width is too narrow for two-way traffic. Loose aggregate, which causes excessive dust in dry times. Potholes, rutting and washboarding may be fairly severe. Examples of Grade D Roads in Cohoctah Township: Jones, and Elm.

Additional findings in the analysis determined that nine (9) gravel road segments in Cohoctah Township are currently over capacity. This represents thirteen percent (13%) of the township's gravel road segments as compared to eighteen percent (18%) county-wide. These segments represent various grades of gravel roadway, as depicted in the table below.

TABLE 4-3: COHOCTAH TOWNSHIP GRAVEL ROADS CURRENTLY OVER CAPACITY

| Name of Gravel Road Segment | Location of Gravel Road Segment | Status of Cohoctah Township Gravel Road Segments |
|-----------------------------|--|--|
| Burkhart | Between Allen & Chase Lake West of Geer | B |
| Burkhart | Chase Lake West of Geer & Schrepfer/Burkhart Cut-off | B |
| Byron | Between Allen & Chase Lake | B |
| Chase Lake | Between Fleming & Owosso | B |
| Chase Lake | Between Burkhart/Schrepfer & Antcliff | B |
| Durand | Between Cohoctah & Richards | A |
| Durand | Between Richards & Lovejoy | A |
| Owosso | Between Chase Lake & Sherwood | A |
| Sanford | Between Oak Grove S. & Faussett | B |

Source: Livingston County Department of Planning, 2005

Transportation Improvements

The Transportation Improvement Program (TIP) for Southeast Michigan is a listing of all transportation projects receiving federal funding in Southeast Michigan. The TIP contains the short-range transportation projects due to be completed from 2008 – 2011; projects that are in keeping with the 2030 Regional Transportation Plan for Southeast Michigan (RTP). The 2035 RTP is the long-range vision for the transportation network in the seven-county Southeast Michigan region. It serves as a guide for developing a transportation system that is accessible, safe, and reliable and contributes to a higher quality of life for the region’s citizens. The Plan is necessary to meet requirements allowing federal transportation money to be spent in the region. It contains \$41 billion in federal, state, and local funding for road and transit projects for funding year 2005 – 2030, as well as policies and initiatives designed to guide the region forward.

The TIP lists short-range regional transportation projects receiving federal funding, and the 2030 RTP conveys the long-range vision for the regional transportation network

The TIP does not list any short-range transportation projects for Cohoctah Township, other than county-wide gravel road reconstruction which may involve some road segments in the township. Similarly, the RTP does not contain any transportation projects specific to Cohoctah Township; however, it does contain county-wide projects that will benefit Cohoctah Township residents.

Traffic Volumes

Two-way, twenty-four hour traffic counts for roads within Cohoctah Township are recorded by the Livingston County Road Commission and by the Michigan Department of Transportation. The traffic count data in the table below and on the next page, shows that the most recent traffic counts in Cohoctah Township were taken in the years 2008 and 2009. During this time period twenty (20) segments of roadway in the township had traffic counts of over one thousand (1,000). The majority of these high traffic count roadway segments are hard top roads, implying that an increase in traffic volume occurs if the roadway is paved.

TABLE 4-4: 2008 AND 2009 COHOCTAH TOWNSHIP TRAFFIC COUNTS GREATER THAN 1,000

| Year of Traffic Count | Traffic Count | Road | Road Segment |
|-----------------------|---------------|------------|--|
| 2009 | 1,107 | Chase Lake | From Handy To Byron |
| 2009 | 1,029 | Chase Lake | From Geer E. To Handy |
| 2008 | 1,061 | Chase Lake | From Byron To Oak Grove |
| 2009 | 1,717 | Cohoctah | From Durand To Oak Grove S. |
| 2009 | 1,420 | Cohoctah | From Byron To Durand |
| 2008 | 2,271 | Cohoctah | From Oak Grove S. to Oak Grove N/Stelzer |
| 2009 | 1,460 | Faussett | From Sanford to Larch |
| 2009 | 1,223 | Faussett | From Larch To Fisher |
| 2009 | 4,962 | Oak Grove | From Allen Road To Sanford S. |
| 2009 | 2,573 | Oak Grove | From Sanford N. To Chase Lake |
| 2009 | 4,164 | Oak Grove | From Preston To Sanford E. |

**Table 4-4: 2008 AND 2009 COHOCTAH TOWNSHIP TRAFFIC COUNTS
GREATER THAN 1,000**

| Year of Traffic Count | Traffic Count | Road | Road Segment |
|-----------------------|---------------|-----------|--|
| 2008 | 4,071 | Oak Grove | From Sanford N./Oak Grove S. To Jacob Hill |
| 2009 | 3,164 | Oak Grove | From Chase Lake To Jones |
| 2009 | 2,905 | Oak Grove | From Stelzer To Gannon |
| 2009 | 2,705 | Oak Grove | From Gannon To Cohoctah |
| 2009 | 3,079 | Oak Grove | From Jones To Stelzer |
| 2009 | 1,881 | Oak Grove | From Cohoctah To Richards |
| 2009 | 1,858 | Oak Grove | From Richards To Lovejoy |
| 2009 | 1,443 | Owosso | From Allen to Chase Lake |
| 2009 | 1,534 | Sanford | From Oak Grove S. To Faussett |

Source: Livingston County Road Commission and Michigan Department of Transportation. Each count was taken during a continuous 24-hour period. Each count represents a two-way total on the road segment.

The traffic counts offer a good indication of where traffic volumes are the greatest in Cohoctah Township. The greatest traffic flows are found along the following six (6) township roadways: Oak Grove; Sanford; Chase Lake; Cohoctah; Faussett; and Durand. The majority of these roadways (4) are paved primary roadway, while two (2) roadways are local gravel (Sanford and Durand). (see Map 2 Cohoctah Township Traffic Counts, 2007 – 2008) at the end of this chapter.

Cohoctah Township's highest 2007/2008 traffic counts are on 4 paved primary roadways and 2 gravel local roadways.

Different facilities and land uses have been shown to generate different amounts of traffic. Any facility or land use which attracts or causes traffic is known as a traffic generator. By using a process known as trip generation it is possible to

estimate the volume of trips going to or leaving a particular facility or land use. The Institute of Transportation Engineers (ITE) has calculated trips for a variety of uses, which are listed below as a reference for future development. In this table, Peak Hour Trips refer to the p.m. hours of 4 p.m. to 6 p.m. A "trip" is a one-way movement; for instance 10 trips = 5 in + 5 out. For example, if a development is proposed with ten new single family homes, the expected traffic generated daily (on weekdays) would be around 96 one-way vehicle trips (9.57 x 10 homes). During peak evening hours, about 10 trips can be expected for the development (1.02 x 10 homes).

Traffic impact studies look at a proposed project and estimate the number of vehicle trips the project will generate. The table below is applied, along with an analysis of what direction traffic will approach from, and a review of the site plan for access and circulation issues. Traffic impact studies will be developed by a qualified preparer with experience and background in traffic-related analyses. Cohoctah Township will consider requiring traffic impact studies for any project that may cause or attract traffic such as medium to large sized residential developments.

| TABLE 4-5: TRAFFIC GENERATOR CHARACTERISTICS | | |
|---|-------------------------|-----------------------------|
| Type of Land Use | Peak Hour Trips* | Average Daily Trips* |
| Residential Uses (per unit) | | |
| Single Family Home | 1.02 | 9.57 |
| Apartment | .67 | 6.63 |
| Condominium | .54 | 5.86 |
| Mobile Home | .58 | 4.81 |
| Commercial Uses (per 1,000 sq. ft. floor area, if not otherwise noted) | | |
| Hardware/Paint Store (per employee) | 5.43 | 53.21 |
| Convenience Market (open 15-16 hours) | 36.22 | 31.02 |
| Supermarket | 12.02 | 111.51 |
| Fast Food Restaurant (with drive-thru) | 46.28 | 496.12 |
| Service Station (per pump) | 16.18 | 168.56 |
| Drugstore (without drive-thru) | 8.62 | 90.06 |
| Industrial Uses (per employee) | | |
| Light Industrial | .51 | 3.02 |
| Heavy Industrial | .40 | .82 |
| Industrial Park | .45 | 3.34 |
| Manufacturing | .40 | 2.10 |
| Warehousing | .58 | 3.89 |

Source: ITE Generation Manual 6th Edition

Traffic Accidents

The Southeast Michigan Council of Governments (SEMCOG) traffic crash data reveals that several intersections in Cohoctah Township have sustained a high number of accidents over the last five years between 2004 and 2008. The ten intersections in the Township that have incurred the most vehicle accidents, are listed in the table below.

| TABLE 4-6: TOP TEN HIGH CRASH INTERSECTIONS IN COHOCTAH TOWNSHIP 2004-2008 | | |
|---|--------------------------------------|--|
| Intersection | Total Crashes 2001 - 2005 | Year That The Most Crashes Occurred |
| Chase Lake Road @ Oak Grove Road | 15 | 2006 (5 crashes) |
| Allen Road East @ Oak Grove Road | 10 | 2005 (4 crashes) |
| Gannon Road @ Oak Grove Road | 10 | 2004 (4 crashes) |
| Cohoctah Road West @ Oak Grove Road | 8 | 2005 and 2008 (3 crashes per year) |
| Faussett Road @ Sanford Road | 7 | 2005 (3 crashes) |
| Antcliff Road North @ Gannon Road | 7 | 2004 (3 crashes) |
| Allen Road West @ Burkhart Road North | 6 | 2005 and 2006 (2 crashes per year) |
| Chase Lake Road West @ Owosso Road North | 6 | 2007 and 2008 (2 crashes per year) |
| Hayner Road West @ Owosso Road North | 6 | 2004 and 2005 (2 crashes per year) |
| Oak Grove Road @ Stelzer Road | 5 | 2005 (2 crashes) |

Source: Southeast Michigan Council of Governments

Note: This crash report includes all crashes occurring within 250 feet of the intersection.

During the five year span a total of Eighty (80) accidents have occurred at these intersections. Intersections that included Oak Grove Road figured most prominently in the highest crash intersections (5 out of 10 intersections). Two of the Oak Grove Road intersections, at Chase Lake Road and at Gannon Road, have incurred at least one traffic crash per year between 2004 – 2008.

There were no fatalities recorded at any of these ten intersections during the five year time period. Out of the 80 crashes occurring at these intersections, only 1 resulted in a crash in which the worst injury was incapacitating, 6 resulted in a crash in which the worst injury was a non-incapacitating injury, 7 resulted in a crash in which there was possible injury, and the bulk of crashes resulted in property damage only (66 or 82.5%).

The majority of accidents at these intersections involved a single vehicle. Deer were involved in a total of 28 crashes or approximately 35% of all the crashes at these ten intersections. Alcohol played a part in 4 of the total 80 crashes and commercial trucks were involved in another 2 crashes.

SEMCOG's 2004-2008 traffic crash data by road segment is depicted in the table below. This data reveals that four hundred and fifty-seven (457) accidents have occurred on the township's top ten (actually 11) highest crash road segments over the five year span. The vast majority of accidents (130) have occurred on Oak Grove Road from Chase Lake Road to Cohoctah Road West.

| Table 4-7: TOP TEN HIGH CRASH ROAD SEGMENTS IN COHOCTAH TOWNSHIP 2004-2008 | | |
|---|--------------------------------------|--|
| Road Segment | Total Crashes 2001 - 2005 | Year That The Most Crashes Occurred |
| Oak Grove Road from Chase Lake Road to Cohoctah Road West | 130 | 2004 (34 crashes) |
| Faussett Road from Sanford Road to Latson Road North | 48 | 2007 (14 crashes) |
| Oak Grove Road from Sanford Road to Marr Road West | 45 | 2005 (19 crashes) |
| Burkhart Road North from Marr Road West to Chase Lake Road | 44 | 2008 (13 crashes) |
| Cohoctah Road West from Antcliff Road North to Oak Grove Road | 35 | 2006 (10 crashes) |
| Byron Road from Marr Road West to Chase Lake Road | 34 | 2004 (11 crashes) |
| Hayner Road West from Fowlerville Road North to Hayner/Fleming Cutoff | 31 | 2004 (8 crashes) |
| Oak Grove Road from Preston Road to Chase Lake Road | 27 | 2007 (9 crashes) |
| Oak Grove Road from Stelzer Road to Lovejoy Road | 25 | 2005 (8 crashes) |
| Antcliff Road from Chase Lake Road to Antcliff Road North | 19 (tie) | 2004 (8 crashes) |
| Chase Lake Road from Fowlerville Road North to Geer Road | 19 (tie) | 2005 (6 crashes) |

Source: Southeast Michigan Council of Governments

Note: Road segments extend beyond the township boundaries.

There were two fatalities reported in the 457 crashes occurring on the eleven high crash road segments. The fatalities occurred on Oak Grove Road between Sanford Road and Marr Road West, and on Chase Lake Road between Fowlerville Road North and Geer Road. However, the majority

(89%) of accidents resulted in property damage only. The largest contributing factor to these crashes were deer. Sixty-four percent (64%) of the 457 crashes involved deer.

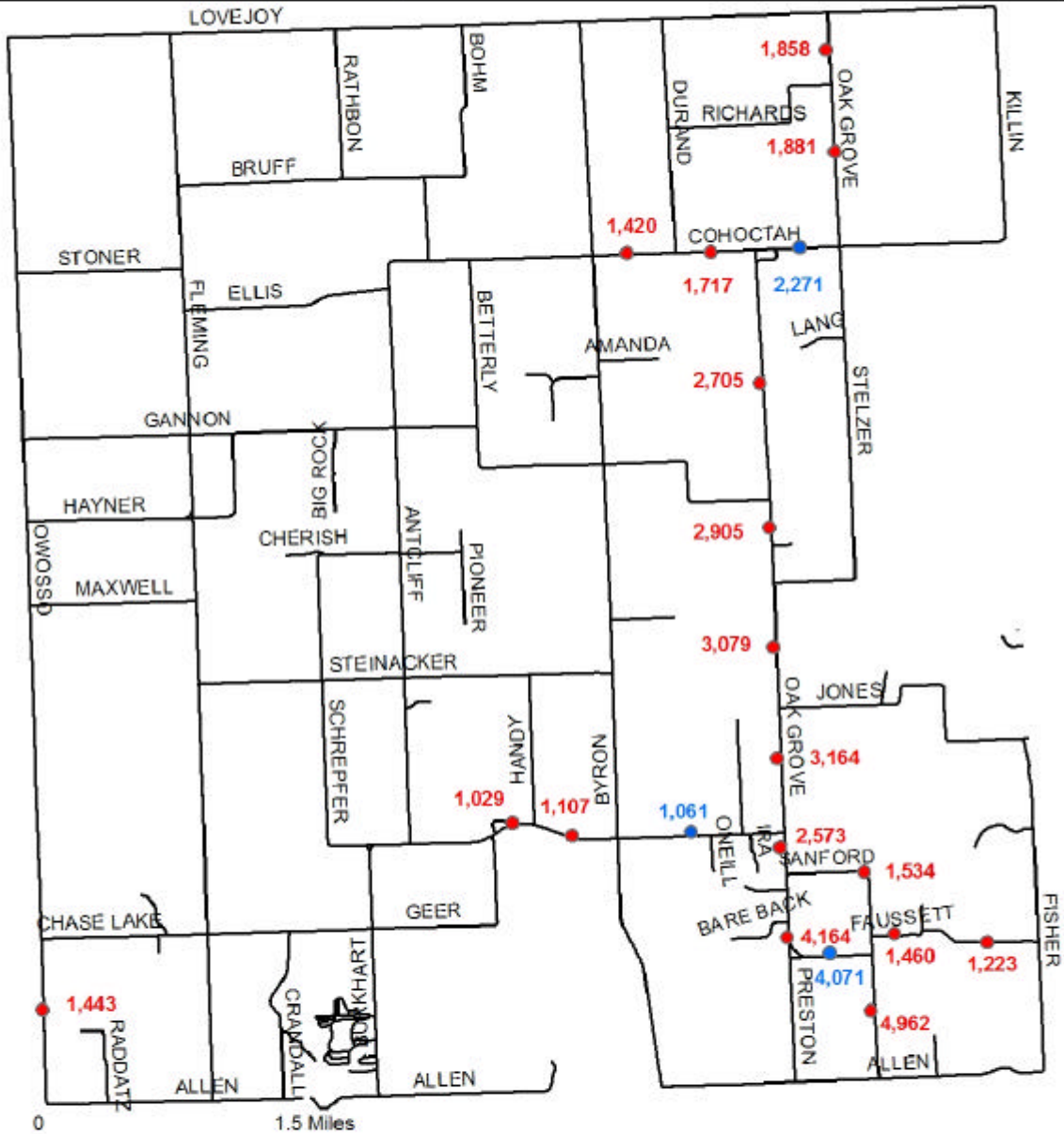
Other Transportation Resources

The only existing public transportation available to Cohoctah residents, is a county-wide small bus dial-a-ride service from Livingston Essential Transportation Service (L.E.T.S.). L.E.T.S. has lift-equipped small buses that provide service within the county, limited service for persons to county dialysis centers, and a regional service for medical appointments in Ingham, Genesee, Oakland and Washtenaw Counties. Persons with a documented disability or who are at least 60 years of age, ride at a reduced fare.

Maple Grove Airport in neighboring Conway Township is the closest public airport to Cohoctah Township. This small, privately owned airport is located near the Conway/Cohoctah township line on Sherwood Road. The Spencer J. Hardy Airport, located in Howell Township, is another public airport within close proximity of the Township. This airport is owned and operated by Livingston County government. The Capital City Airport in Lansing and Bishop International Airport in Flint are the closest public airports with commercial airline passenger service.

Cohoctah Township has one active railroad line. The Great Lakes Central Railway (GLC) freight carrier travels north/south from the City of Ann Arbor through the City of Howell and northward through Cohoctah Township into Shiawassee County.

Map 2 Cohoctah Township Traffic Counts, 2008 - 2009



Legend

- 2008 Traffic Count
- 2009 Traffic Count

Prepared by: Livingston County
 Department of Planning, July 2010
 Source: Southeast Michigan Council
 of Governments (SEMCOG)
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Cohoctah Township Natural Features

The natural environment forms the basis of a community's development. It is important to inventory the natural features of Cohoctah Township in order to allow the community to grow in a manner that preserves the natural features that attracted people to the community in the first place. The following inventory is an important tool in deciding land use issues, guiding future growth and development, and preventing the destruction of valuable natural features. Development in the Township should be directed to areas that are most capable of sustaining physical changes to the landscape without negatively impacting the community's natural features. Conversely, those areas of the Township that contain valuable natural features should be master planned for less intensive development.

Geology and Topography

The bedrock of the eastern part of the Upper Peninsula and the entire Lower Peninsula of Michigan is made up of Paleozoic and Mesozoic sedimentary rocks of Cambrian to Jurassic age. These gently dipping rocks constitute a large geological structure known as the Michigan basin. The Paleozoic rocks of the Michigan basin contain important resources of petroleum, limestone, dolomite, shale, salt and gypsum.

Repeated advances of large continental glaciers during Pleistocene time eroded and broke down soil and rocks and then redeposited this material as sediments as the glaciers melted and retreated. Most of Michigan is covered by glacial sediments or gravels, sands, and clays derived from them. Virtually all of the geographic and topographic features of Michigan, particularly of the Lower Peninsula, were shaped by glacial and melt water action^a.

The vast majority of Cohoctah Township sits upon bedrock composed of Coldwater Shale. A very small portion of the Township at the northern edge of Sections 1,2,3 sits upon bedrock composed of Marshall Sandstone. Both types of bedrock are composed predominantly of shales and they were created during the Paleozoic Era.

The elevation of Cohoctah Township ranges from a low 840 to a high of 960 feet above sea level. The topography throughout most of the township varies between 850 and 895 feet. The lowest spot in the Township at 840 ft. is near the juncture of Bogue Creek and C&C Union drains in Section 24. The highest spot in the Township at 960 ft. is near the middle of Section 31 in the southwest corner of the Township.

Cohoctah Township is generally level with few locations of steep slopes (>18%). Steep slopes are most abundant in the southern half of the Township where the majority of the township lakes and streams are located. The only exception to this pattern is Section 4 in the northern tier of Cohoctah Township sections.

Steep slopes of > 18% tend to be more concentrated in the southern half of Cohoctah Township near lakes and streams

Areas that contain steep slopes should remain undisturbed. These areas should be viewed as natural and aesthetic open space areas. If development should occur, sensitive site planning would be required along these slopes to prevent soil erosion. Care must be taken to ensure that extensive grading is minimized and to ensure that other natural features such as vegetation and topsoil are retained (see Map 3 Cohoctah Township Steep Slope Classifications).

