

## Housing

### Introduction

Beyond providing shelter, housing is a core feature of the built environment. It is a determiner of transportation patterns and an investment for building financial security. The type of housing desired by residents varies depending on age, income, marital status, and family size, among other variables. A sufficient supply of high quality, well-designed housing is vital to a healthy and prosperous community.

### Housing Vision

*Through fairly administered land use plans, implementation policies, and development procedures, the Town of Lincoln will try to ensure that current and future residents are able to find the types of housing necessary to meet their needs.*

### Current Supply (as of 2014 ACS)

- 362 total units (320 occupied, 42 vacant).
- 317 single-family; 10 2-units, 27 mobile homes.
- Median Value - \$153,100
- Median monthly mortgage - \$1,317
- Median monthly rent - \$538
- Affordability- mortgage holders, 35.4% paying more than 30% of monthly income; Renters, 48.8% paying more than 30% of monthly income

### New Home Starts, 2006-2016

- |            |            |
|------------|------------|
| • 2006 - 4 | • 2012 - 1 |
| • 2007 - 1 | • 2013 - 5 |
| • 2008 - 2 | • 2014 - 0 |
| • 2009 - 2 | • 2015 - 1 |
| • 2010 - 1 | • 2016 - 2 |
| • 2011 - 1 |            |

**Table 7: Median Cost of Owner-Occupied Homes in Kewaunee County Municipalities, 2000 and 2014**

Municipality	2000	2014	Change, 2000 to 2014	
			Number	Percent
T. Ahnapee	\$94,800	\$163,600	\$68,800	72.6%
T. Carlton	\$94,300	\$145,300	\$51,000	54.1%
T. Casco	\$106,000	\$171,200	\$65,200	61.5%
T. Franklin	\$106,000	\$157,500	\$51,500	48.6%
<b>T. Lincoln</b>	<b>\$88,300</b>	<b>\$153,100</b>	<b>\$64,800</b>	<b>73.4%</b>
T. Luxemburg	\$118,100	\$174,700	\$56,600	47.9%
T. Montpelier	\$111,000	\$166,900	\$55,900	50.4%
T. Pierce	\$99,500	\$166,800	\$67,300	67.6%
T. Red River	\$122,200	\$186,500	\$64,300	52.6%
T. West Kewaunee	\$98,100	\$172,500	\$74,400	75.8%
V. Casco	\$90,400	\$128,300	\$37,900	41.9%
V. Luxemburg	\$109,800	\$157,700	\$47,900	43.6%
C. Algoma	\$73,600	\$97,100	\$23,500	31.9%
C. Kewaunee	\$80,100	\$98,800	\$18,700	23.3%
Kewaunee County	\$92,100	\$145,600	\$53,500	58.1%

Source: US Census and American Community Survey

**Housing Plan**

Based upon population projections, regional trends, and public input, the areas of focus for housing in the Town of Lincoln include housing for seniors, housing for young families, and a limited supply of rental units. Although not prohibited, the Town does not anticipate a need for subdivision development during the next twenty years.

Secondary Suites

A secondary suite is an additional dwelling unit located on a parcel that would typically accommodate only one unit. Considered an accessory to the primary residence, it can be self-contained but must be attached to the principal structure and can have its own entrance, kitchen, bathroom, and living area. Secondary suites may come in a variety of forms, including:

- A suite above an attached garage
- A suite above the main floor of a single-family dwelling.
- A basement suite.



- A suite attached to a single-family dwelling at grade.

Generally, secondary suites are allowed as a conditional use in order to foster affordable housing or aid families with elderly parents or disabled family members who are unable to live completely alone.

### Senior Housing

Senior housing, when designed in harmony with the landscape and visually consistent with existing housing stock, may provide opportunities for residents to remain in the community as they age out of their current home. Units like those pictured at right may be owner-occupied (via condominium ownership) or available for rent, but tend to be age-specific (i.e., the primary resident must be 55 years of age or older).