^a Michigan Department of Environmental Quality (MDEQ), Geological and Land Management Division (GLMD), 2003

Soils and Septic Limitations

According to the Soil Survey of Livingston County, Michigan, soils in Cohoctah Township consist of five soil Associations: Miami-Conover, Miami-Brookston, Miami-Hillsdale, Carlisle-Houghton-Gilford, and Spinks-Oakville-Boyer-Oshtemo (see Map 4 Cohoctah Township General Soil Associations). Each soil association is comprised of more than one kind of soil as described below.

Miami-Conover soils are the dominant soil association in Cohoctah Township and throughout Livingston County. This soil association makes up about 33 percent of county soils. This soil association can be characterized as follows: *Nearly level to strongly sloping, well-drained and somewhat poorly drained, medium-textured soils on till plains and moraines.* About 35 percent of the Miami-Conover association is made up of Miami soils, about 15 percent of Conover soils and about 50 percent of minor soils. The minor soils in this association are Owosso, Metea, Metamora, Brookston, and Carlisle. This soil association is present throughout the middle and southern portions of the Township in Sections 18 – 36. Sections 19, 20, 29 and 30 consist entirely of this soil association. Most areas of these soils are used as cropland, pasture and woodland.

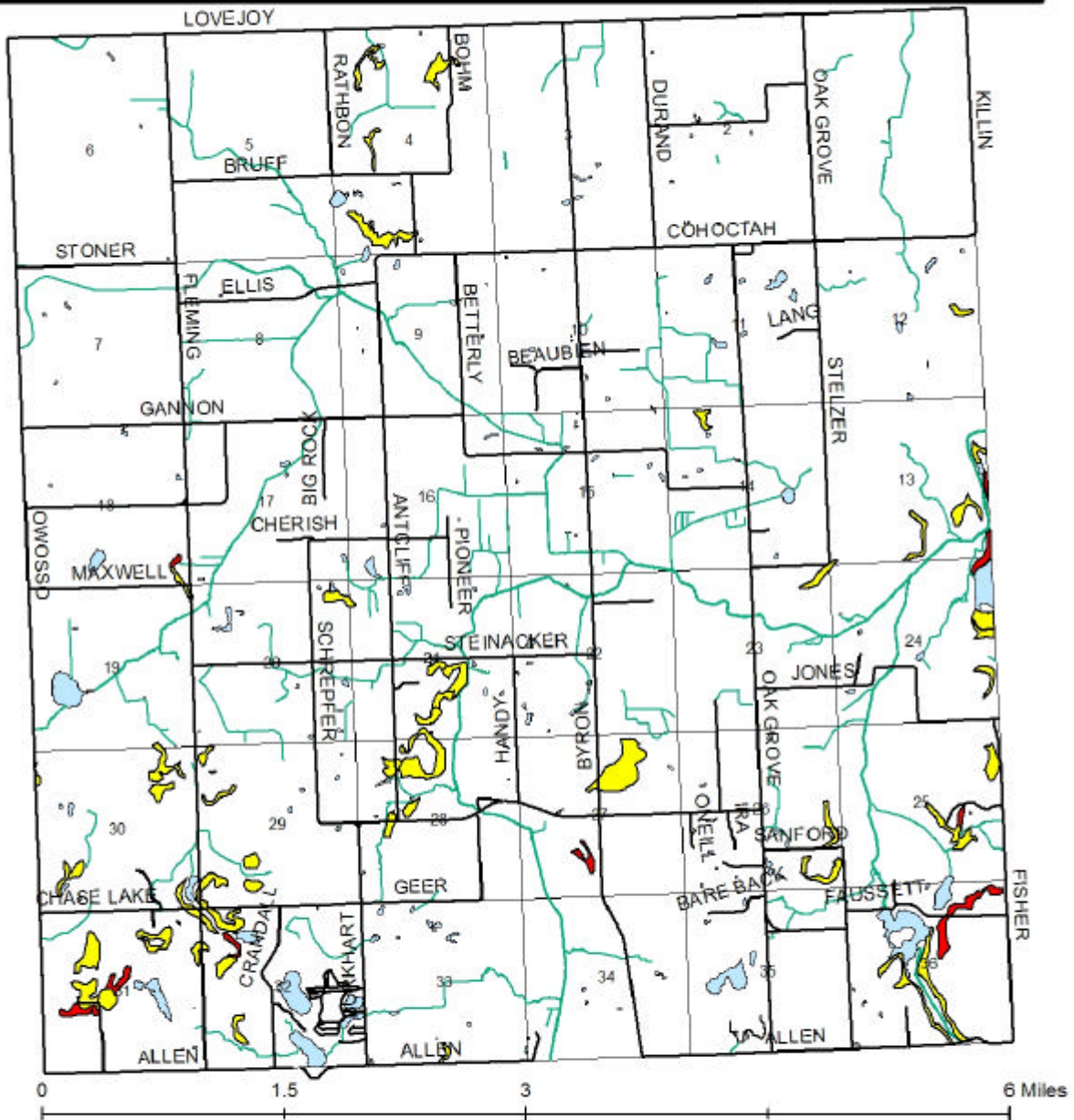
The second largest soil association in Cohoctah Township is Miami-Brookston. This soil association comprises about 4 percent of the county. About 50 percent of the association is made up of Miami soils, about 25 percent of Brookston soils, and about 25 percent of minor soils. The minor soils in this soil association are Hillsdale, Metamora, Locke, and Linwood. Miami-Brookston soils can be described as: *Nearly level to gently sloping, well-drained and poorly drained, medium-textured soils on till plains.* This soil association is found throughout the northern half of the Township in Sections 1 – 12 and 16 – 18. Sections 2,3,6 and 8 consist entirely of Miami-Brookston soils. Most areas of these soils are used as cropland, pasture and small woodlots.

Miami -Hillsdale soils can be characterized as follows: *strongly sloping to hilly, well-drained, medium-textured and moderately coarse textured soils on moraines and till plains.* County-wide this soil association makes up about 6 percent of the soils. The major soils in this association are Miami soils (50 percent), and Hillsdale soils (30 percent). Minor soils make up about 20 percent of the soil association and include Conover, Brookston, Spinks, Fox, Boyer, and Carlisle. This soil association is present only in the northeast corner of Cohoctah Township in Sections 1 and 12. The less sloping areas of these soils are used for crops while the more hilly areas are used for pasture, as woodland, and for recreation.

Carlisle-Houghton-Gilford soils comprise about 19 percent of the county. This soil association can be described as follows: *Nearly level, very poorly drained, organic soils and moderately coarse textured soils on outwash plains, in glacial drainageways, and on lake plains.* The major soils in this association are Carlisle (45 percent), Houghton (10 percent), Gilford (10 percent) and minor soils (35 percent). The minor soils in this association are Wasepi, Colwood, Brady, and Bronson. This soil association extends in a ribbon from the southeast corner to the middle of the Township. Land use in this soil association varies, most of the land area is idle or used as woodlands. Some areas are used as cropland and pasture, if adequately drained.

Three smaller areas of the Spinks-Oakville-Boyer-Oshtemo association are found in the Township in both the northern and southern halves of the Township. This soil association can be characterized as follows: *Strongly sloping to hilly, well-drained, coarse-textured soils dominantly on moraines.* Across the county this soil association makes up about 6 percent of the soils. About 50 percent of the association is made up of Spinks-Oakville loamy sands, about 40 percent Boyer-Oshtemo and about 10 percent minor soils consisting of Fox, Brady, Rifle and Tawas. Most areas of these soils are idle or are used for woodland or recreation. The soils are poorly suited for crops grown in the area, and are only moderately well suited to pasture and as woodland.

Map 3 Cohoctah Township Steep Slope Classifications



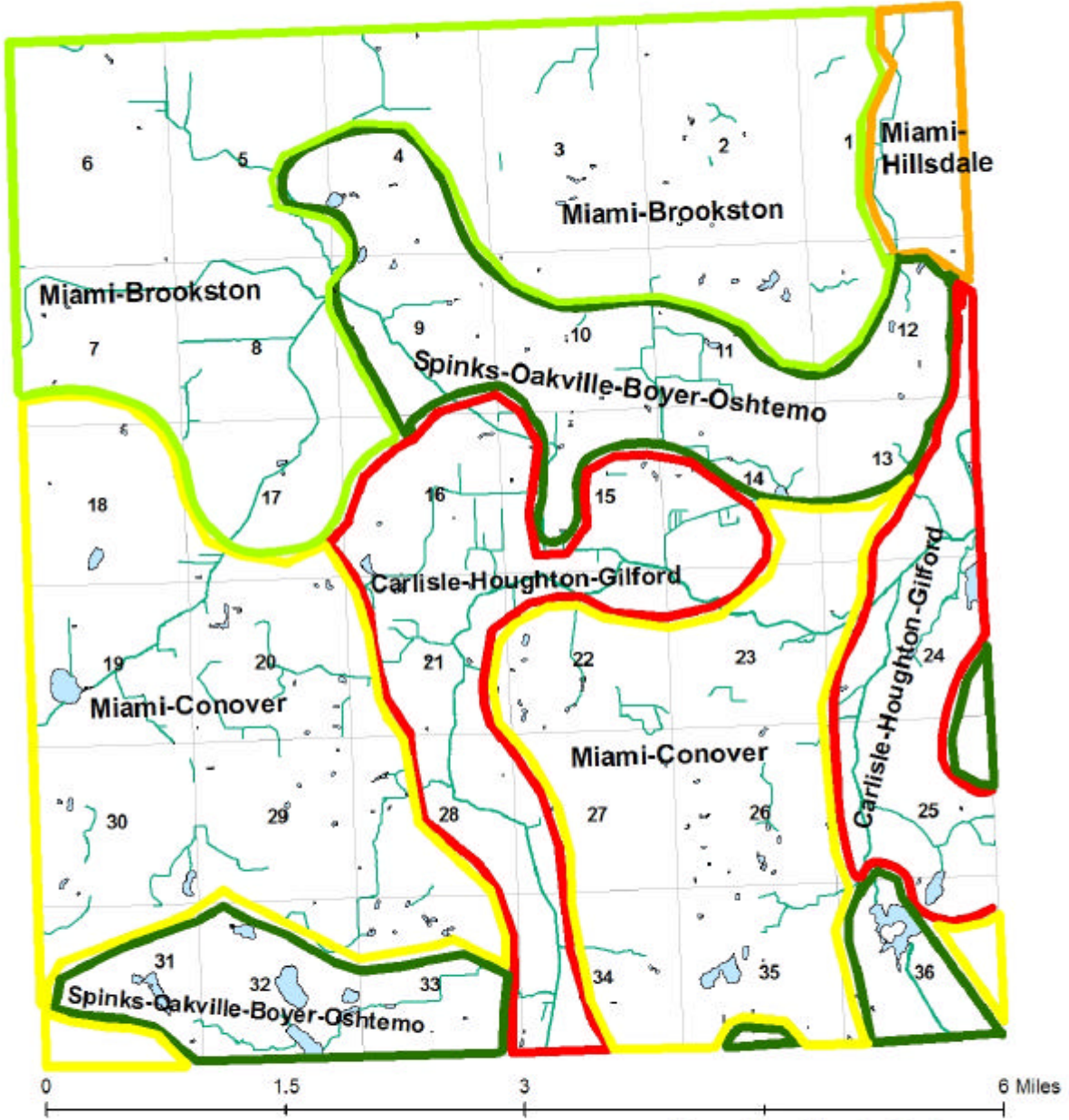
| Legend | |
|--------|--------------------|
| | Cohoctah_rivers |
| | Cohoctah_lakes |
| | Cohoctah_sections |
| | Cohoctah Roads |
| | Slopes of 18 - 25% |
| | Slopes of 25 - 35% |

Prepared by: Livingston County
 Department of Planning, July 2009
 Source: USDA Soil Survey of Livingston
 County, Michigan

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Map 4 Cohoctah Township General Soil Associations



| Legend | |
|---|-------------------------------|
| — | Miami-Conover |
| — | Miami-Brookston |
| — | Carlisle-Houghton-Gilford |
| — | Spinks-Oakville-Boyer-Oshtemo |
| — | Miami-Hillsdale |

Prepared by: Livingston County
 Department of Planning, July 2009
 Source: USDA Soil Survey of Livingston
 County, Michigan

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In these five general soil associations, each soil has a different capacity for drainage and therefore a varying ability to support onsite septic disposal. A map of the septic limitations of these soils is a great tool to use when deciding where to direct development. Areas under greater septic constraints should be planned for less density (see Map 5 Cohoctah Township Septic Limitations). Another useful tool is the table below which illustrates whether the most common soil types in Cohoctah Township have Slight, Moderate or Severe limitations for septic systems.

TABLE 5-1: SOILS CLASSIFIED BY SEPTIC SYSTEM LIMITATIONS

| Slight (soil name and slope) | Moderate (soil name and slope) | Severe (soil name and slope) |
|---|--|--|
| BrA Boyer loamy sand (0-2%) | BuA Brady loamy sand (0-2%) Moderate to Severe | By Brookston loam (0-2%) |
| BrB Boyer loamy sand (2-6%) | BwA Bronson loamy sand (0-2%) | BtE Boyer-Oshtemo loamy sand (18-25%) |
| BrC Boyer loamy sand (6-12%) | BsA Boyer loamy sand, silty (0-2%) | BtF Boyer-Oshtemo loamy sand (25 - 35%) |
| BtA Boyer-Oshtemo loamy sand (0-2%) | BsB Boyer loamy sand, silty (2-6%) | Cc Carlisle muck (0-2%) |
| BtB Boyer-Oshtemo loamy sand (2-6%) | BtD Boyer-Oshtemo loamy sand (12-18%) | Cr Colwood fine sandy loam (0-2%) |
| BtC Boyer-Oshtemo loamy sand (6-12%) | FrD Fox Boyer Complex (12-18%) | CvA Conover Loam (0-2%) |
| FoA Fox sandy loam (0-2%) | HID Hillsdale sandy loam (12-18%) | CvB Conover Loam (2-6%) |
| FoB Fox sandy loam (2-6%) | MnA Metea loamy sand (0-2%) Moderate to Severe | CxA Conover –Miami Loams (0-2%) |
| FoC Fox sandy loam (6-12%) | MnB Metea loamy sand (2-6%) Moderate to Severe | Gd Gilford sandy loam (0-2%) |
| FrB Fox-Boyer complex (2-6%) | MnC Metea loamy sand (6-12%) Moderate to Severe | FrE Fox Boyer Complex (18-25%) |
| FrC Fox-Boyer complex (6-12%) | MoD Miami Loam (12-18%) | FrF Fox Boyer Complex (25-40%) |
| HdB Hillsdale loamy sand (2-6%) | OmA Owosso-Miami sandy loam (0-2%) | HIE Hillsdale sandy loam (18-25%) |
| HdC Hillsdale loamy sand (6-12%) | OmB Owosso-Miami sandy loam (2-6%) | Ho Houghton muck (0-2%) |
| HIB Hillsdale sandy loam (2-6%) | OmC Owosso-Miami sandy loam (6-12%) | Lm Linwood muck (0-2%) |
| HIC Hillsdale sandy loam (6-12%) | OmD Owosso-Miami sandy loam (12-18%) | LoB Locke sandy loam (0-4%) |
| HmB Hillsdale-Miami loams (2-6%) | SvD Spinks-Oakville loamy sands (12-18%) | MIB Metamora sandy loam (0-4%) |
| HmC Hillsdale-Miami loams (6-12%) | | MoE Miami Loam (18-25%) |
| MoA Miami Loam (0-2%) | | MoF Miami Loam (25-35%) |
| MoB Miami Loam (2-6%) | | Rf Rifle muck (0-2%) |
| MoC Miami Loam (6-12%) | | SvE Spinks-Oakville loamy sands (18-25%) |
| MrB Miami-Conover loams (2-6%) | | SvF Spinks-Oakville loamy sands (25-35%) |
| SvB Spinks-Oakville loamy sands (0-6%) | | Tm Tawas muck (0-2%) |
| SvC Spinks-Oakville loamy sands (6-12%) | | WeA Wasepi sandy loam (0-2%) |

Watersheds

A watershed is an area of land that drains to a common point. Ultimately a watershed drains into a particular watercourse or water body such as a Great Lake. The rationale for watershed management is that if we properly manage activities on the land that drains to bodies of water, we will protect and improve the water resources of the state.

Nearly all of Cohoctah Township drains into the Shiawassee River Watershed, which drains to Lake Huron. The southwest corner of the Township is the only exception; this land area drains into the Grand Watershed which ultimately drains to Lake Michigan.

The headwaters of the Shiawassee River Watershed are primarily located in Livingston and Oakland counties. This watershed is one of the best examples of a warm-water river system in its eco-region. The watershed is about 742,400 acres in size. Its waters support over 40 species of fish, including darters, minnows, and channel catfish, and 12 species of freshwater mussel. The river also plays an integral role in the travels of migratory waterfowl and shorebirds. The swamps and fens adjacent to the river's headwaters support several globally rare species, including the Indiana bat, eastern massasauga rattlesnake, Blanding's turtle, and insects such as the powesheik skipperling.^b

Lakes, Ponds, Rivers, Creeks and Drains

Surface water in the township is in the form of lakes, ponds, rivers, creeks and drains. There are 8 small lakes and ponds in Cohoctah Township that consist of 5 acres or more; they are described in the following table:

| TABLE 5-2: COHOCTAH TOWNSHIP LAKES AND PONDS OF 5 ACRES OR MORE | | | | |
|--|-------------------|----------------|----------------------------------|----------------------|
| Lake Name | Section(s) | Acreage | Maximum Depth In Feet | Public Access |
| Schuler | 4,5 | 7.2 | Unk. | No |
| Sabine | 19 | 18 | Unk. | No |
| Hidden | 24 | 5.3 | Unk. | No |
| Lake Cohoctah/ Sandy Bottom | 32 | 21 | Unk. | No |
| Cook | 32 | 6.2 | 15 | No |
| Mud | 32 | 8.1 | Unk. | No |
| Oak Grove Mill Pond | 36 | 49 | 8 | No |
| Hosley Pond | 36 | 13 | Unk. | No |

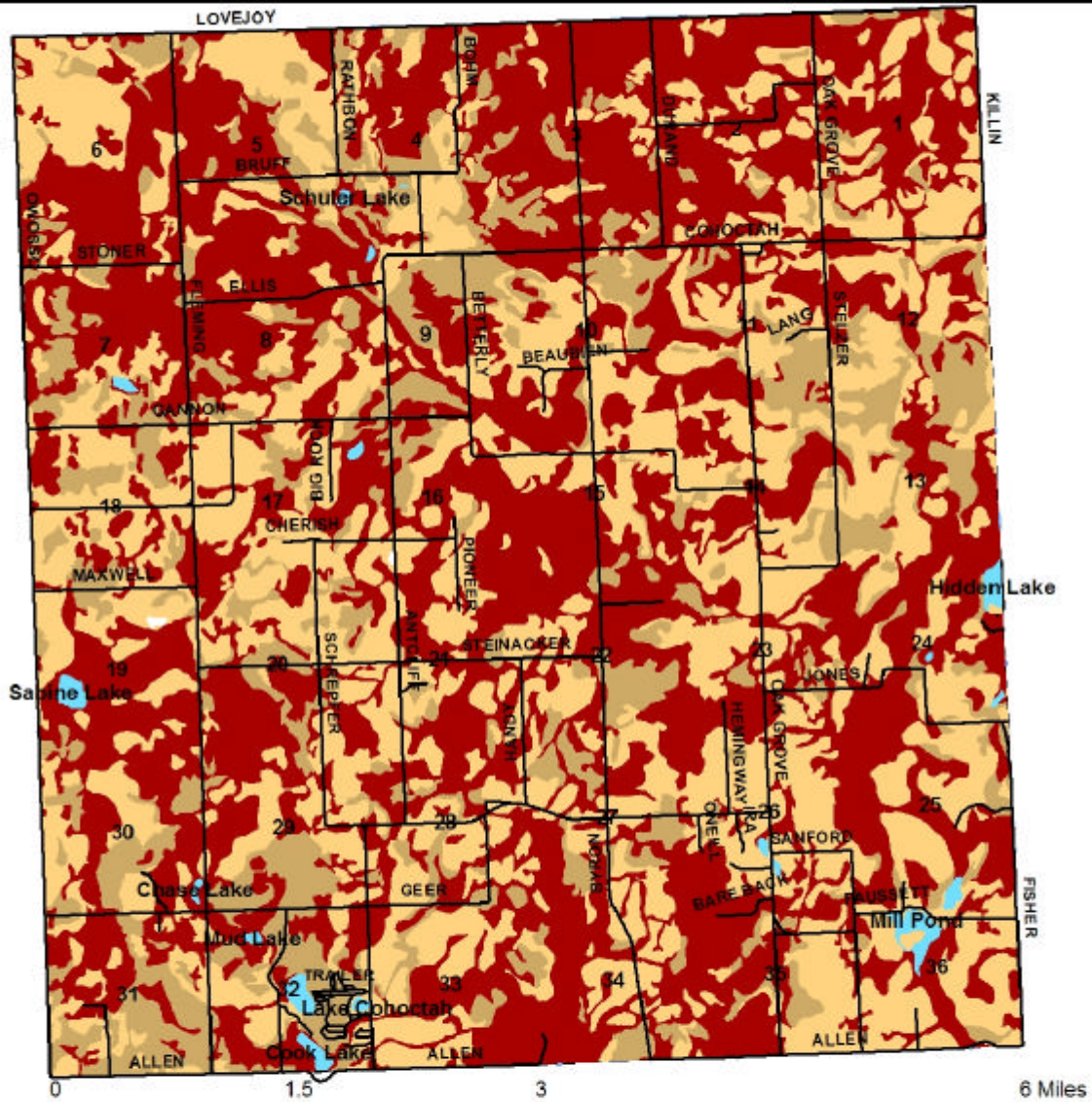
Source: Michigan Lake Inventory Bulletin No. 47 by Humphrys and Green

Lake and pond resources in Cohoctah Township can be described as small and scattered throughout the Township. None of these water resources have public access. The largest water bodies, Lake Cohoctah/Sandy Bottom Lake and the Oak Grove Mill Pond, are found in the southern most tier of the Township in Sections 32 and 36. Lake Cohoctah/Sandy Bottom Lake is the site of the Church of Nazarene camp.