### Duplexes / Quadplexes

Small rental units, such as duplexes and quadplexes, offer affordable housing options in rural communities without the population densities to support traditional multi-family housing. Available at market prices, they offer housing alternatives desirable to singles, young families, and seniors. Zoning and subdivision ordinances can ensure that the structures are aesthetically suitable in a rural environment.



## **T**ransportation

The transportation system is intended to support the varied needs of residents, farmers, local businesses, visitors, and through-traffic. It provides the means by which people and materials flow to and through the community. Multi-modal systems complement the existing road network and provide increased mobility for seniors, people with disabilities, children, and bicyclists, among others. Finding solutions to current challenges, and planning to avoid future ones, is a primary goal of the transportation element.

### **Transportation Vision**

*The Town of Lincoln will maintain a safe and efficient transportation system primarily oriented around personal vehicles and agricultural machinery but including pedestrian and bicycle use.*

### Transportation Issues & Initiatives



#### Implements of Husbandry

Act 377, Wisconsin's Implements of Husbandry Law, made changes in the way agricultural vehicles and equipment operate on state, county, and local roads. Act 377 established more flexible limitations for weight limits imposed on farm machinery which forged a compromise between the agricultural community and local officials. The legislation was intended to balance the need for farm equipment to operate legally and safely on roads with the need to protect local

infrastructure. As of April 2014, an implement of husbandry (IOH) is defined as:

- A self-propelled or towed vehicle manufactured, designed, or reconstructed to be used and that is used exclusively in the conduct of Agriculture.
- A combination of vehicles in which each vehicle in the combination is an IOH.
- A combination of vehicles in which an IOH farm wagon, grain cart, farm trailer, or manure trailer is towed by a farm truck, farm truck tractor, or motor truck.

#### Kewaunee County IOH Recommendations - Transfer Stations/Road Safety

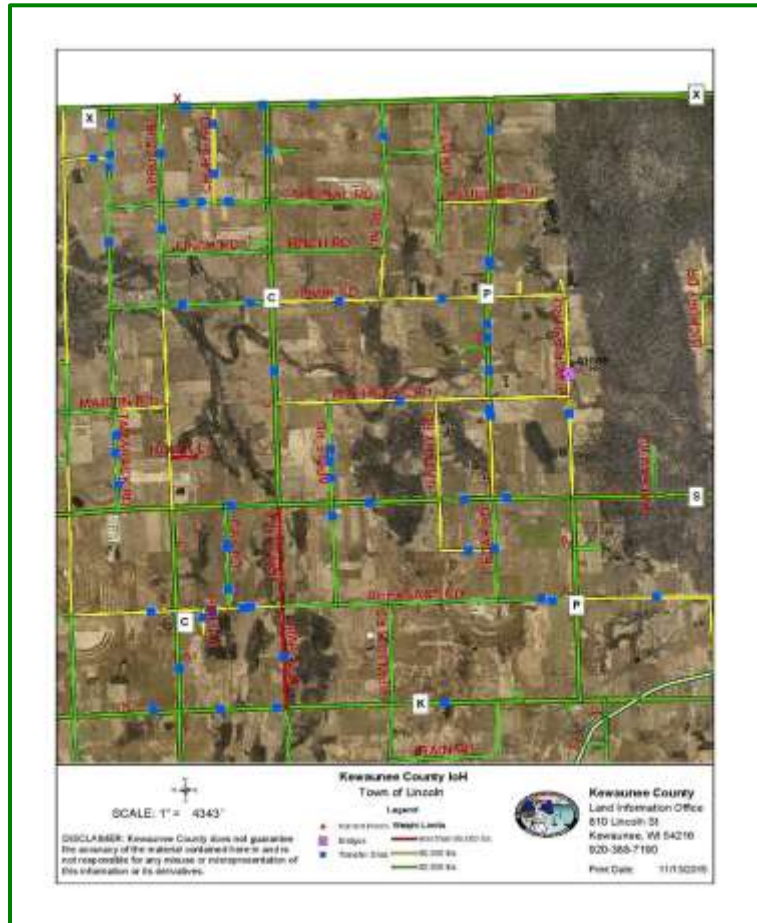
- Land operator/custom hauler will abide by Act 377, Implements of Husbandry Law in accordance with corresponding permits issued. Approved roads for use and routes should be utilized in accordance of permit.
- It is recommended the land operator notify town officials where transfer sites are located so they can be recorded on the town's electronic mapping system. Transfer stations will be numbered according to location and land operator. All transfer sites located in a town should be reported to town officials for electronic mapping regardless if it is located on town, county, or state highways.
- It is recommended that land operators notify town officials in all towns hauling in/through/to and the county highway department when hauling to transfer stations. Land operators should provide appropriate abatement according to safety level assigned.
- Land operator will determine transfer station location taking all road safety and environmental aspects into consideration.
- Safety level will be determined by road grade, roadside obstructions, proximity to tile inlets and bodies of water:
  - Level 1 - Trucks can be parked on road shoulder with appropriate signage: minimal risk to motorists.
  - Level 2 - Trucks can be parked on road shoulder with appropriate signage, cones, and flagger(s). Motorists cannot safely pass around parked vehicles without assistance of a flagger.
- It is recommended that no more than two trucks will be allowed to park at transfer site at any given time under normal circumstances. If truck traffic should back up due to