Most of the lake lots in Cohoctah Township were created decades ago and they are very narrow in width. Many were constructed as summer homes but have been converted to year-round use. Dense

^b Shiawassee River Watershed, The Nature Conservancy website, 2009

Map 5 Cohoctah Township Septic Limitations



Legend

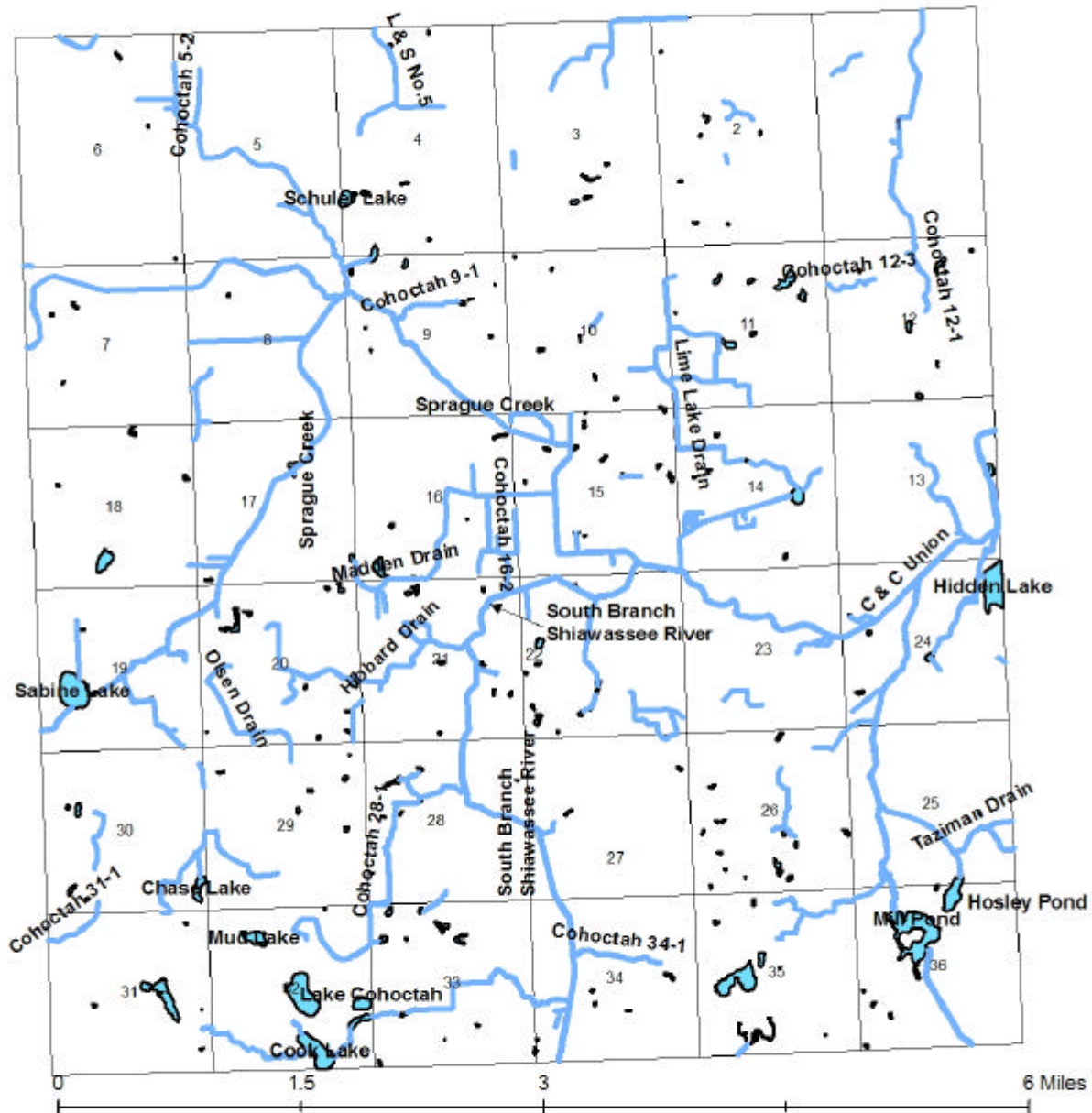
| | |
|--|-------------------|
| | Cohoctah_rivers |
| | Cohoctah_lakes |
| | Cohoctah_roads |
| | Cohoctah_sections |
| | Borrow Pits |
| | Gravel Pits |
| | Moderate |
| | Severe |
| | Slight |
| | Water |

Prepared by: Livingston County
 Department of Planning, July 2009
 Source: Soil Survey of Livingston County

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Map 6 Cohoctah Township Lakes, Ponds, Rivers, Creeks and Drains



Legend

- Cohoctah_rivers and drains
- Cohoctah_lakes
- Cohoctah_sections

Prepared by: Livingston County Department of Planning, July 2009
 Source: Livingston County Geographic Information System
 Note: Drains are noted with a label that contains a name and number, e.g. Cohoctah 31-1

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Lakefront development presents many environmental challenges. For instance, this type of development often results in groundwater contamination from septic systems located near lake shores in high water table areas. Surface waters are also polluted from runoff over impervious surfaces such as driveways, roads, and roofs. This runoff carries with it tar, rubber, salt, oil, gasoline, and other fluids from automobiles. Lakefront lawns also contribute to lake pollution by sending runoff into lakes that carries fertilizer, weed killer, insecticides and other chemicals with it.

The South Branch of the Shiawassee River roughly bisects the southern half of the township to its center, then runs eastward into Deerfield Township. Several tributaries, including Sprague Creek, and drains scattered around the township empty into the river. This combination of natural and manmade drainage, when combined with the township's wetlands, provides areas of water storage and dissipation (see Map 6 Lakes, Pond, Rivers, Creek and Drains).

Wetlands and Floodplains

Existing in many different forms such as bogs, marshes, and swamps, wetlands are one of the most important natural resources upon which a community depends. Wetlands are complex ecological systems that function in a number of beneficial ways. Wetlands reduce flood hazards by providing storm water storage. Wetlands that overlay groundwater recharge areas improve groundwater quality by filtering the water as it percolates through the soil. They act similarly near surface water by filtering run-off. They are also highly productive ecosystems which provide an essential habitat to much of Michigan's fish and wildlife at some time during their life cycles.

Wetland areas are interspersed throughout the township. The wetlands often act as transitional areas between the aquatic ecosystems and the surrounding uplands. The largest wetland systems are primarily adjacent to lakes or rivers. The largest wetland systems in the Township are associated with Sabine Lake and Sprague Creek in Section 19, the South Branch of the Shiawassee River in Sections 33, 34 and 27, and the Oak Grove State Game area in Sections 24 and 25.

There are three primary types of wetlands in Cohoctah Township: 1) emergent wetlands; 2) scrub/shrub wetlands; and 3) forested wetlands with an overstory of trees and an understory of shrubs. As water levels rise and fall, some ecological succession may be occurring as the wetlands shift from emergent marsh to forested wetlands.

Under Public Act 451 of 1994, certain wetland areas are protected more stringently by the Michigan Department of Environmental Quality. These include wetlands that are contiguous to an inland lake, pond, river, stream, or similar surface water feature and wetlands that are five acres or larger in area and located in counties which contain a population of at least 100,000 people, which includes Livingston County (See Map 7 Cohoctah Township Wetlands). Data for this map was compiled from the National Wetlands Inventory. Although this mapping data has proven to be highly accurate and helpful, the only foolproof way to identify wetlands is through a site visit.

Like most communities in Michigan, some areas of Cohoctah Township are susceptible to flooding. A floodplain is the low-lying area adjacent to a watercourse that is prone to flooding. Areas with a high degree of wet soils and limited drainage may also be susceptible to flooding. Periodic flooding of these areas is critical to the types of vegetation and animal species which live here. Floodplains also contain water during periods of high stream levels. Development in floodplains will be limited due to the inability to site septic systems and building foundations, and the threat of property damage. Any alteration to a floodplain will disrupt the drainage flow during high water periods and potentially divert flooding to other areas. Federal, state and local laws regulate encroachment, dredging and filling with flood plain areas. The middle of Cohoctah Township is where the largest floodplain area lies, surrounding the convergence of creeks, drains and the branches of the Shiawassee River (See Map 8 Cohoctah Township Floodplains).

Agricultural Land

Agricultural land serves a variety of benefits to the township. It provides locally grown food and important wildlife habitats. Beyond these obvious benefits, the township's agricultural land serves as a part of the rural atmosphere that attracts residents to Cohoctah Township, provides food for wildlife, helps to control flooding, protects wetlands and watersheds, and helps to maintain good air quality.

As explored in Chapter 3: Demographic Profile, Cohoctah Township farmers are active participants in the State of Michigan's P.A. 116 Farmland and Open Space Preservation program. Enrollment in this program is voluntary. A landowner agrees to preserve their land for agriculture in exchange for certain tax benefits and exemptions for various special assessments. An agreement runs with the land and is for a jointly agreed upon length of time (at least 10 years) There are currently twenty-seven (27) Farmland and Open Space Preservation contracts in Cohoctah Township which far outnumbers most other Livingston County townships.

Map 9 shows prime farmland in the township. Prime farmland soil types exhibit the following characteristics: zero to six percent slope, slight erosion hazard, slow runoff and moderately rapid to moderately slow permeability. Soils classified on the map as "prime farmland in drained areas" exhibit the same characteristics, but are subject to ponding and insufficient natural drainage. These soils are well suited to farming only if they are adequately drained. Soil types associated with Map 9 are listed in the table below. Prime farmland typically produces higher crop yields and may require less intensive management practices. The two largest crops grown in Cohoctah Township are corn and soybeans. The largest area of contiguous Prime Farmland soil is in the northeast corner of the Township primarily in Sections 1,2,3,11 and 12. This northeast area of Prime Farmland corresponds with the township quadrant that has the second highest number of P.A. 116 contracts.

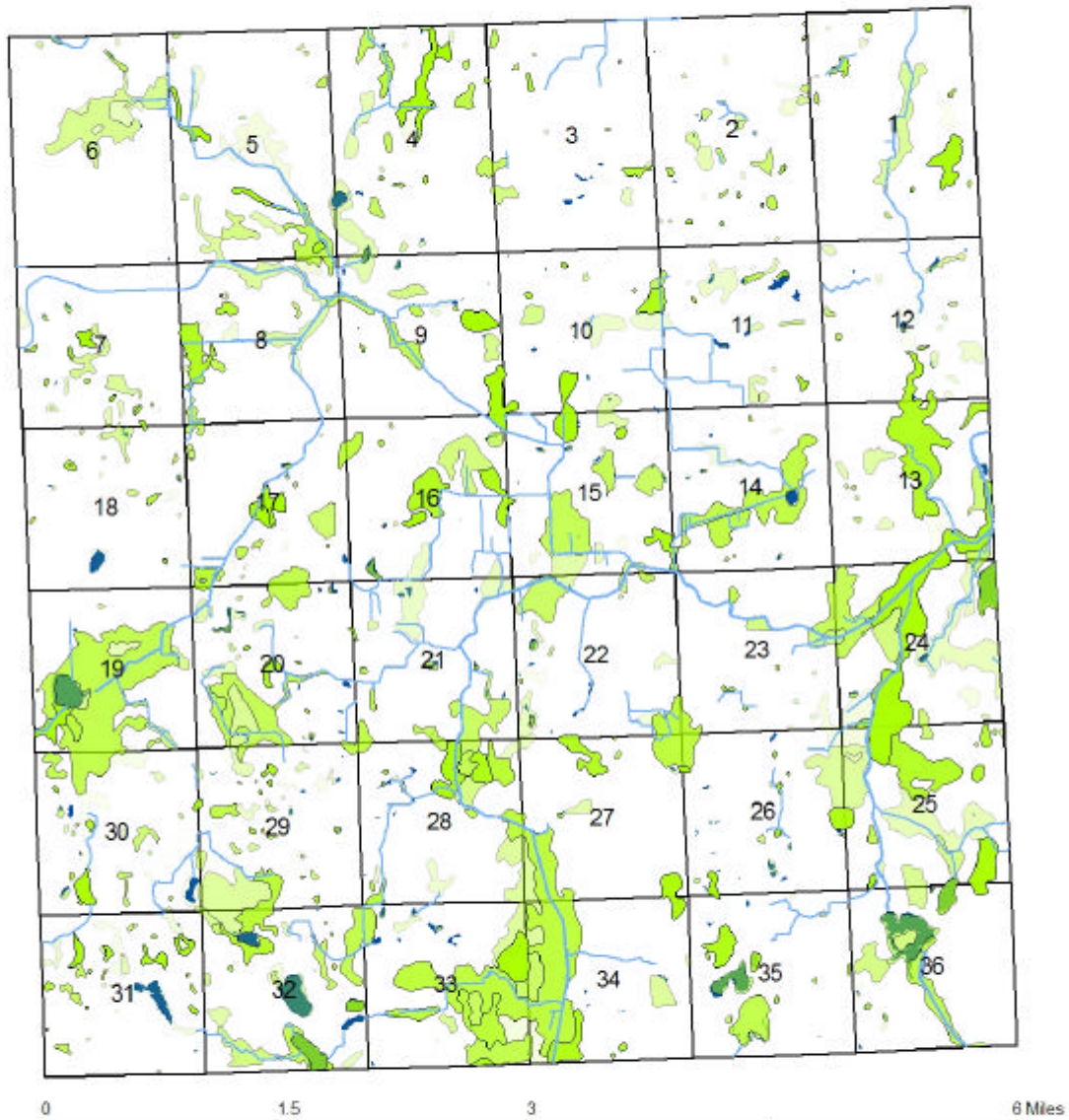
The *Soil Survey of Livingston County* contains detailed soil data descriptions and maps, as well as information on suitability for farming, development, wildlife, and other categories. The survey was developed by the Soil Conservation Service (a division of the United States Department of Agriculture (USDA) Natural Resources Conservation Service).

TABLE 5-3: PRIME FARMLAND SOIL TYPES

| Prime Farmland Soil Types | Prime Farmland in Drained Areas |
|--|--------------------------------------|
| ApA Arkport fine sandy loam (0-2% slope) | Ba Barry sand loam |
| ApB Arkport fine sandy loam (2-6% slope) | Be Berville loam |
| BuA Brady loamy sand (0-2% slope) | Bv Breckenridge loamy sand |
| BwA Bronson loamy sand (0-2% slope) | By Brookston loam |
| FoA Fox sandy loam (0-2% slope) | Cr Colwood fine sandy loam |
| FoB Fox sandy loam (2-6% slope) | CvA Conover loam (0-2% slope) |
| HdB Hillsdale loam sand (2-6% slope) | CvB Conover loam (2-6% slope) |
| HIB Hillsdale sandy loam (2-6% slope) | CxA Conover-Miami loams (0-2% slope) |
| HmB Hillsdale-Miami loams (2-6% slope) | Gd Gilford sandy loam |
| MnA Metea loamy sand (0-2% slope) | Lc Lamson fine sandy loam |
| MnB Metea loamy sand (2-6% slope) | LoB Locke sandy loam (0-4% slope) |
| MoA Miami loam (2-6% slope) | MIB Metamora sandy loam (0-4% slope) |
| MoB Miami loam (2-6% slope) | Pc Pewamo clay loam |
| MrB Miami-Conover loams (2-6% slope) | Se Sebewa loam |
| OmA Owosso-Miami sandy loam (0-2% slope) | Wh Washtenaw silt loam |
| OmB Owosso-Miami sandy loam (2-6% slope) | |

Source: Soil Survey of Livingston County, Soil Conservation Service and the Michigan State Agricultural Experiment Station, Issued November 1974 and reissued December 1993.

Map 7 Cohoctah Township Wetlands



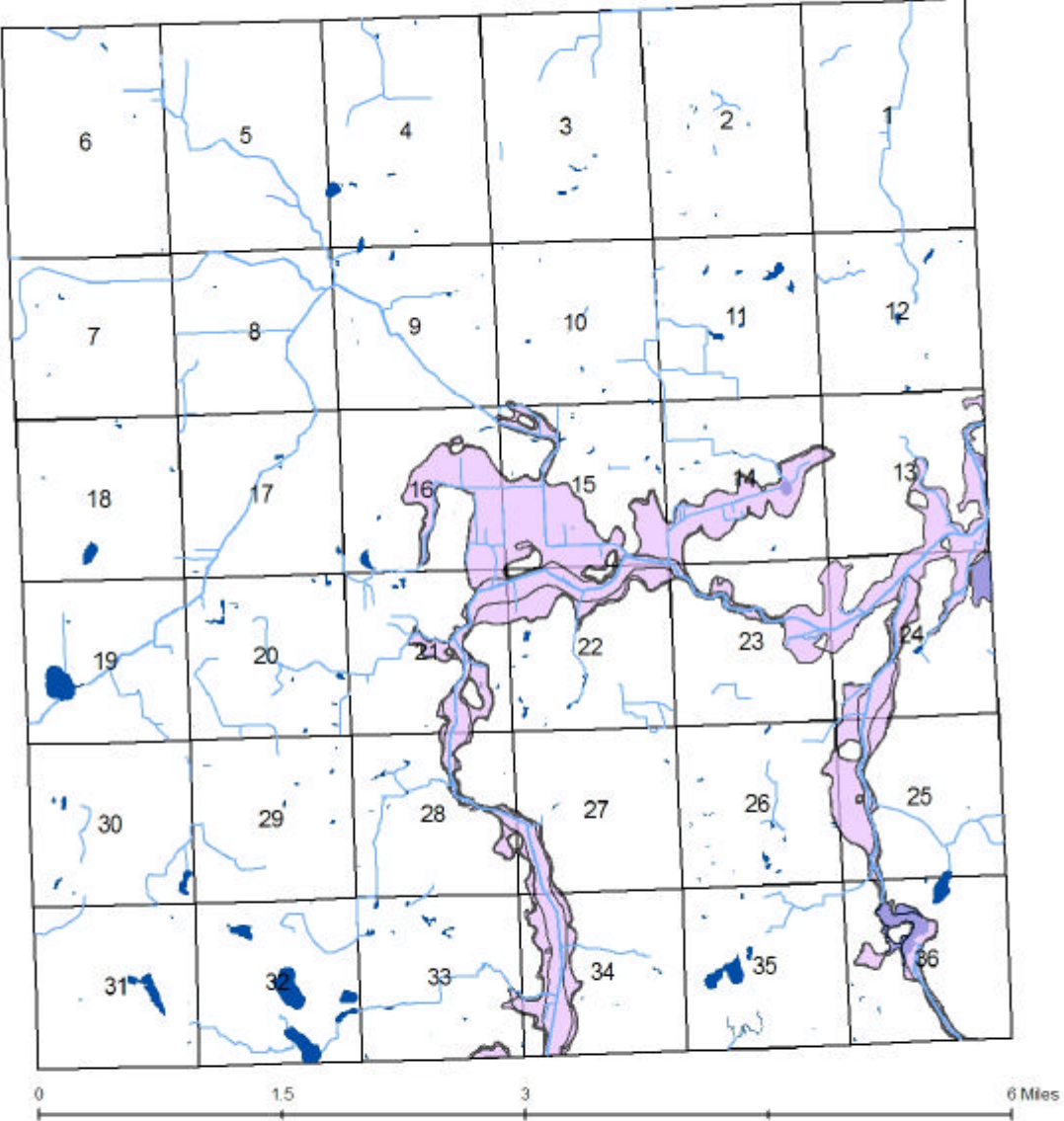
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|  | Cohoctah_rivers |
|  | Cohoctah_wetlands_NWI |
|  | Cohoctah Lakes |
|  | Cohoctah_sections |

Prepared by: Livingston County
Department of Planning, July 2009
Source: National Wetlands Inventory

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Map 8 Cohoctah Township Floodplains



Legend

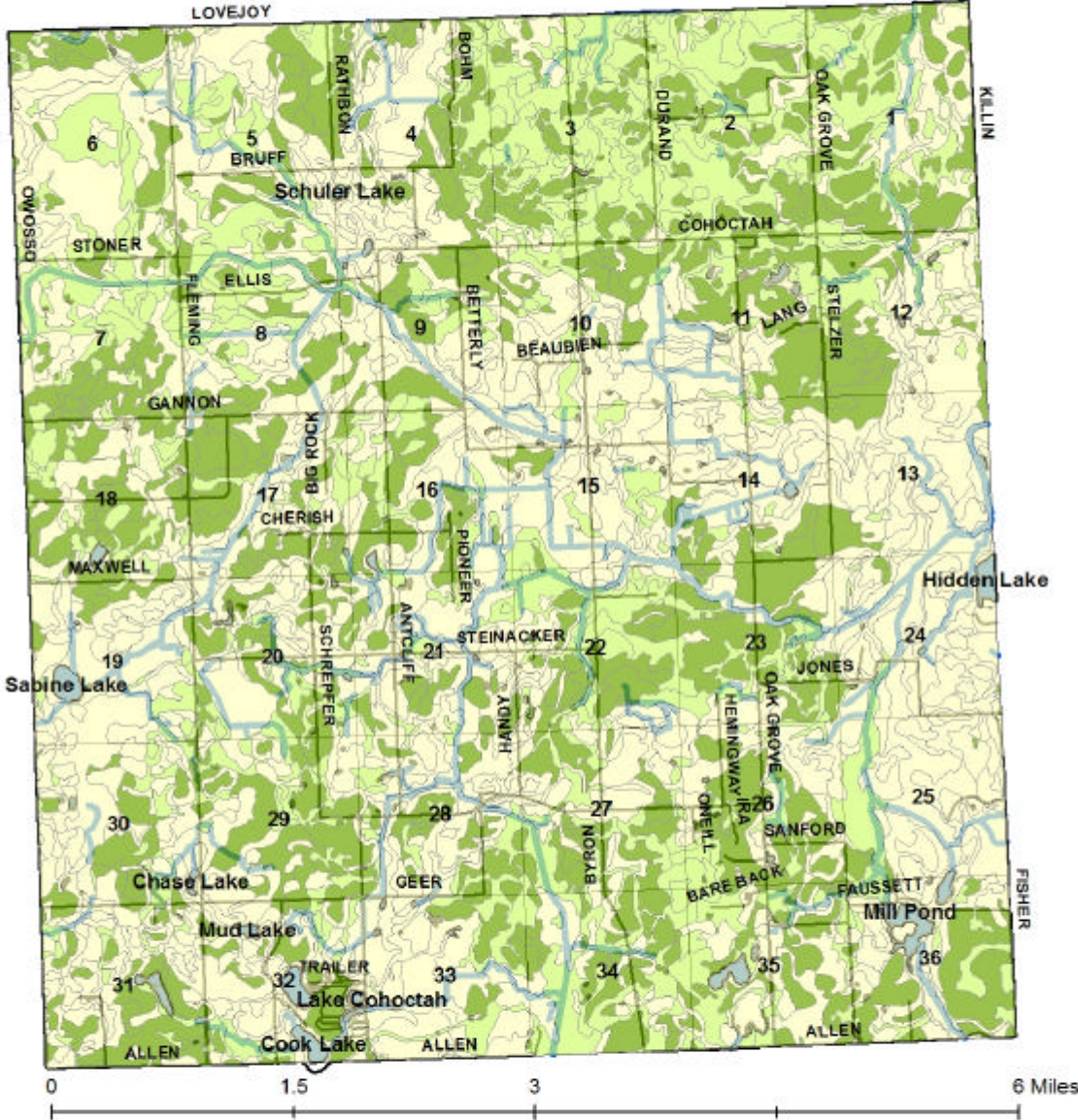
- Cohoctah_FloodRiskZone
- Cohoctah_rivers
- Cohoctah Lakes
- Cohoctah_sections

Prepared by: Livingston County
 Department of Planning, August 2009
 Source: Livingston County Geographic
 Information System



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Map 9 Cohoctah Township Prime Farmland



Legend

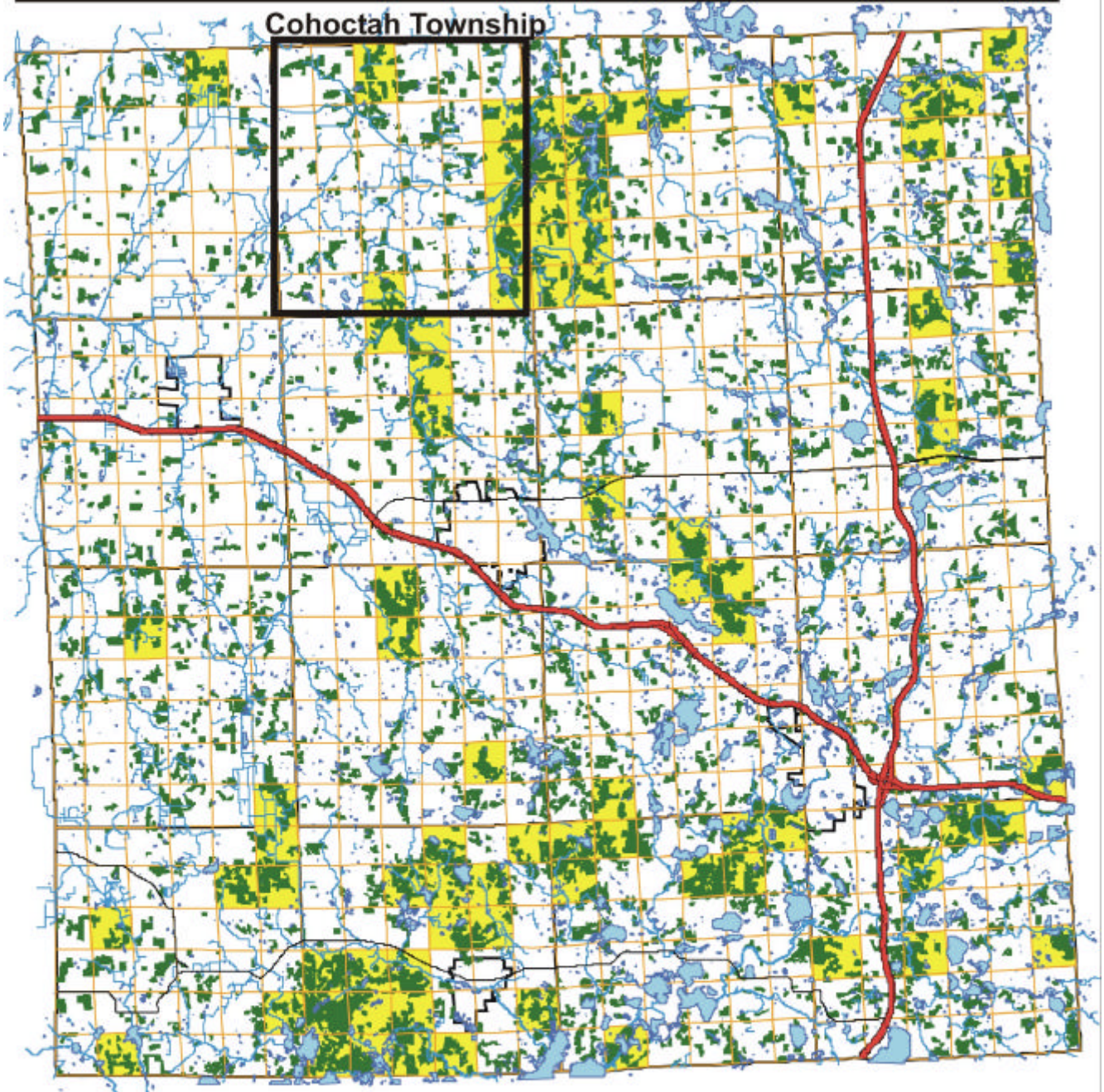
- Prime Farmland
- Prime Farmland if Drained
- Non-prime Farmland

Prepared by: Livingston County
 Department of Planning, August 2009
 Source: Soil Survey of Livingston County







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Map 10 Livingston County's Largest Woodland Areas



Legend

-  Freeways
-  Rivers
-  Lakes
-  Sections
-  Woodlands
-  Dense Woodlands

Prepared By: Livingston County Department of Planning,
 August 2004
 Note: The woodlands that are depicted comprise
 approximately 30-65% of the section in which they are located
 or approximately 190 to 414 acres of the 640 acre section.
 Source: MIRIS Land Cover Data, 2000

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Woodlands

The preservation of woodlands in the township is important for a number of reasons. Besides adding to the rural character of the township, woodlands provide habitat for wildlife and plants, recreation opportunities for citizens, and scenic landscapes. Woodlands located near the roadway contribute to the rural character of the township by creating a sense of enclosure because of the close proximity of the vegetation to the roadway. Woodlands also serve as buffers between developments further accentuating the rural feel that is desired by those living in the township, and they filter noise and dust and contribute to air quality and atmospheric cooling.

It is important to consider the extent and type of woodlands present when making land use decisions. Developments that occur within woodlands should be carefully designed to keep as many trees standing as possible.

In the year 2000, the Southeast Michigan Council of Governments (SEMCOG) updated land use/land cover for each community in the Southeast Michigan region using black and white aerial photography. Cohoctah Township was found to have woodlands in the following four categories:

- **Central Hardwood/Oak (2,964 acres)** – This category includes areas of beech/maple and oak/hickory wood stands. Other species include sugar and red maple, beech, basswood, cherry and ash.
- **Pine (143 acres)** – These are forests where white, red, jack and scotch pine are dominant.
- **Lowland Hardwood (1,752 acres)** – Typically in areas also classified as wetlands, these woodlands include areas of ash, elm, birch, and soft maple along with cottonwood.
- **Lowland Conifer (13 acres)** - Lowland conifers typically include a mixture of black spruce and tamarack, or areas of northern white cedar.

In the *Hazard Mitigation Plan Livingston County, Michigan*, woodlands have been examined on a section by section basis throughout the county for emergency management purposes such as assessing the risk of wild fire. Most sections in Livingston County are one square mile in size or 640 acres. The largest woodland areas in the county are those that comprise approximately 30-65% of the section or approximately 190 to 414 acres of the 640 acre section.

Seven of the thirty-six sections in Cohoctah Township meet these standards; largely because much of the land in these sections is publicly owned and preserved. Sections 12,13, 24, 25 and 36 along the eastern boundary of the Township is one such large woodland area. Collectively these five sections form the largest contiguous area of woodlands in Cohoctah Township. Much of the woodland area in these sections is preserved in public ownership by the Michigan Department of Natural Resources (MDNR) in the Oak Grove State Game Area. Sections 4 and 33 are two other sections in the township that contain significant woodlands (see Map 10 Livingston County's Largest Woodland Areas).

Livingston County's High-Quality Natural Areas

In partnership with a group of county citizens and government officials, aerial photography was used to map natural areas throughout the county resulting in a 2003 Livingston County Department of Planning study entitled: Livingston County's High-Quality Natural Areas. The natural areas were then

prioritized by using a set of criteria to differentiate one natural area from another. These criteria include: the size and shape of the natural area, the presence of rivers or streams, and the amount of connection one natural area has to surrounding natural areas, among others. Using these criteria natural lands are grouped into three categories of varying conservation priority; Priority 1, Priority 2 and Priority 3 natural areas with "Priority 1" areas having the highest cumulative scores and being considered the most ecologically valuable.

Map 11 Cohoctah Township Natural Areas, Illustrates that Cohoctah Township contains eleven (11) Priority I areas scattered throughout the township, primarily in the mid to southern half of the township. The largest Priority 1 natural area includes two nearly contiguous areas along the eastern boundary of the township in Sections 12,13,23,24,25,26,and 36.. These two areas total 2,442 acres of land, much of which is owned by the Michigan Department of Natural Resources as part of the Oak Grove State Game Area. Another large Priority 1 area consisting of 1,023 acres in Sections 27,28,33 and 34 is primarily owned by Heritage Acres LLC.

Priority II areas are more abundant and are scattered throughout the township. In Cohoctah Township these areas typically range between 40 and 150 acres in size, and they are privately owned. Priority III areas are typically less than 40 acres in size. These areas are also scattered throughout the Township and they are privately owned.

One of the most straightforward planning methods for preserving the high quality of natural areas that have been identified through this study, is an open space development or planned unit development option enabled through a zoning ordinance. When working with a developer proposing an open space or planned unit development, a community may be able to negotiate what portions of the site are preserved. Using the Livingston County's High-Quality Natural Areas report, a community can insist that high quality natural areas are preserved as open space, focusing residential land uses onto adjacent vacant or cleared land. Doing so will preserve high quality natural areas, while also serving as a selling point for the development.

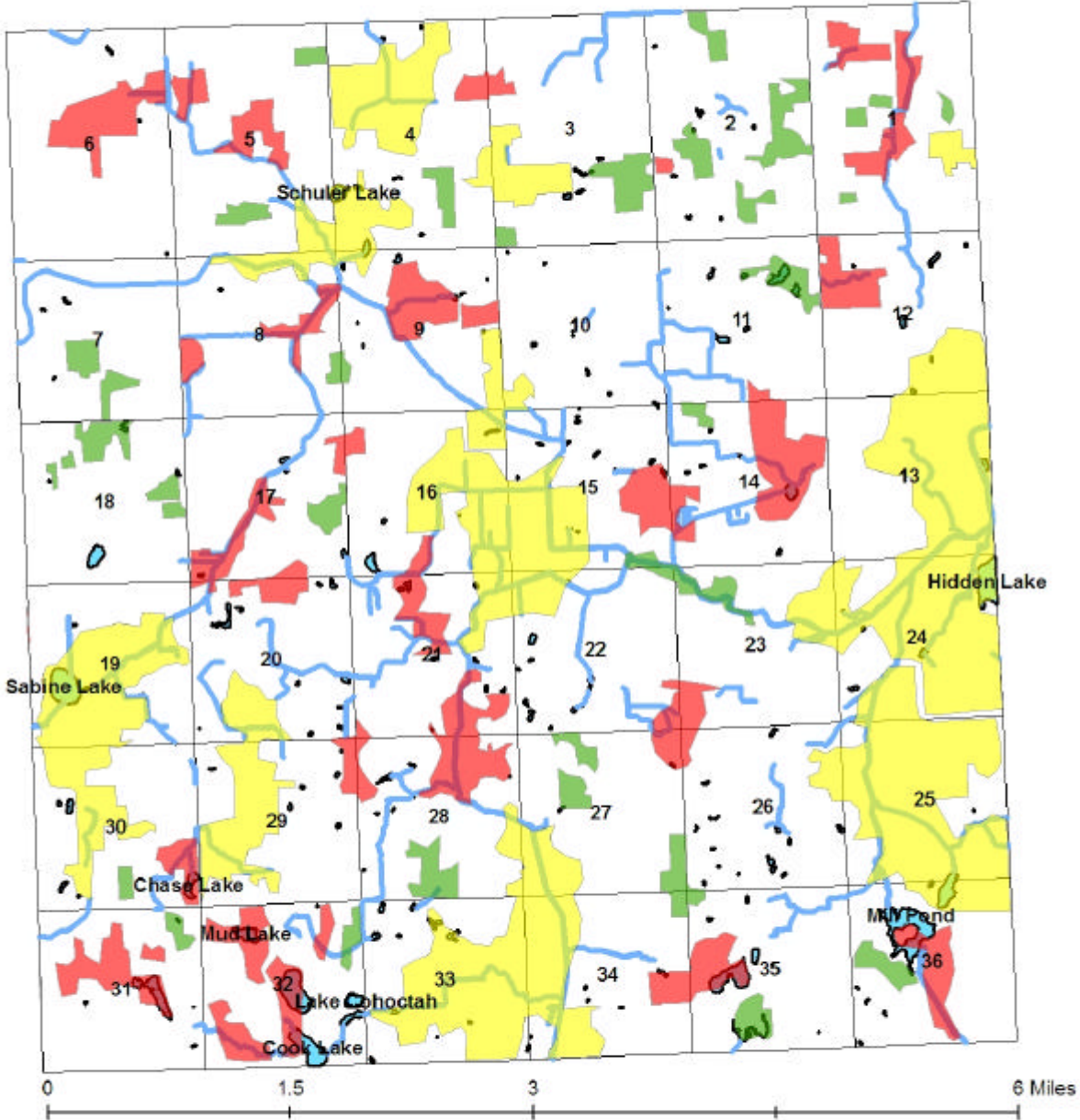
Environmental Concerns

The Environmental Health Division of the Livingston County Health Department compiles and maps information on known or suspected sites of environmental sensitivity in Livingston County (Livingston County Environmental Awareness Handbook 2002). The six (6) categories of sites they identify are: 1.) Sites of Environmental Contamination; 2.) Open/Closed Leaking Underground Storage Tanks; 3.) Areas of High Nitrate Levels; 4.) Areas of High Arsenic Levels; 5.) Closed Dump/Landfill Sites; and 6.) Active Septage Disposal Sites (See Map 12 Cohoctah Township Environmental Concerns).

Sites of Environmental Contamination - Part 201 (Environmental Remediation) of the Natural Resources and Environmental Protection Act (1994 P.A. 451, as amended) regulates sites of environmental contamination in Michigan. A site of environmental contamination is defined as: "the release of a hazardous substance, or the potential release of a discarded hazardous substance, in a quantity which is or may become injurious to the environment or to the public health, safety or welfare." Clean-up of these sites is administered by the Environmental Response Division of the Michigan Department of Environmental Quality. Cohoctah Township has no known sites of environmental contamination.

Underground Storage Tanks – Underground storage tanks are widely used by large and small industries, farmers, and individual homeowners to store fluids such as petroleum fuels, acids, metals, solvents and chemical wastes. Leaking underground storage tanks account for roughly 50% of all groundwater contamination sites. There are underground storage tanks listed with the Michigan Department of Environmental Quality (MDEQ) as "Open" and "Closed." "Open" means that the site is

Map 11 Cohoctah Township Natural Areas



Legend

Cohoctah_natural_areas

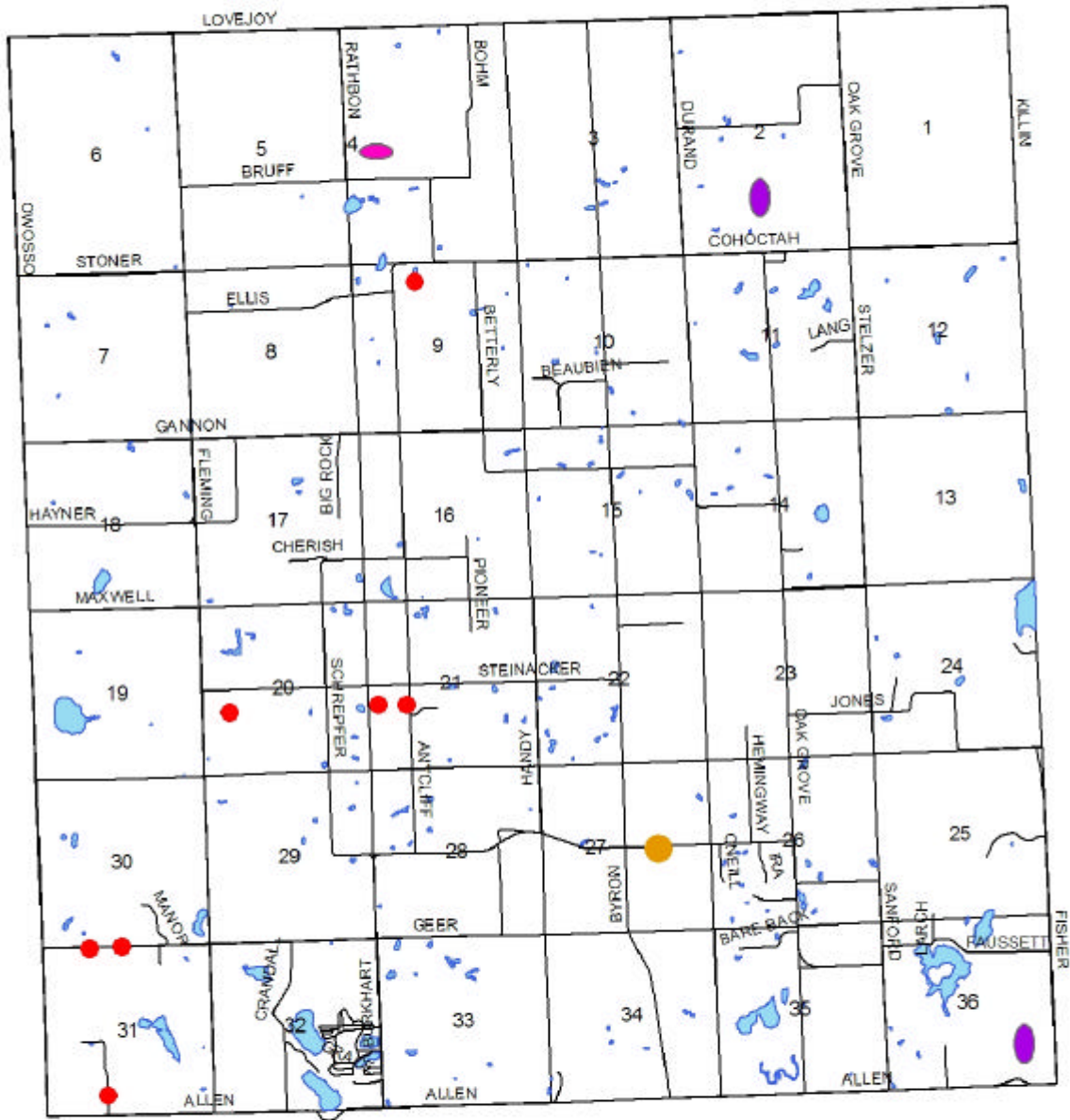
| | |
|--|---|
| <p>priority</p> <ul style="list-style-type: none"> 1 2 3 | <ul style="list-style-type: none"> Cohoctah_rivers Cohoctah_lakes Cohoctah_sections |
|--|---|

Prepared by: Livingston County
 Department of Planning, July 2009
 Source: Livingston County High-Quality
 Natural Areas

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Map 12 Cohoctah Township Environmental Concerns



Legend

- Closed Landfills
- >5 ppm Nitrate (prior to 1994)
- >5 ppm Nitrate 1994 - 2001
- Former Septage Sites

Prepared by: Livingston County
 Department of Planning, July 2009
 Source: Livingston County Department of
 Public Health, Environmental Health Division,
 Livingston County Environmental Awareness
 Handbook 2002

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currently listed with MDEQ as either “inactive” or “Cleanup Actions Taken or in Progress”. “Closed” means a site where cleanup actions have been completed, although the site may not meet current environmental standards. Cohoctah Township does not have any “Open” or “Closed” Underground Storage Tanks.

Areas of High Nitrate Levels - Nitrate is a naturally occurring form of nitrogen found in soil and groundwater, that in moderate amounts is a harmless part of food and water. However, nitrates in sufficient concentrations in drinking water can be toxic to infants and young animals. This happens when nutrients, especially nitrogen and phosphorous, leach into the ground and enter the ground water. The sources of the nutrients are usually from water running off well-fertilized agricultural fields, water containing high levels of phosphorous-based detergents, or some industrial process. Excessive levels of nitrate can cause methyhemoglobinemia, or blue baby disease, which is a blood disorder that primarily affects infants under six months of age.

According to the Livingston County Health Department, high nitrate levels are often associated with poorly constructed or improperly located wells. Newly installed wells should be installed uphill and at least 100 feet away from septic systems, barnyards, feedlots and chemical storage facilities.

The U.S. EPA has established a maximum contaminant level of 10 milligrams per liter for public water systems. The Livingston County Department of Public Health has chosen 5 milligrams per liter as an indicator of possible aquifer vulnerability. Using this standard, there are eight (8) sites of elevated nitrate levels in Cohoctah Township. Seven (7) of these sites existed prior to 1994, most of which are located in the southwest quadrant of the Township. One (1) water supply site was compromised between 1994 and 2001. This site is on Chase Lake Road in Section 27.

Areas of High Arsenic Levels - Arsenic is a naturally occurring element that, through erosion and weathering of rock, can end up in groundwater, soil, and plants. Arsenic can combine with other elements to form inorganic and organic arsenicals. Inorganic arsenicals are generally more toxic than organic arsenicals, and are more often found in drinking wells and groundwater. The primary danger from arsenic is that it is a known carcinogen, but other effects of arsenic consumption are nausea, vomiting, diarrhea, thickening and discoloration of the skin (which may lead to skin cancer), and numbness of feet and hands. Arsenic has also been associated with the development of diabetes and has been reported to affect the human vascular system.

Based on guidelines from the Safe Drinking Water Act, the United States Environmental Protection Agency (U.S. EPA) set the Maximum Contaminant Level (MCL) of arsenic at 10 micrograms per liter or parts per billion (ppb). Arsenic has been detected in six (6) well samples in Cohoctah Township. Three wells have an arsenic level of less than 10 micrograms per liter and three wells have an arsenic level between 11 - 25 micrograms per liter.

Closed Dump and Landfill Sites – The Livingston County Department of Public Health maintains a list of closed dump/landfill sites within the County. The information includes where the landfill was located, who operated it, and when the landfill closed. In general, little information is available and there are a number of landfill sites around the County that are either untraceable or unknown entirely, possibly because they were illegal operations. There are currently 18 known closed landfill sites in Livingston County, one of which is found in Cohoctah Township. This landfill near the intersection of Bruff and Rathbon in Section 4 closed in the early 1970’s.

Licensed Septage Disposal Sites – Septage is defined as the anaerobic slurry of residual wastes, sludge and scum that is mechanically pumped from a septic tank and subsequently transferred to a licensed disposal facility. The most common method of septage disposal used to be direct land application at a licensed septage disposal site. Recent state legislation radically changed the way septage must be handled and a septage receiving station was built by Livingston County government in Hartland Township to accommodate septage volumes. The intent of this station is to eliminate the very real groundwater contamination risks associated with land application practices and get this

material into the sewers. Similar to way that many lakes in our community have installed sewers to stop the contamination of their lake from septic systems, this facility treats septage wastes in an effort to prevent groundwater contamination.

The two (2) formerly licensed septage disposal sites in Cohoctah Township were located in Section 2 along Byron Road, and Section 36 near Fisher and Allen Roads.

Cohoctah Township Existing Land Use

Existing land use in Cohoctah Township was analyzed by using the Southeast Michigan Council of Governments (SEMCOG) land coverage map. SEMCOG's most recent update of land use/land cover data for the county was in the year 2000 when new aerial photographs of Livingston County were taken. The 1990 land use/land cover data file was also revised at this time to ensure comparability between time periods. Map 13 Cohoctah Township Existing Land Use depicts this land coverage analysis, and it can be found at the end of this chapter.

SEMCOG Land Use Categories

SEMCOG uses the following fourteen (14) land use categories to describe and map land use throughout the region.

Residential – This land use includes multiple-family residential in either high-rise (4 or more stories) or low-rise developments (3 stories or less), single-family residential including duplexes, and manufactured housing parks (mapped as Single-family Residential on Map 13).

Under Development – The Under Development land use category includes intermediate stages of single-family residential development that are 87.5% or less developed (~75% = 62.5%-87.5%, ~50% = 37.5%-62.5%, ~25% = 12.5%-37.5%, and ~0% = 0%-12.5%). Areas that are more than 87.5% completed are mapped in the single-family residential category, and areas noted as Developing-Undefined are sites for urban development stripped of cover before construction begins (mapped as Under Development or Losing Housing on Map 13).

Commercial, Office and Institutional - This land use category includes businesses in the primary Central Business District such as: commercial, services, health, education, religious, correctional, military and government administration and services. It also includes shopping centers of at least 50,000 sq.ft., regional malls of at least 1,000,000 sq. ft. and retail centers of at least 250,000 sq. ft. In addition, secondary/mixed business areas, institutional establishments, office/research centers or parks where the office building is at least 18,000 sq. ft. are included, and vacant commercial (mapped as Commercial and Office on Map 13 with Institutional mapped separate).

Industrial - This land use includes industrial parks equal to or greater than 10 acres, and automotive test track roadway and related buildings (there are no township Industrial areas mapped on Map 13).

Transportation – The Transportation land use category includes air transportation facilities (including runways), all rail transportation facilities (including tracks), water transportation facilities, and road transportation facilities such as truck and bus facilities (mapped on Map 13 as Transportation, Communication, and Utility).

Communication and Utility – This includes areas associated with radio, radar, television, telegraph, telephone, cellular phone and similar uses. Utilities include electrical transmission lines, gas and oil pipelines and storage, solid waste disposal sites, sewage and water treatment and transmission, and electrical utility facilities (mapped on Map 13 as Transportation, Communication, and Utility).

Extractive – The Extractive land use category includes open pit/above ground extractive sites, sand and gravel pits, underground extractive sites, non-metallic underground, and oil or gas wells (there are no township Extractive areas mapped on Map 13).

Cultural, Outdoor Recreation, Cemetery – This land use category includes public assembly / cultural or sports facilities. It also includes outdoor recreation facilities and areas which are basically on open land, and cemeteries.

Agricultural Land and Farmsteads – This land use must consist of 2.5 acres or greater and it includes: cropland used to produce row crops, small grains, vegetables or hay; orchards, bush fruits, vineyards, and ornamental horticulture areas; confined feeding operations; permanent pasture (not including woodland pasture); other agricultural lands including greenhouses and non-commercial racetrack training areas; and farmsteads (mapped on Map 13 as Cultivated, Grassland, and Shrub).

Grass and Shrub Land – The Grass and Shrub Land use must consist of 2.5 acres or greater in area. It includes herbaceous open land that is dominated by grasses and forbs on both upland and lowland sites, and shrub land that on upland sites is dominated by native shrubs and low woody plants and on lowlands is mapped as wetlands (mapped on Map 13 as Cultivated, Grassland, and Shrub).

Forest Land – This land use category must consist of 2.5 acres or greater in area. Forest Land is considered land that is at least 16.7% stocked (approximately 25% crown cover) by trees of any size, or land that formerly had tree cover, and land that is not currently developed for nonforest use. Forest land includes broadleaved forest, coniferous forest and clear cut areas (mapped on Map 13 as Woodland and Wetland).

Water – Water land use must consist of 2.5 acres or greater in area. This land use includes streams and waterways at least 150 feet wide, lakes, reservoirs, great lakes and their connecting waterways. It does not include water bodies that are vegetated (this land use is placed in the wetland category) or sewage treatment, watersupply and industrial cooling system water bodies (these land uses are placed in the urban category).

Wetland – This land use must consist of 2.5 acres or greater in area. Wetland areas include both forested and non-forested wetlands (mapped on Map 13 as Woodland and Wetland).

Barren – Barren land use must consist of 2.5 acres or greater. This land use category includes beaches and riverbank, sand dunes and exposed rock (there are no Cohoctah Township Barren areas mapped on Map 13).

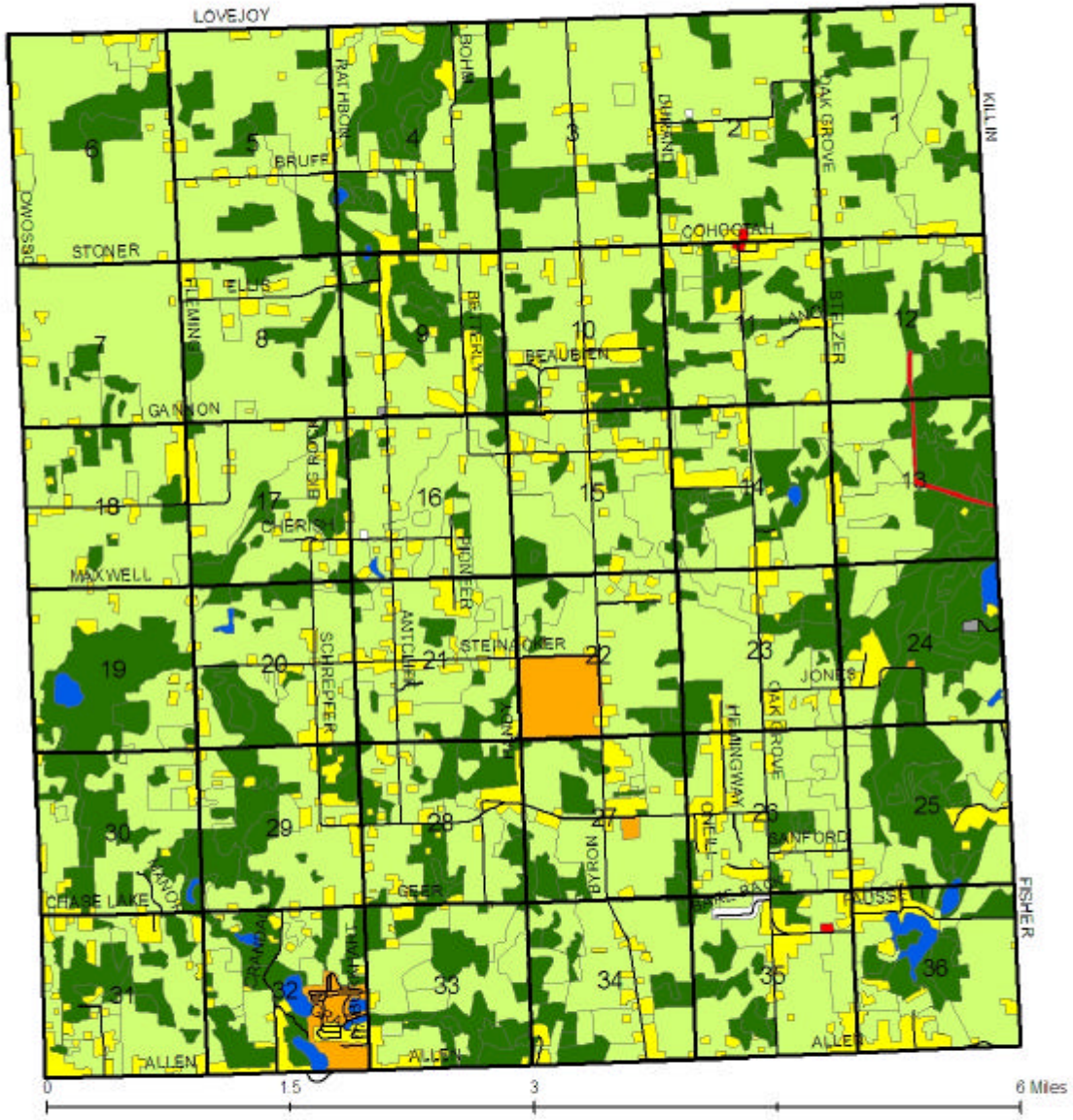
Following is SEMCOG’s profile of the fourteen land use categories described above. This profile summarizes change in land use and land cover from 1990 to 2000.

| Land Use Category | 1990 | 2000 | Change | % Change |
|--|-------------|-------------|---------------|-----------------|
| Residential | | | | |
| Multiple-family Residential/High Rise | 0 | 0 | 0 | n/a |
| Multiple-family Residential/Low Rise | 0 | 0 | 0 | n/a |
| Single-family Residential/Duplex | 1,406.2 | 2099.6 | 639.4 | 43.8% |
| Manufactured Home Park | 0 | 0 | 0 | n/a |
| Under Development | | | | |
| ~75% Developing Single-family Res. | 0 | 3.9 | 3.9 | n/a |
| ~50% Developing Single-family Res. | 0 | 0 | 0 | n/a |
| ~25% Developing Single-family Res. | 0 | 0 | 0 | n/a |
| ~0% Developing Single-family Res. | 8.9 | 16.7 | 7.7 | 87.0% |
| Developing Undefined | 0 | 0 | 0 | n/a |
| Commercial, Office, and Institutional | | | | |
| Primary/Central Business District | 0 | 0 | 0 | n/a |
| Shopping Centers/Malls/Retail Centers | 0 | 0 | 0 | n/a |
| Secondary/Mixed Business Area | 6.1 | 6.1 | 0 | 0% |
| Institutional Establishment | 5.1 | 5.1 | 0 | 0% |
| Office/Research Center or Park | 3.0 | 3.0 | 0 | 0% |
| Vacant Commercial | 0 | 0 | 0 | n/a |

| COHOCTAH TOWNSHIP LAND USE CHANGE, 1990 – 2000 | | | | |
|---|-------------|-------------|---------------|-----------------|
| Land Use Category | 1990 | 2000 | Change | % Change |
| Industrial | 0 | 0 | 0 | 0% |
| Transportation | 0 | 0 | 0 | 0% |
| Communication and Utility | | | | |
| Communication | 0 | 0 | 0 | n/a |
| Utility | 0 | 0 | 0 | n/a |
| Electrical Transmission Line | 22.5 | 22.5 | 0 | 0% |
| Gas Pipeline and Storage | 0 | 0 | 0 | n/a |
| Oil Pipeline and Storage | 0 | 0 | 0 | n/a |
| Solid Waste Disposal Site | 0 | 0 | 0 | n/a |
| Sewage Treatment and Transmission | 0 | 0 | 0 | n/a |
| Water Treatment and Transmission | 0 | 0 | 0 | n/a |
| Extractive | 0 | 0 | 0 | 0% |
| Cultural, Outdoor Recreation, Cemetery | | | | |
| Public Assembly/Cultural or Sport Facility | 0 | 0 | 0 | n/a |
| Outdoor Recreation | 88.7 | 250.3 | 161.6 | 182.2% |
| Cemetery | 6.7 | 10.9 | 4.2 | 62.4% |
| Agricultural Land and Farmsteads | | | | |
| Cropland | 12,074.9 | 11,501.9 | -572.9 | -4.7% |
| Orchard, Bush Fruit, and Vineyard | 31.6 | 21.1 | -10.5 | -33.3% |
| Confined Feeding Operation | 0 | 0 | 0 | n/a |
| Permanent Pasture | 0 | 0 | 0 | n/a |
| Other Agricultural Land | 120.3 | 100.1 | -20.2 | -16.8% |
| Farmstead | 305.5 | 286.4 | -19.1 | -6.3% |
| Grass and Shrub Land | | | | |
| Herbaceous Open Land | 2,180.1 | 2,078.3 | -101.8 | -4.7% |
| Shrub Land | 1,805.3 | 1,798.2 | -7.1 | -0.4% |
| Forest Land | | | | |
| Northern Hardwood | 0 | 0 | 0 | n/a |
| Central Hardwood/Oak | 3,001.1 | 2,964.0 | -37.1 | -1.2% |
| Aspen/White Birch Association | 0 | 0 | 0 | n/a |
| Pine | 141.8 | 143.0 | 1.2 | 0.8% |
| Other Upland Conifer | 0 | 0 | 0 | n/a |
| Christmas Tree Plantation | 0 | 0 | 0 | n/a |
| Water | | | | |
| Stream and Waterway | 0 | 0 | 0 | n/a |
| Lake | 158.0 | 158.0 | 0 | 0% |
| Reservoir | 0 | 0 | 0 | n/a |
| Wetland | | | | |
| Shrub/Scrub Wetland | 1,106.1 | 1,071.0 | -35.0 | -3.2% |
| Lowland Hardwood | 1,770.9 | 1,752.1 | -18.8 | -1.1% |
| Lowland Conifer | 13.4 | 13.4 | 0 | 0% |
| Mixed Wooded Wetland | 196.3 | 196.3 | 0 | 0% |
| Aquatic Bed | 0 | 0 | 0 | n/a |
| Emergent Wetland | 83.3 | 87.8 | 4.5 | 5.4% |
| Flats | 0 | 0 | 0 | n/a |
| Barren | 0 | 0 | 0 | 0% |

Source: Southeast Michigan Council of Governments (SEMCOG)

Map 13 Cohoctah Township Existing Land Use



Legend

— Cohoctah_roads

Cohoctah_LandUse2000

NAME

- Commercial and Office
- Cultivated, Grassland, and Shrub
- Cultural, Outdoor Recreation, and Cemetery
- Institutional
- Single-family Residential
- Transportation, Communication, and Utility
- Under Development or Losing Housing
- Water
- Woodland and Wetland

Prepared by: Livingston County
 Department of Planning, October 2009
 Source: Southeast Michigan Council
 of Governments (SEMCOG)



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Cohoctah Township Goals and Objectives

Master Plan goals and objectives aid local decision-making by establishing principles that the township has decided are vital to the future well-being of the community. Goals and objectives also serve as township policy statements for land use decisions and provide valuable background in the development of the future land use map. For purposes of this plan, the relationship between goals and objectives is defined as follows:

Goals: Broad conceptual statements of what Cohoctah Township would like to achieve and accomplish over time.

Objectives: Measurable detailed statements of how Cohoctah Township will work toward achieving the goals.

Development of Goals and Objectives

The goals and objectives of the Cohoctah Township Master Plan were created through the review of several information sources. For instance, several themes emerged from resident responses to the Cohoctah Township Citizen Survey (see Appendix A). Regarding residential development in the Township, survey responses revealed that residents feel the rate of residential growth is much too fast. Most survey respondents prefer that higher density residential development be located in the Township settlements or not at all. Additionally, most prefer that single family homes be developed on lots of 10 acres or more in size. Regarding transportation issues, most respondents indicated that they live on gravel roads and although they are concerned about gravel road maintenance, most do not consider it a high priority to pave these existing gravel roads or to upgrade the existing county paved roads. Responses regarding land use planning indicated that the preservation of farmland and natural resources is of highest planning priority. Growth management and a quality road system were also highly scored land use planning responses. Planning issues that were deemed unimportant to survey respondents were condominium and subdivision development and the development of fast food enterprises. Most respondents did not favor dedicating additional millage to any of the ten (10) land use issues listed on the survey. Paying a dedicated millage for a household recycling program, the creation and operation of a tornado siren system and expanded broadband internet service, were the three planning issues that received the most favorable responses.

In addition to the results of the citizen survey, the Cohoctah Township Planning Commission considered the goals and objectives of the 2002 Cohoctah Township Comprehensive Plan, the goals and objectives of the Livingston County Comprehensive Plan, and a reference list of demographics and planning trends that were identified through the research and analysis that went into creating chapters of the 2010 Cohoctah Township Master Plan (see Appendix B for Cohoctah Township Master Plan Goals and Objectives Fact Sheet). Each of these source materials stimulated ideas that were formed into the goals and objectives of the following nine (9) subject headings:

- Planning and Zoning
- Township Services and Facilities
- Transportation
- Natural Features and Open Space Preservation
- Agriculture
- Housing and Residential Development
- Commercial Areas and Development
- Industrial Areas and Development
- Hazard Mitigation

Planning and Zoning

GOAL: Coordinate planning efforts with neighboring communities.

Objective: Minimize zoning and future land use conflicts along boundaries with neighboring communities.

Objective: Coordinate planning efforts regarding shared resources such as watersheds and road, greenway and water corridors.

Objective: Collaborate with neighboring communities on the provision of governmental facilities and services.

GOAL: Maintain easy to understand, action-oriented master plan language that guides future land use decisions and includes a procedure for periodically updating the plan while providing meaningful public participation in the process.

Objective: Use the Cohoctah Township Master Plan as a basis for establishing zoning regulations that are easily understood by citizens and developers.

Objective: Encourage a balance between growth and development, and protection and enhancement of the quiet, scenic, rural character of Cohoctah Township.

Township Services and Facilities

GOAL: Develop township services and facilities as necessary and financially practical.

Objective: Increase public services and facilities only when consistent with demand from township population growth.

Objective: Support the implementation of the Cohoctah Township Parks & Recreation Plan.

Objective: Assist the Township Board of Trustees in identifying development options for township land holdings.

Transportation

GOAL: Provide adequate access to the road system with as few traffic interruptions as possible.

Objective: Keep curb cuts to a minimum to lessen their impact on road maintenance, traffic flow, safety, and aesthetics.

Objective: Preserve the rural feel of the current road network, including continuing the current mix of paved and unpaved roads, preserving the tree canopy, and screening buildings from the view of passers-by on roads.

Transportation

GOAL: Maintain Township road system at its current level of service or at an improved level of service.

Objective: Consider requiring traffic impact studies for any project that may cause or attract traffic such as medium to large sized residential developments.

Natural Features and Open Space Preservation

GOAL: Preserve and enhance the township's rural character, natural systems, and open space.

Objective: Development in the Township should be directed to areas that are most capable of sustaining physical changes to the landscape without negatively impacting the community's natural features.

Objective: Encourage preservation of existing trees and natural features on new development sites, especially when they act as a visual or physical buffer along roads and neighboring land uses.

Objective: Explore the use of land conservancies or trusts to protect natural features and open space in Cohoctah Township.

Agriculture

GOAL: Keep farming a viable and visible part of Cohoctah Township's future land use plan.

Objective: Use zoning and site planning techniques to preserve agricultural land, open space, and unobstructed views of fields, pastures, and agricultural buildings.

Objective: Support the landowner's Right to Farm when proper agricultural practices are followed.

Objective: Protect drainageways for agricultural land use.

Objective: Give farmers the tools or range of options necessary to develop portions of their property while keeping farming viable on the rest.

Objective: Explore transfer of development rights (TDR), purchase of development rights (PDR), land conservancy, P.A. 116, or other methods to preserve working agricultural lands.

Objective: Encourage property tax policies that assess farmland for present use rather than potential use.

Housing and Residential Development

GOAL: Preserve a traditional rural character to the land use pattern in the township while planning for orderly future residential development.

Objective: Carefully review development in settlement areas to preserve the unique character of these communities.

GOAL: Provide a more environmentally sensitive residential environment by preserving the natural character of open fields, stands of trees, ponds, streams, hills, and similar natural features.

Objective: Promote open space developments, innovative residential design, and site development standards that maintain the rural character of the township and conserve farmland and open space.

Objective: Group lots for development on private roads to lessen the number of driveway curb cuts on public roads and decrease the visual impact of residential build-out along roads.

Objective: Encourage new development in densities appropriate for what the roads, soils, and drainage will bear.

Commercial Areas and Development

GOAL: Encourage only commercial development that serves the needs of the township residents.

Objective: Continue the use of home occupations to accommodate small scale office and service establishments.

Industrial Areas and Development

GOAL: Allow light industrial uses in appropriate areas that do not create adverse impacts on surrounding existing or future land uses.

Objective: Allow only light industrial uses that can be supported by existing paved roads.

Hazard Mitigation

GOAL: Conserve natural features and protect residents and property from natural or man-made hazards.

Objective: Prevent new construction in flood plains and construction which would degrade wetlands; and in sensitive natural resource areas only allow development harmonious with the preservation of natural features on the site.

Objective: Keep the township's Hazardous Materials Ordinance updated and timely.

Cohoctah Township Future Land Use

The future land use plan is a combination of the township's current goals and its vision for the future, which is a desire to preserve the township's rural character. It is intentionally general in scope, and was developed based on the township's goals and objectives, an analysis of natural features, current and future demographics, existing land use, and the results of a Cohoctah Township Citizen Survey.

The future land use *map* designates development densities that carry out the goals of the future land use plan. The district boundaries drawn on the map do not necessarily correspond to property lines. As properties are proposed for development or rezoning, they are analyzed on a case-by-case basis to determine their relationship to the future land use plan and map. The future land use map is expected to guide Cohoctah Township's future land use development and it will be reviewed at least every five years.

Another component of the future land use plan is the provision of services.

Development should not occur unless the appropriate public services are in place and available. This includes roads, police and fire protection, emergency services, general governmental and other services. There are currently no plans in the foreseeable future for the township to provide public sewage disposal or water. If appropriate services are not in place, the landowner may, with the Township Board's approval, assume the financial burden of providing services independently and to the township's standards.

A classic growth-related issue in the township is roads. While some people living along dirt and gravel roads clamor for improvements (mainly paving), the majority have identified the dirt and gravel roads as characteristic of a rural community. They note that paving roads will only attract more (and faster) traffic and more development, leading to the further deterioration of the rural qualities that are so inviting to so many. While unpaved roads may be a nuisance to those who must drive them with any frequency, they are a part of living in the country, like farm odors, car/deer collisions, and a ten mile excursion to the grocery store. There are many trade-offs that come with the decision to live in the country.

The Master Plan portrays a community's vision for the future. The plan provides future land use categories with recommended guidelines for development in each category. This is called the Future Land Use Plan.

Master Plan = Policy Guidelines

The Future Land Use Plan of the Cohoctah Township Master Plan is implemented through the legally binding regulations of the Cohoctah Township Zoning Ordinance which establishes zoning categories for each type of land use.

Zoning Ordinance = Legally binding zoning regulations

Future Land Use Classifications

Cohoctah Township is a rural community with predominantly agricultural and residential uses. In surveys and public meetings, residents and township officials placed preserving rural character and open space as a top priority. Many attributes describing "rural" were identified, some of which include: farms, farmland, and farm animals; trees; wetlands; gravel roads; sparse development; rivers; scenic views; and wildlife. Preserving and protecting these attributes are a major focus of the future land use plan.

When assigning future land uses, many factors come into play. Each type of use has a different set of criteria that must be met, the compatibility between neighboring land uses must be considered, as must the available infrastructure, and the overall interactions between land uses in the township as a whole must be scrutinized. Maintaining a sense of balance is fundamental to the future land use map.

Residential developments should be placed or screened in such a manner that they are as out of sight as possible from public roads, and preserve trees and natural features found on each site. Minimal industrial and commercial growth is planned, and limited to neighborhood-type businesses meeting the needs of Township residents. All development should minimize the number of curb cuts onto public roads, by sharing driveways and the use of private roads, to maximize road safety and smooth traffic flow. Specific development standards and lot sizes are set out in the Township zoning ordinance.

Many factors were taken into consideration when future land use districts were delineated. The lack of public water and sewer make soil types one important consideration. The types of soils and steep slopes found in Cohoctah Township limit development potential in many areas. Not all soils are suitable for residential or other types of development, and lots larger than the minimum size allowed will sometimes be necessary to support septic systems. Another factor is whether roads are paved or unpaved. Paved roads' higher carrying capacities are more suitable for higher density development. The preservation of agricultural uses, open space, and rural character is another consideration which residents have consistently indicated is important to them. Proximity to the township's three Settlements, in an effort to keep density more concentrated around historic village-like areas, is also a factor.

Chapter 5: Natural Features explains soils found in Cohoctah in greater detail, including areas of steep slopes, lists of soil classifications with septic system limitations and prime farmland soil types.

The land use classifications found on Map 14 2010 Cohoctah Township Future Land Use, are described below.

Residential Land Uses

Recommended residential densities on the future land use map primarily range from a minimum of one acre-per-unit to ten acres-per-unit. Actual buildable lot sizes will vary, and it may not be possible to develop land at the highest density allowed. Residential development should be placed or screened in such a manner that it is out of sight as much as possible from public roads, and preserves trees and natural features found on each site.

Residential development will respect agricultural uses and be located away from them whenever possible. Residential development must also respect the farmer's right to farm and realize that some farming activities cause noises, smells, or activities that some non-farmers may find offensive. Farming plays an important role in the history, character, and economy of Cohoctah Township. This Plan encourages the continuation and further development of farming and farm-related businesses and activities in the township.

Settlement

There are three Settlement areas in the township: Oak Grove, Cohoctah Center, and Cohoctah. Each has a mainly residential land use pattern at higher densities than most other areas of the township, and has some other uses mixed in: Oak Grove has a church, Cohoctah has a feed mill, post office, and gas station, and Cohoctah Center is home to the Township Hall. Future development in the Settlements is limited to uses in keeping with the current and historic character of each, and will be at a similar scale, density, and lot size. The township reviews projects proposed in Settlements to evaluate the impact on adjacent land uses and the Settlement as a whole.

This future land use designation corresponds to the Settlement zoning district in the Cohoctah Township Zoning Ordinance. The Settlement District has a minimum lot area of 30,000 square feet.

Agriculture/Residential

Agricultural/Residential comprises the majority of the land area in the township. This classification is intended to encourage the continuation of agricultural activities while providing opportunities for low-density residential development in areas of significant agricultural resources. Low density development is appropriate because of the lack of public sewer or water, mostly unpaved roads, frequently poor soil conditions for septic systems, and the Township's and residents' desire to preserve agricultural uses, open space, and rural character. The minimum recommended single family lot size is 10 acres. Farming and residential uses should be allowed by right. Residential development should respect agricultural uses and should be located away from them whenever possible. Residential development must also respect the farmer's right to farm and realize that some farming activities cause noises, smells, or activities that some non-farmers may find offensive.

Farming plays an important role in the history, character, and economy of Cohoctah Township. This Plan encourages the continuation and further development of farming and farm-related businesses and activities in the Township.

This future land use designation corresponds to the Agricultural Residential zoning district in the Cohoctah Township Zoning Ordinance. This district has a minimum lot area of 20 acres with the exception of single family residential uses as referred to above.

Rural Residential

The majority of the Rural Residential area lies north and west of the Suburban Residential area along Oak Grove and Chase Lake Roads. Both are paved, and for the most part have soils with "slight" or "moderate" septic system limitations. There are a few exceptions, however, where soils are severely limited for septic systems and two acre lots may not meet Livingston County Environmental Health standards for septic fields. The Chase Lake Road Rural Residential area is a natural extension of the more dense Suburban Residential area around the Oak Grove settlement, and the Oak Grove Road corridor links the Oak Grove and Cohoctah settlements via a main thoroughfare. Also, the township fire station is located on Oak Grove Road at Chase Lake, central to the higher density areas of the township. Lastly, the Cohoctah Road Rural Residential area links the Cohoctah and Cohoctah Center settlements along a paved, primary thoroughfare.

The following criteria apply to Rural Residential areas:

\$ Areas of Rural Residential density, with a recommended minimum density of 2 acres per dwelling unit, should be located along paved roads. Paved roads are better able than gravel roads to accommodate new traffic generated by this type of residential development.

\$ Rural Residential areas should be located contiguous to areas classified at a higher density, such as Settlements or Suburban Residential areas, or link areas of higher density. They may be used as buffers between lands designated at higher and lower densities. This plan strongly discourages the creation of future "islands" of residential areas that are not contiguous to a more densely designated area.

\$For the minimum recommended density of 2 acres per dwelling unit, soils will have to be able to support septic systems at that density. Chapter 5: Natural Features classifies Livingston County soil types by their septic system limitations (slight, moderate, or severe). The desired soil characteristics for this density fall in the "slight" classification, with limited areas of "moderate" septic system limitations.

The siting of new homes and lots in this classification should 1) have adequate road setbacks and take advantage of natural features or new plantings to screen homes from the view of passers-by on roads, 2) be located along shared driveways or private roads in order to reduce the number of curb

cuts onto the pavement, and 3) preserve trees and other natural features. These measures are to protect the rural feel and character of the township while acknowledging the desire for controlled development at this density.

The Rural Residential future land use designation corresponds to the Rural Residential zoning district in the Cohoctah Township Zoning Ordinance. The Rural Residential district has a minimum lot area of 2 acres.

| TABLE 8-1: FUTURE LAND USE RESIDENTIAL DESIGNATIONS AND CORRESPONDING ZONING DISTRICTS | | | |
|---|---|--|---|
| Residential Future Land Use Designation | Future Land Use Development Densities | Corresponding Zoning District (s) | Zoning District Development Densities |
| Settlement | Similar scale, density, and lot size as existing Settlement lots | Settlement | 30,000 square feet |
| Agricultural /Residential | 1 dwelling unit per 10 acres | Agricultural Residential | 20 acres except as otherwise provided in the zoning ordinance |
| Rural Residential | 1 dwelling unit per 2 acres | Rural Residential | 2 acres |
| Suburban Residential | 1 dwelling unit per 1 acre | Suburban Residential | 1 acre 21,780 sq. ft. with public or common sewer and water |
| Manufactured Home Residential | 15,000 sq. ft. with public or common sewer and water 25,000 sq. ft. without public or common sewer and water | Mobile Home Residential | 15,000 sq. ft. with public or common sewer and water 25,000 sq. ft. without public or common sewer and water |
| Recreation Residential | Similar scale, density, and lot size as existing Recreation Residential lots | Settlement | 30,000 square feet |

Source: Cohoctah Township Zoning Ordinance, Adopted 1987.

Suburban Residential

The Suburban Residential future land classification is the most dense of the residential classifications. The southeast corner of the township, where most land of this classification is located, has a larger percentage of soils suitable for development at this density than most other areas of the township. It also has good access to paved roads (Oak Grove, Chase Lake, and Faussett Roads) and abuts an existing Settlement area. The southeast corner of the township is best suited to future suburban-type development because of its good access due south on Oak Grove Road to the City of Howell. Like the Rural Residential classification, lots in Suburban Residential areas will whenever possible be configured to share driveways or private roads, preserve natural features and trees, and screen houses from the view of passers-by on roads.

In Section 32, east of Crandall Road, the Indian Springs Lake Subdivision is designated Suburban Residential. This is an existing, platted, small-lot subdivision. It does not meet all of the criteria for Suburban Residential areas, but that designation best matches its existing high density, since that

density is not expected to decrease during the life of this Plan.

The following criteria apply to Suburban Residential areas:

\$ Areas of Suburban Residential density, with a minimum recommended density of one acre per dwelling unit, should be located along paved roads. Paved roads are capable of handling the traffic volume generated by this type of residential development.

\$ Suburban Residential areas should be located contiguous to Settlements. This is in keeping with the township's desire to keep growth on smaller lots concentrated around existing historic settlement areas.

\$ Suburban Residential lands should be located in areas of soils most likely to support septic systems at this density. Chapter 5: Natural Features classifies Livingston County soil types by their septic system limitations (slight, moderate, or severe). The desired soil characteristics for this density fall in the "slight" classification.

The Suburban Residential future land use designation corresponds to the Suburban Residential zoning district in the Cohoctah Township Zoning Ordinance. This zoning district has a minimum lot area of 1 acre.

Manufactured Home Residential

The intent of the Manufactured Home Residential future land use category is to provide township land area that can be developed in the future as single family home lots sited with manufactured housing. Due to the potential high density nature of this type of housing development, manufactured housing is planned for land area along paved roadway within close proximity of higher density housing. This future land use is also intended to buffer industrial areas from residential areas.

In Section 35, south of Oak Grove Road, the west side of Preston Road is designated Manufactured Home Residential. This is an existing area of manufactured housing sited on single family lots. It does not meet the paved road criteria for Manufactured Home Residential, but it is located within close proximity of higher density housing. The designation provides a transition in future and existing land use from the Light Industrial and Rural Residential (2 acre) designations/uses on the east side of Preston Road and the Agricultural/ Residential (10 acre) designation/land use adjacent to the west of the Manufactured Home Residential designation.

This future land use designation corresponds to the Mobile Home Residential zoning district in the Cohoctah Township Zoning Ordinance. This zoning district has a minimum lot area of 15,000 square feet for lots with public or common sewer and water and 25,000 square feet for lots without public or common sewer and water.

Recreation Residential

This classification provides for the preservation of natural features as well as the provision of residential and recreation amenities to the residents of Cohoctah Township and visitors to the Township. This designation has been planned for the Church of Nazarene camp within Section 32 of the Township. Land uses permitted within this classification would include single family residences, campgrounds, places of assembly, and recreational amenities such as bike paths, pedestrian trails, athletic fields, beach areas and associated facilities.

Future development in Recreation Residential is limited to uses in keeping with the current and historic character of the Church of Nazarene camp, and will be at a similar scale, density, and lot size. New development in this area must be sensitive to surrounding land uses, the environment and the carrying capacity of well and septic and/or water and sewer provision in the camp. The township will

review projects proposed, to evaluate the impact on adjacent land uses and the Church of Nazarene camp as a whole.

This future land use designation corresponds to the Settlement zoning district in the Cohoctah Township Zoning Ordinance. The Settlement District has a minimum lot area of 30,000 square feet.

Open Space and Rural Preservation Development District

This is a special residential development alternative that is not found on the Future Land Use Map, but instead may be applied to any district that allows single-family residential housing in Cohoctah Township, with the exception of Settlement areas.

The minimum required project size for an Open Space and Rural Preservation development is ten acres, and a minimum of 50% of the site must be permanently protected as open space.

Conservation and Recreation Land

River Conservation

Rivers, streams, creeks, and wetlands are greatly influenced by encroaching development. In some cases, trees and natural vegetation are removed from the shoreline to give homeowners improved access and views of the water. Fertilizers, pesticides, and other chemicals from lawns and gardens near waterbodies and wetlands may damage water quality, kill native species, or cause excessive algal blooms. Land development, fill, or excavation may lead to shoreline erosion caused by increased surface runoff. In one way or another, traditional development of waterfront or wetland-front property causes visual and environmental damage at the development site and connected or downstream areas.

In addition, wetlands store flood waters and trap nutrients and sediments that otherwise would enter streams, lakes and groundwater supplies. These include oil, grease, lead, zinc, copper and mercury from roads, parking lots and sidewalks, and nitrogen phosphorous and pesticides from lawn care procedures. Wetland plants utilize excess nutrients that otherwise would cause algae growth in lakes. Their holding capacity for all of these things is limited, however.

River Conservation areas include the Shiawassee River corridor, Sprague Creek, Bogue Creek, other perennial streams and creeks, and wetlands associated with these waterways. The river, streams, and creeks are buffered for 500 feet on each side. All wetlands that fall partially or entirely within this buffer are included in the River Conservation area, and have their own 100 foot buffer (see next paragraph). The 500 foot stream buffer was determined by Michigan's wetland statute, Part 303, Wetlands Protection, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended. Digital wetland data used to map these areas correlates with the National Wetlands Inventory maps.

Each of the wetlands included in the River Conservation area has a 100 foot buffer (which often overlaps with the 500 foot stream buffer). To prevent adverse impacts to wetlands as well as their associated river, streams, or creeks, no development should take place within this wetland buffer area. This includes dwellings, accessory structures or roadways. In the 100 foot buffer zone, no vegetation should be removed or altered. The vegetation helps control erosion, filter sediment from runoff, provide shade, maintain scenic character, and provide plant and animal habitat.

Lands within the River Conservation area should only be used for conservation, recreation, or residential land uses. Because of these lands' important contributions to groundwater recharge, surface water, flood control, and wildlife habitat, development should be limited to one dwelling per ten acres. When a parcel falls into two Future Land Use districts, one of which is River Conservation, development should be located outside of the River Conservation portion of the site whenever

possible.

This future land use designation corresponds to the Waterways Resource Development zoning district in the Cohoctah Township Zoning Ordinance. This zoning district has a minimum lot area of twenty (20) acres.

Public/Recreation

This classification includes both publicly owned as well as privately owned land for recreation or governmental purposes. The classification includes uses such as the game area, the Township lands, fire hall, cemeteries, and golf course.

Hunter's Ridge is the only golf course in the township, and it provides valuable recreation opportunities. The State Game Area provides wildlife habitat, preserved forest areas, and opportunities for hunting, hiking, and similar outdoor recreation. The Township Park consists of 40 acres with two riding rings, an announcer's booth, a gravel parking facility and a playground.

This future land use designation corresponds in part to the Resource Development zoning district in the Cohoctah Township Zoning Ordinance. This zoning district has a minimum lot area of 20 acres in area, except as otherwise may be provided in the Cohoctah Township Zoning Ordinance.

Commercial and Industrial Land Uses

Minimal industrial and commercial growth is planned due to the township's current limited infrastructure, and it is limited to neighborhood-type businesses meeting the needs of township residents. When siting new commercial or industrial uses, each development's impact will be measured in terms of demands it would place on local services, roads, and surrounding land uses. Proposals for new commercial or light industrial will understand and acknowledge, through appropriate site design, this Plan's goal of preserving the township's rural character and identity. Several factors discourage commercial or industrial development at any scale greater than a local one serving resident's needs: the township's location is not convenient to major highways; there are few paved primary roads; and the township's population is sparse.

Commercial

Commercial uses are limited to local-scale businesses that serve the residents of Cohoctah Township. Permitted uses envisioned for commercial areas are small retail (such as gas stations, video stores, convenience or hardware stores) and service establishments (such as beauty shops, insurance or real estate offices, or banks). Small scale office and service establishments may be accommodated as home occupations outside of commercial areas at the discretion of the township. On the future land use map, the area designated for new commercial development has frontage along two sides on Oak Grove Road, which is paved and the most heavily traveled of the township's roads. It also has good access to the Oak Grove settlement area.

This future land use designation corresponds to the Neighborhood Service Commercial zoning district in the Cohoctah Township Zoning Ordinance. This zoning district has a minimum lot area of one (1) acre except where a lot or parcel is serviced by a public or common water supply system and public wastewater disposal and treatment system, in which case the lot or parcel may have a minimum area of 15,000 square feet per principal use.

Light Industrial

Cohoctah Township has few paved primary roadways, which limits truck traffic, and no direct access to major highways. The Light Industrial classification is intended to allow uses such as warehousing, assembly, packaging, tool and die shops, and other small manufacturing uses. As in the Commercial

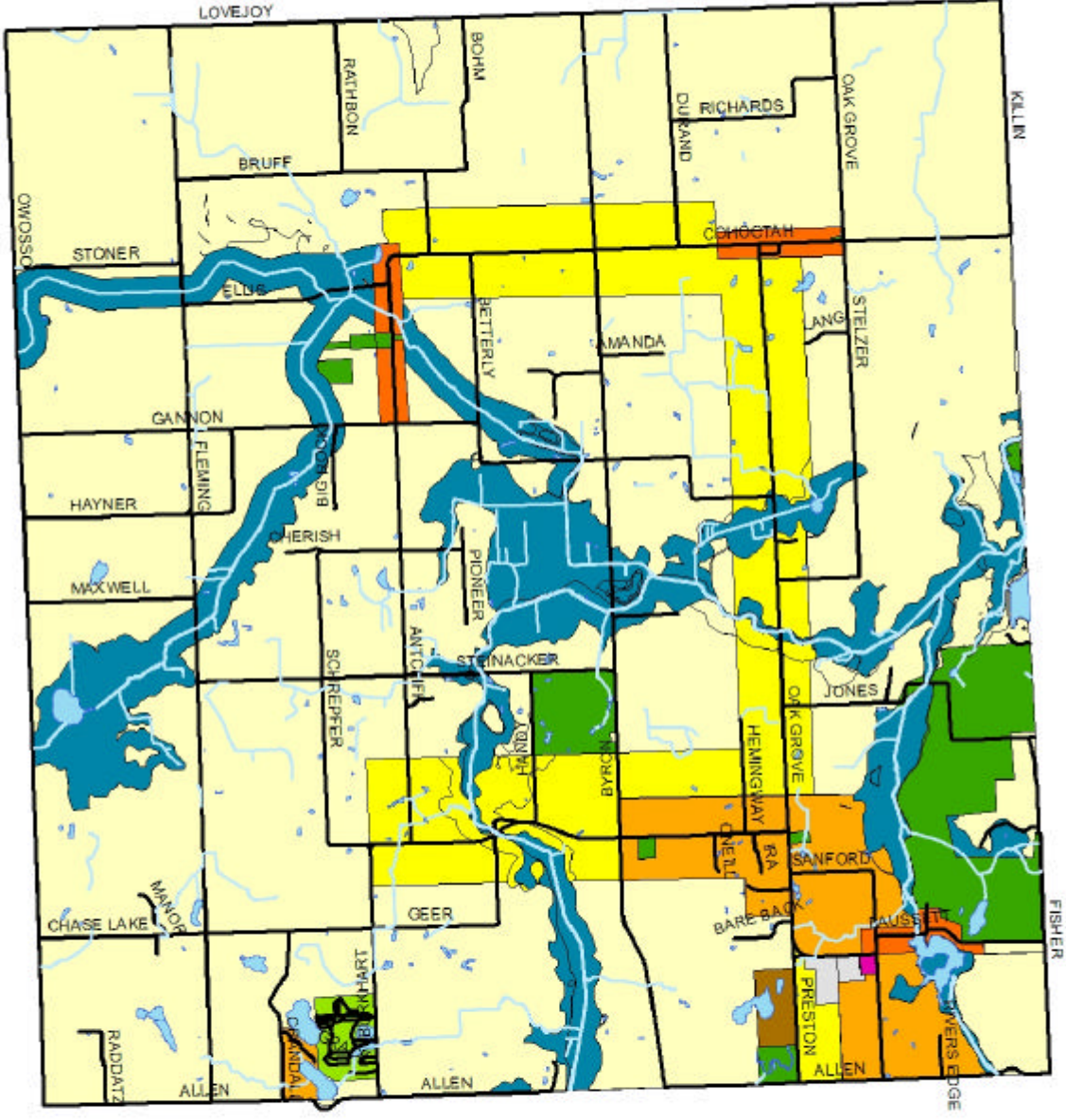
area, these are small, local-scale operations. The Light Industrial area on the future land use map is located near the Commercial area, and features good, paved access on Oak Grove Road (the township's most heavily traveled road). In addition, the rail line passes through the site, offering shipping alternatives.

This future land use designation corresponds to the Light Industrial zoning district in the Cohoctah Township Zoning Ordinance. This zoning district has a minimum lot area of two (2) acres except where a lot or parcel is serviced by a public or common water supply system and public wastewater disposal and treatment system, in which case the lot or parcel may have a minimum area of 40,000 square feet per principal use.

| TABLE 8-2: FUTURE LAND USE NON-RESIDENTIAL DESIGNATIONS AND CORRESPONDING ZONING DISTRICTS | | | |
|---|---|--|--|
| Non-Residential Future Land Use Designation | Future Land Use Development Densities | Corresponding Zoning District (s) | Zoning District Development Densities |
| River Conservation | 500 ft. stream buffer 100 ft. wetland buffer | Waterways Resource Development | 20 Acres |
| Public/Recreation | Not specific | Resource Development | 20 Acres except as otherwise provided in the zoning ordinance |
| Commercial | Not specific | Neighborhood Service Commercial | 1 acre 15,000 square feet with public sewer & water |
| Light Industrial | Not specific | Light Industrial | 2 acres 40,000 square feet with public sewer & water |

Source: Cohoctah Township Zoning Ordinance, Adopted 1987.

Map 14 Cohoctah Township Future Land Use



| Legend | |
|---|--|
| Future Land Use Designation | |
| Agriculture/Residential | Commercial |
| Rural Residential | Light Industrial |
| Suburban Residential | Recreation Residential |
| Settlement | Public/Recreation |
| Manufactured Home Residential | River Conservation |

Prepared by: Livingston County
Department of Planning, June 2010
Source: Livingston County Geographic
Information System

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Cohoctah Township Implementation

Implementation is not only the most important part of a Master Plan, but also the most difficult. Once adopted, the Cohoctah Township Master Plan is the official policy guide to be used by the Township Board and the Planning Commission for making future zoning and land use decisions. The text and the maps within the Master Plan provide a base level of understanding about current planning conditions and about the community's desire for future growth and development. As the composition of Township officials, trustees and planning commissioners change over the years, this plan will provide continuity regarding planning policy.

Implementation Strategies

Cohoctah Township will use the following strategies to implement the Plan to the township's best advantage.

Use the Plan for Making Zoning and Land Use Decisions

- Reference the Master Plan for land use decisions. Relying on the Plan as a basis for land use decisions gives the Plan, Planning Commission and Township Board greater credibility.
- Use the Plan in a consistent manner so the integrity of the Plan is not compromised.
- Keep properties that are proposed for rezoning consistent with the future land use map. This is an effective, long term method of carrying out the future land use plan.

Periodically Update the Plan and Associated Ordinances

- Update sections of the Master Plan as needed to reflect changing conditions and resident perspectives in the township. This includes reviewing the goals and objectives section of the Plan periodically.
- Hold a joint meeting between the Township Planning Commission and Township Board periodically to review the Master Plan and make necessary updates.
- Revise the Township Zoning Ordinance where necessary to reflect the Master Plan. Zoning is the major tool used to put the Plan into action and shape future growth and development. It is used to support the goals and policies of the Master Plan.
- Review the Township General Ordinance to make sure they are aligned with the goals and policies of this Plan.
- As required by the Michigan Planning Enabling Act, P.A. 33, as amended, at least every five years after the adoption of a Master Plan, the Township Planning Commission will review the Master Plan and determine whether to take any action to amend the Plan or adopt a new Master Plan. This review and the Planning Commission's findings will be recorded in the Planning Commission minutes.

Community Education

- Educate residents on the intent of the Master Plan, and involve them in carrying out its mission whenever possible. Public understanding and support is critical to the effectiveness of the planning process.

Flexible Development Options

- **Open Space and Rural Preservation Development District** – The Cohoctah Township Zoning Ordinance provides the flexible development option of Open Space and Rural Preservation Development in those districts that allow single-family residential housing as a permitted principal use. This excludes the Mobile Home Residential, Light Industrial, and Neighborhood Service Commercial districts. Open Space and Rural Preservation Development is also not allowed in the Settlement District.

This concept offers an alternative to reduce the disruptive environmental impacts of traditional subdivision and single family development, and encourages innovative housing development that is sensitive to the environment and strives to preserve the traditional rural character of Cohoctah Township's land use pattern. This is accomplished through the permanent dedication of open space in each development and reduced lot size to allow more sensitive placement of homes.

Single-family housing developments that use the Open Space and Rural Preservation alternative must demonstrate that they are preserving the rural character and natural environment of the township. These developments must preserve the natural character of natural features such as, but not limited to, open fields, stands of trees, large individual trees, ponds, streams, hills, wetlands, and other natural features, as well as agricultural uses. These features define Cohoctah Township's rural character, give it economic viability (through farming), and provide significant wildlife habitat, drainage and water recharge areas.

The minimum required project size for an Open Space and Rural Preservation development is ten acres, and a minimum of 50% of the site must be permanently protected as open space.

- **Planned Unit Development District** – Another flexible development option enabled by the Cohoctah Township Zoning Ordinance is the Planned Unit Development (PUD) District.

The intent of the PUD District is to permit greater flexibility and consequently more creative design of various types of development than are possible under conventional zoning regulations. It is the intention of this district to allow flexible land use composition and design without sacrificing the basic principles of sound zoning practice. The basic zoning districts and their permitted uses as established in this Ordinance will form the land use base for designing a combination of uses permitted in each district. Development will take the form of clustering principal uses and activities at a higher density than would otherwise be possible under the respective district regulations, on a preferred portion of a parcel while maintaining the overall density of development of the parcels consistent with the district regulations. Another option would be to combine the planning of land uses and activities from several districts as one project on the same clustering principle.

A PUD must also include a land, water or land/water permanent open space area constituting not less than twenty-five percent of the total (a) land area, or (b) land area, plus no more than 300 feet into or no more than one-half the width or distance across, a natural surface water area of the waterfront parcel. The required open space must be set aside in the form of an irrevocable conveyance.

All development in this district shall be limited to tracts of land having an area of at least the minimum number of acres required for the respective types of PUD Districts. All development in this district shall also be restricted to sites having access to a hard surfaced roadway and accepted and maintained by the County Road Commission, except for RR, and Planned Unit Development Districts.

Appendix A: Cohoctah Township Citizen Survey

In early 2008, the Cohoctah Township Planning Commission conducted a township-wide citizen survey as part of their efforts to gather community information for the preparation of the 2010 Cohoctah Township Master Plan. The master plan citizen survey was mailed to approximately 1,600 residents in the Township. The survey was due February 15, 2008 and 371 were returned to the Planning Commission. The return rate was a respectable 23%.

On the following six (6) pages is a copy of the survey form with responses inserted and highlighted in bold. Not everyone who returned a survey filled out every question, so response rates correspond to the number of people who answered that question (not the number that turned in a survey). The answer to each question that received the most responses, is highlighted.

Cohoctah Township Citizen Survey

Cohoctah Township is considering making changes to the 10 to 20 year master plan and appropriate zoning ordinances. Your opinion is important to us. We would appreciate your taking a few minutes to complete this survey and return it in the mail or drop it in the drop box outside the Township hall by **February 15, 2008**.

1. How long have you lived in Cohoctah Township?

1-10 yrs = 99

11-20 yrs = 127

21+ yrs = 145

Residential

The districts below are the current zoning options in the Township:

AR District (Agricultural Residential) - is a district that allows compatible arrangements and development of parcels of land for residential building purposes in a pastoral, agricultural, woodland, or open land setting. Residential homes may be built on 10 acres or more.

RR District (Rural Residential) - is a district for single family housing neighborhoods free from other uses, except those which are normally accessory and compatible, supportive, and convenient to the residents living within the district. Residential homes may be built on 2 acres or more.

SR District (Suburban Residential) - is a district to provide for single family residential uses at reasonable non-pollution densities. Residential homes may be built on 1 acre or more.

Settlement District – is a district to encourage the existing settlements to function as small concentrations of traditional commercial and residential activity with sufficient expansion to continue their purpose. Minimum lot sizes of 30,000 sq. ft.

Mobile Home Residential District – is a district to provide an area where mobile homes can be located exclusively to provide families an alternative to conventionally built housing. Minimum lot sizes of 25,000 sq. ft.

2. How do you feel about the rate of residential growth in the Township over the past 5 years?

a. Much too fast

93

b. A little too fast

80

c. About right

64

d. Too slow

30

3. Which lot size or density (for single family homes) do you think is appropriate for future residential development in the Township? Check ONE.

- a. Houses clustered on small parcels leaving undeveloped open spaces 38
- b. One house on 1 acre 74
- c. One house on 2 acres 108
- d. One house on lots of 10 acres or more 133
- e. One house on lots of 20 acres or more 19

4. Where might the Township consider higher density residential development? Check ALL that apply.

- a. Northwest Cohoctah Township 45
- b. Northeast Cohoctah Township 60
- c. Southwest Cohoctah Township 51
- d. Southeast Cohoctah Township 93
- e. Settlement i.e. Cohoctah, Cohoctah Center or Oak Grove 132
- f. None 145

Transportation

5. Do you live on a gravel road?

Yes – 282

No - 87

6. Are the issues below important enough to you to pay additional dedicated millage? Circle your priority.

| | Not a Priority | Moderate Priority | High Priority |
|---|-------------------|----------------------|------------------|
| a. Additional gravel road maintenance | 157 | 138 | 53 |
| b. Paving existing gravel roads | 224 | 62 | 63 |
| c. Contributing money to the County Road Commission in order to Upgrade our existing County paved roads | 188 | 116 | 36 |

Land Use Planning

7. What do you feel the Township should give priority or consideration to in its planning? Circle your priority.

| | Not a Priority | Moderate Priority | High Priority |
|--|-------------------|----------------------|------------------|
| a. Preservation of farmland | 32 | 93 | 235 |
| b. Preservation of natural resources | 25 | 76 | 266 |
| c. Growth management | 65 | 113 | 177 |
| d. Quality road system | 61 | 172 | 124 |
| e. Recreational facilities and Parks | 176 | 135 | 42 |
| f. Grocery Store | 267 | 62 | 34 |
| g. Gas Station | 264 | 66 | 28 |
| h. Fast Food | 319 | 21 | 12 |
| i. Full Service Restaurant | 282 | 55 | 20 |
| j. Convenience Store | 260 | 72 | 19 |
| k. Industrial Park Development | 293 | 46 | 13 |
| l. Subdivision Development | 303 | 44 | 5 |
| m. Condominium Development | 325 | 26 | 6 |
| n. Other (specify) <u>Car wash, single dwellings, small businesses</u> | | | |

8. Are the issues below important enough to you to pay additional dedicated millage? Circle your priority.

| | Not a Priority | Moderate Priority | High Priority |
|--|---------------------------|------------------------------|--------------------------|
| a. Expanded Fire Protection | 159 | 130 | 53 |
| b. Creation & Enforcement of a Noise Ord. | 250 | 61 | 40 |
| c. Expanded Police Protection | 181 | 122 | 38 |
| d. Public Water and Sewer | 287 | 36 | 20 |
| e. Creation & Enforcement of a Blight Ord. | 193 | 87 | 56 |
| f. Creation & Operation of a Tornado Siren System | 149 | 114 | 77 |
| g. Expanded Broadband Internet Service | 135 | 102 | 110 |
| h. Expanded Natural Gas Service | 164 | 89 | 98 |
| i. Household Recycling Program | 127 | 126 | 129 |
| j. Recreational & Youth Sports programs | 187 | 114 | 40 |

9. Additional comments on Township issues (by subject heading):

Cohoctah Township (in general)

- Cohoctah is a wonderful place to live – let’s keep it that way.
- Cohoctah is about all the country we have left in Livingston County. Let’s all do our best to keep it that way. Let’s keep taxes low, crime rates low, and preserve our land.
- Keep it clean, environmentally friendly, rural, and beautiful – that’s why I moved here.
- I think the township has done a pretty decent job over the years.
- We live in a farming community. If you want to build a city, go to (8 mile).
- Keep as rural
- I am very pleased with everything in the township.
- We like the rural setting and wild life but have too many hunters from other cities and they invade our privacy.
- Next time you want us to take a survey, please pay our postage.
- I’ve always felt living in Cohoctah Township an exclusive economically affordable. Having your own well and sewer is always better as well as your own place to hunt; your own recreation. Taxes are affordable.
- You folks are doing a great job. Keep up the good work.
- I love the rural areas of our township and thank those responsible for keeping it that way.
- Please publish the results of this survey in newsletter!
- Develop senior citizen programs!
- Please help retain the rural atmosphere of our township as much s possible. We have enough places to shop and eat out at. Natural open spaces and farming communities feed the body but also nourish the human spirit! Thank you for your efforts to take care of our township!
- I love the way it is.
- Thanks for considering resident input!
- In the few times I have spoken with the Township, they have been great to work with.
- Thank you for a wonderful place to live. I love it in Cohoctah Township!
- Cohoctah needs to remain true to its rural roots.
- We love living out here.
- Keep Cohoctah rural. That’s the attraction. Create an industrial zone for tax support.
- We live in the country – lets keep it country.
- Love living here – moved here to be here like it is – farm country!
- Put notice of Township issues and meetings in Fowlerville News and Views for those don’t get the LPC. We are in Fowlerville School District where we live – not Howell.

Lot Sizes

- 10 acre parcels are ridiculous. If they only need one acre then 9 acres are just weeds.
- Homes on 10 acre parcels are a waste of land. I agree on 2 acre parcels.
- If the law states a house on 10+ acres (is it still the law?) why do I see clusters such as in #3a? A variance? Why? It makes many of us wonder how it happened.
- I would rather see 5 acre parcels instead of 2 acre parcels.
- 10 acre lots are a total waste of farmland.
- We do not want subdivisions and high density. We live here because it's still country. The neighbors aren't too close and there is still privacy.
- I think the 10 acre minimum in AR district is foolish.
- I think a landowner with 10 acres should be allowed to split his land into 5 acre lots and be able to sell the land. Five acres is big enough. The law making 10 acres unsplittable is unfair.
- Eliminate A/R District.

Land Use

- Keep rural – without heavy residential or business areas.
- Keep Cohoctah rural. Keep large scale development away as long as possible. Outsource as many services as possible. Avoid commercial development (7e-7i). Spend no money on recreational services – there are plenty in area.
- Please keep Cohoctah from becoming overpopulated! Keep the stores and fast food places out!
- A better township hall? Control growth to avoid turning the township into one more large subdivision. Keep is peaceful and rural-like it is. We love it here.
- Howell and Byron have all we need. I don't want to live in the slums!
- Keep Cohoctah Township “the country” not suburbia!
- I do not want to see any subdivisions or condos in our township. I like everything just the way it is. That's why I moved here.
- Please do not try to expand us. It has been proven many times that rural/farm land requires far less money for police, fire, etc.
- Keep rural and farm country.

- We live in the country for the country life – it's our job to keep it country!
- We enjoy the small-town life. Don't want to see that gone and see trailer parks, subdivisions, condos, etc. Why change a good thing? If people want more, then they should go to the City of Howell.
- Cohoctah is building too many subdivisions. Don't make us another Howell! That's why I live here!
- Five years ago when I was looking for a home I really liked this area because there was a lot of farm land and the houses were not sitting one on top of the other – plenty of space. I would have chosen a place closer to the city if I wanted fast food, gas stations, grocery stores, etc. I would not want to see this farm land turn into a development. Please do not change the zoning of property.
- We need some townships and areas in this county and part of the state that still have open land and farmland. We have plenty of gas stations, grocery stores, etc. in the county now. We would be very disappointed to see a junk yard on Oak Grove Road across from the Methodist Church. We feel fortunate to have a home here.

Recreation

- I would love not to have to pay double with the Howell Parks and Recreation.
- No more money to horse park! Participate in existing programs – too expensive and small to “recreate the wheel.” Be a part of Howell Recreation!
- Get us in the Howell Recreation Authority. Too many “junkyards” in the township.
- Use of the park areas by everyone (not just 4-H), or support Howell Park System.

Recreation (continued)

- More parks and more play equipment for children. More sidewalks – bike paths for walking and strollers.
- Create a walking/bike walk at park on Allen/Preston Road – similar to one at Fowlerville City Park.
- I would like to see us back with the discount to Thompson Lake and the recreation center.
- We would like a township park that isn't just for horses!
- Recreation center activities – high priority.
- What percentage of people using the park belong to the township?
- When was it voted upon that we got a Cohoctah Township Park? Why isn't it a park? It's obviously only for horses – not a swing or table in sight!

Taxes & Millage

- Don't raise taxes. Stop interfering with development and commerce.
- Since my property value is declining, my taxes should follow.
- Keep taxes down at this difficult economic time.
- Right now, in these economic times. I don't believe we should be considering additional millage for any issues!
- Lower property taxes.
- Reduce the property taxes!
- Fair assessment of property taxes by qualified person; change of payment on winter and summer property taxes.
- The township has more important things to take care of than hitting the tax payer's for more money.
- We don't need to spend but to save and help reduce taxes.
- Keep growth at a minimum, keep assessments fair and actual. Nothing within the township should require any higher taxes or millages. Work within the budget allotted – we all do!
- Need to have township offices open to public more days and hours. Taxes too high for a township.
- Would love to know why some residences pay single residential taxes and use their property as a duplex (i.e. 1338 and 1338B)
- Lower taxes!
- Review assessments!
- Do not want to pay any additional millage. Also, the township should not have purchased the land in Sprungtown.
- We are not willing to consider any projects that would add a penny to our taxes at this time.
- Run the township like we have run our house. If we don't have the money, we live on what we have. We can't just go out and ask someone else to foot our bills. The last thing we need now is another millage of anything.

Environment

- Clean Bogue Creek to save Oak Grove Mill Pond Dam.

Animals

- Dogs barking at night; dog's running loose.
- Enforce dog ordinance for stray dogs in Village of Oak Grove.

Blight Ordinances

- Blight Ordinances is an intrusive idea with lots and lots of lawsuits and money involved. Do you really want this expense?
- Would like to see enforcement on blight. Example: house on NW side of Rathbon Rd. just north of Bruff Rd. burned down 2 years ago and nothing is being done about it.
- Blight issue is huge – just removing the old cars sitting in yards across the township would help but there are a lot of junk yards. Bring down property values.
- We already have blight rules they are just not enforced.

Infrastructure

- Roads need improvement immediately – Cohoctah Rd. and Hayner Rd. are full of potholes. Where's the Federal gas tax dollars?
- Additional towers for improved cell phone service.
- Keep it rural/farm only – that is why we moved here. Also, keep dirt roads. I live on one.
- Neighbors going up and down road with high speed on/off road vehicles – popping wheelies up and down hill.
- The roads need a lot of help. They are unacceptable!
- You really need to look into paving the rest of Burkhart/Chase Lk. Rd. That road is used so much and it's terrible – also Byron up to Chase Lk. Rd. Noise ordinance for dirt bikes, please!
- More attention to the removal of dead trees and limbs in the road rights-of-way
- Why would the government be involved in internet and natural gas – back off! Just because other governments are doing something wrong doesn't mean we should too!
- The township should absolutely have a recycling system! Also, with the way the past summers have been we need to have a tornado warning system in place!
- I've seen a recycling program where an area was fenced off and there were several large dumpsters to put recyclables in. There was a booth where someone monitored this and took down plate numbers. It kept everything neat as well as gave someone a job. People move to the country and then it starts; "we had a mall in Livonia, a pool in Westland, box stores in Redford, etc." What's the point of being in the country? Do we want to ruin the country to look and be like these cities?
- How do we get Faussett in Oak Grove maintained? Your dust control on gravel roads is out of control. Applications are put down too often – intersections with pavements are soaked making a dangerous situation on the pavement. You need to reduce the amount of chloride applied and make the contractor apply chloride properly at intersections.
- Definitely need convenient recycling! Safe place for youth to congregate.
- Cut back to one application of chloride and gravel some roads that need some spots covered.
- We would be great to have cable.
- Need better maintenance of roads!
- Maintain what we have now!
- No building permits to be issued until roads meet state requirements.
- Recycling should be the law!
- Pave Byron Road between Chase Lake and Cohoctah roads.
- Paving east-west roads (e.g. Chase Lk. Rd. to Owosso Rd) would make the township more attractive to and from the west.
- Clean up roads and fallen and dead trees along them. Clean up Cohoctah's landscape and buildings including residential part of town. Light all intersections in township.
- Where is the current maintenance on Cohoctah Road? It is so terrible – no maintenance for 12 years? Where does that \$90.00 go?
- We need high speed internet service!

Economy

- If we can benefit in the area of jobs and moral integrity, we're all for it – if not-then there's no purpose in doing much of anything. Need networking info. (knowledge of local crafts, skills, etc.)
- These are hard times. No additional spending would be wise!
- Make due with what you get or less like everyone else. Get out of our pockets. P.S. Thanks for the postage.

Enforcement

- Township only enforces something if it's complained about. For example: fence sign put up on Oak Grove Rd. near village was not legal but no one said anything, it's ugly and not according to rules, but township never said a word. Only will do something with a complaint. No use to me!
- Stay out of peoples lives. Do as you tell everybody else to do.
- Enforce speed limits. Write violation tickets.
- None of these apply to us. We needed police protection (theft) and we could not be unhappier. Very poor Livingston County caring.
- When people vote on something that should be it. Let them take you to court – the people voted.
- Restrict hunting to 40 acre parcels leased specifically for that purpose. No more walking outside your house and shooting at game or trespassing onto neighbor's lands. Enough!
- Tear down old, abandoned burnt-out houses.

Appendix B: Cohoctah Township Master Plan Goals and Objectives Fact Sheet

The following reference list of demographics and planning trends was identified through the research and analysis that went into creating chapters of the 2010 Cohoctah Township Master Plan. The purpose of the list was to summarize some of the major findings of fact revealed in the Plan, so that the Planning Commission might address these facts when drafting the goals and objectives of Chapter 7.

General Points

- Cohoctah Township borders Shiawassee County
- The Township has four (4) settlements
- Cohoctah Township has experienced less population growth than surrounding Livingston County communities.
- The largest gains in future township population are expected between 2005 and 2010 (232) and 2030 and 2035 (234).
- Cohoctah Township has a low % of population under 18
- Cohoctah Township has a low % of population over 65
- The Township's median family and median household incomes are in the lower half of Livingston County community values.
- The majority of students in the Township are enrolled in elementary school
- Cohoctah Township has a well educated population – 88.2% of the adult population has graduated from high school or obtained a higher degree

Township Services and Facilities

- 42 acres of vacant land is owned by the Township across from the hall – for a future township hall, a second fire station, a township park or combo.
- Howell Area Fire Department has a fire substation in the Township.
- No municipal sewer or water provision – septic and well
- Cohoctah Township has a 40 acre township park that has horse facilities.
- 800 acres of the Oak Grove State Game Area is located along the eastern township boundary – natural habitat for hunting and hiking.
- The largest private recreation resource in the township is Hunter's Ridge Golf Course.
- A U.S. Post Office is located in the settlement of Cohoctah on Cohoctah Road.
- Cohoctah Township is midway between the Village of Fowlerville and the City of Howell – the many resources of these two communities are available to township residents.

Transportation

- Cohoctah Township's roadway system is predominantly county primary and county local roads – 80.21 miles which is higher than most Livingston County Townships.
- There are very few smaller roadways in Cohoctah Township, such as subdivision roads or private roads.
- The surface of most roads in the Township is gravel.
- Cohoctah Township has more total gravel roads than any other Livingston County community.
- Most of the gravel roads in the Township are of better quality and can accommodate more traffic than the countywide average.

Transportation (continued)

- Nine gravel road segments (or 13%) in the Township are currently over capacity as compared to 18% county-wide.
- 28 road segments in the township have traffic counts of over 1,000 – most are paved.
- Cohoctah Township will consider requiring traffic impact studies for any project that may cause or attract traffic such as medium to large sized residential developments.
- Intersections that included Oak Grove Road figured most prominently in the highest crash intersections.
- The vast majority of accidents have occurred on Oak Grove Road from Chase Lake Road to Cohoctah Road west.
- The only existing public transportation available to Cohoctah residents is LETS – the county-wide small bus dial-a-ride service.
- The Great Lakes Central Railway (GLC) freight carrier travels north/south from the City of Ann Arbor through the City of Howell and northward through Cohoctah Township into Shiawassee County.
- A commuter life-style is prevalent

Commercial Areas and Development

Industrial Areas and Development

- No major employers in Township
- The second largest group of employed workers in the Township are self-employed worker in their own unincorporated business
- The dominant occupation category in Cohoctah Township is Sales and Office Occupations. Second is Management, Professional and Related Occupations. Third is Production, Transportation, and Material Moving Occupations.
- Limited expansion of commercial and industrial development may add employment opportunities in the Township, thereby impacting income.
- Commercial and Industrial future land use planning could concentrate on growth in agricultural-related commerce and industry.

Natural Features and Open Space Preservation

- Development in the Township should be directed to areas that are most capable of sustaining physical changes to the landscape without negatively impacting the community's natural features.
- Those areas of the Township that contain valuable natural features should be comprehensive planned for less intensive development.
- Cohoctah Township is generally level with few locations of steep slopes (>18%) – steep slopes are most abundant in the southern half of the Township where the majority of lakes and streams are located.
- Areas that contain steep slopes should remain undisturbed or developed with sensitive site planning to prevent soil erosion.
- Areas of the Township with severe septic limitations should be planned for less density.
- Nearly all of the Township drains into the Shiawassee River Watershed which drains to Lake Huron.- the rationale for watershed management is that if we properly manage activities on the land that drains to bodies of water, we will protect and improve the water resources of the state.
- The headwaters of the Shiawassee River Watershed are primarily located in Livingston and Oakland counties.

Natural Features and Open Space Preservation (continued)

- There are 8 small lakes and ponds scattered throughout Cohoctah Township - each consists of 5 acres or more.
- No water resources in the Township have public access
- The largest water bodies are found in the southern tier of the Township
- Wetland areas are interspersed throughout the Township.
- The largest wetland systems are adjacent to lakes or rivers (e.g. Shiawassee, Sabine Lake, Sprague Creek, and Oak Grove State land)
- Developments that occur within woodlands should be carefully designed to keep as many trees standing as possible.
- 5 sections along the eastern boundary of the Township form the largest contiguous area of woodlands in the Township (much in game area)
- Cohoctah Township contains 11 Priority 1 High-Quality Natural Areas – primarily in the mid to southern half of the Township.
- The largest Priority 1 area includes two nearly contiguous areas along the eastern boundary of the Township – 2,442 acres (much in game area)
- When working with a developer of a PUD or open space development, the Township may be able to negotiate what portions of the site are preserved – the High-Quality Natural Areas should be preserved.

Agriculture

- The Township's agricultural land serves as a part of the rural atmosphere that attracts residents to Cohoctah Township
- Cohoctah farmers are active participants in the P.A. 116 program – there are currently 27 P.A. 116 agreements in the Township which far outnumbers most Livingston County townships
- Most Cohoctah P.A. 116 agreements are in the NW quadrant of the Township (also most acres) – the second highest number are in the NE quadrant.
- The largest area of contiguous Prime Farmland soil is in the northeast corner of the Township.
- SEMCOG land use data shows that between 1990 and 2000 there was a decline in the number of acres used for agricultural pursuits and farmsteads.
- A future land use classification in the Township should encourage the continuation of agricultural activities.
- Gradual transition from an agricultural community to a rural residential community.

Housing and Residential Development

- Lake lots in the Township are very narrow in width – most of the homes on these lots were constructed as summer homes but are now used year-round
- The greatest change in Township land use between 1990 and 2000 was in single-family/duplex residential development.
- Gradual transition from an agricultural community to a rural residential community.
- The number of housing units in the Township has grown steadily, however the growth in housing units is slower than that of surrounding communities.
- It is forecast that the Township will experience a growth in households with children, but an even greater growth in households without children
- The median housing value in the Township is significantly lower than the County's median housing value and lower than most Livingston County communities.
- Cohoctah Twp. has the third lowest number of rental housing units in Livingston County

Housing and Residential Development (continued)

- The township has a larger average household size and a larger average family size than most surrounding Livingston County communities.

Hazard Mitigation

- Lakefront development often results in groundwater contamination from septic systems located near lake shores in high water table areas.
- Lakefront development also results in surface water pollution from runoff over impervious surfaces such as driveways, roads and roofs.
- Lakefront lawns also contribute to lake pollution by sending runoff into lakes that carries fertilizer, weed killer, insecticides and other chemicals.
- Wetlands reduce flood hazards by providing storm water storage.
- Floodplains are in low-lying areas next to watercourses that are prone to flooding.
- Development in floodplains will be limited due to the inability to site septic systems and building foundations, and the threat of property damage.
- The middle of the Township is where the largest floodplain lies surrounding the convergence of creeks, drains and the branches of the Shiawassee River.
- Wild fire risk - 5 sections along the eastern boundary of the Township form the largest contiguous area of woodlands in the Township (much in game area)
- Areas that contain steep slopes should remain undisturbed or developed with sensitive site planning to prevent soil erosion.
- To avoid high nitrate levels, wells should be installed uphill and at least 100 feet away from septic systems, barnyards, feedlots and chemical storage facilities.
- Most of Cohoctah Township's high nitrate level areas are in the SW quadrant of the Township.

Appendix C: Cohoctah Township Board Resolution Of Approval And Adoption Of 2011 Master Plan

TOWNSHIP OF COHOCTAH COUNTY OF LIVINGSTON, MICHIGAN

COHOCTAH TOWNSHIP BOARD RESOLUTION OF APPROVAL AND ADOPTION OF 2011 MASTER PLAN

WHEREAS, the Michigan Planning Enabling Act (PA 33 of 2008 as amended) authorizes the Planning Commission to prepare a Master Plan for the use, development and preservation of all lands in the Township; and

WHEREAS, the Planning Commission has prepared a proposed Master Plan and submitted the plan to the Township Board for review and comment in accordance with the Michigan Planning Enabling Act; and

WHEREAS, on September 9, 2010, the Cohoctah Township Board received and reviewed the proposed Master Plan prepared by the Planning Commission and authorized distribution of the Master Plan to the Notice Group entities identified in the Michigan Planning Enabling Act; and

WHEREAS, notice was provided to the Notice Group entities as required by the Michigan Planning Enabling Act; and

WHEREAS, the Planning Commission properly noticed and held a public hearing on December 2, 2010 to consider public comment on the proposed Master Plan, and to further review and comment on the proposed Master Plan; and

WHEREAS, the Township Board has exercised by resolution its right to approve or reject the proposed Master Plan pursuant to the authority to do so as provided in MCL 125.3843; and

WHEREAS, the Planning Commission has undertaken the review of existing land uses in the Township, a review of the existing Master Plan provisions and maps, input received from the Township Board and public hearing and with the assistance of the Livingston County Planning Department; and

WHEREAS, the Planning Commission and Township Board find that the proposed Master Plan is desirable and proper and furthers the use, preservation, and development goals and strategies of the Township; and

WHEREAS, the Planning Commission and Township Board find that the Master Plan will accurately reflect and implement the Township's goals and strategies for the use, preservation, and development of lands in Cohoctah Township; and

WHEREAS, the Planning Commission and Township Board find the proposed Master Plan, is coordinated, adjusted, harmonious, efficient, and economical; and

WHEREAS, the Planning Commission and Township Board considered the character of the Township and its suitability for particular uses, judged in terms of factors such as trends in land and population development and believes the proposed Master Plan will best promote public health,

safety, morals, order, convenience, prosperity and general welfare in accordance with the Township's present and future needs; and

WHEREAS, the proposed Master Plan addresses one or more of the following: a system of transportation to lessen congestion on the streets, safety from fire and other dangers, light and air, healthful and convenient distribution of population, good civic design and arrangement as well as wise and efficient expenditure of public funds, public utilities such as sewage disposal and water supply and other public improvements, recreation and the use of resources in accordance with their character and adaptability; and

WHEREAS, the Planning Commission has recommended the approval and adoption of the 2011 Master Plan.

THEREFORE BE IT HEREBY RESOLVED AS FOLLOWS:

1. **Approval of 2011 Master Plan.** The Cohoctah Township Board hereby approves the proposed 2011 Master Plan and adopts the Master Plan which shall be known as the 2011 Master Plan, including all of the chapters, figures, maps and tables contained therein.

2. **Distribution of the 2011 Master Plan.** The approval granted is the final step for adoption of the 2011 Master Plan and the 2011 Master Plan shall be effective immediately. The Cohoctah Township Board hereby authorizes distribution of the 2011 Master Plan according to the Planning Enabling Act.

The foregoing resolution was offered by Thurmer

Second offered by Boek

Upon roll call vote the following voted:

"Aye": Fosdick, Meek, Buckner, Boek, Thurmer

"Nay": none

The Supervisor declared the resolution adopted.

Brenda Meek
Brenda Meek, Township Clerk

I certify the foregoing is a true Resolution adopted by the Cohoctah Township Board at a regularly scheduled meeting duly noticed and conducted in compliance with the Open Meetings Act on the 13 day of January, 2011.

Brenda Meek
Brenda Meek, Township Clerk