equipment break down or other extenuating circumstances, it is recommended trucks park at a near alternate location.

- Land operator will be responsible for removal of mud from public roads on a regular basis. If conditions have created excess mud (including manure and debris), it is recommended the land operator contact the local town chair to notify them of the situation. Regular mud removal is a best management practice.

The recommendations above were developed by the Implements of Husbandry Work Group in February 2015. Members included:

- Chair Brian Papham, Town of Pierce
- Aerica Bjurstrom, UW-Extension Agriculture Agent
- Ryan DeBroux, Custom Operator
- Duwayne Ducat, Dairy Producer
- Todd Every, Kewaunee County Highway Commissioner
- Matt Joski, Kewaunee County Sheriff
- Todd Koss, Crop Consultant
- David LaCrosse, Dairy Farm Manager
- John Pagel, Dairy Producer
- Steve Tadisch, Town of Carlton Supervisor



The following letter was sent to CAFO owners, operators, and haulers in April, 2017.

In an effort to communicate across a wide-range of stakeholders, the following recommendations shall be implemented universally in the Townships of Lincoln, Pierce, Ahnapee, Casco, Carlton, Franklin, Luxemburg, Montpelier, and Red River. Furthermore, the Townships of Forestville and Brussels along with the Door County Highway Department have chosen to adopt these measures as well. As elected officials, it is imperative that we have a clear and consistent message pertaining to the support of our collective infrastructure and the safety of our citizens. In 2015, a number of recommendations were issued by the Implements of Husbandry work group that encompassed a

broad range of farmers, haulers, law enforcement, and agricultural experts. We support these recommendations and request that we adhere to them in the best interest of safety for everyone involved. Our collective townships respect the need for clear and consistent expectations regarding the use of our public infrastructure. That being said, the town chairmen from each township will expect cooperation in maintaining a clear and open line of communication regarding the application and distribution of a variety of agricultural products. The following bullet points outline our expectations and purposefully reflect the industry recommendations. Therefore, failure to adhere to these expectations will result in documentation of non-compliance and further law-enforcement action.

- It is requested that land operators notify town officials when hauling in/through/to respective townships.
- Transfer sites shall be recorded with town officials 12 hours prior to set up.
- Land operator/Town official shall determine transfer station location while considering road safety and environmental impacts.
- Signage utilized must meet DOT and ANSI standards, be clean, and
- It is requested that no more than two trucks be allowed to park at a transfer site at any given time. Should a problem occur, we ask that trucks be diverted to a safe alternative location to minimize road congestion.
- It is requested that mud be removed from public roads at effective and efficient intervals. In some cases, regular onsite mud removal shall be provided to maintain a safe travel corridor. (346.94(5) "Placing injurious substance on highway" \$200.50)
- Blocking a corridor shall be enforced (346.51(1) "Improper parking on/off roadway" \$164.50)
- Land operators and custom haulers shall abide by Act 377, Implements of Husbandry Law in accordance with corresponding permits issued. Only approved roads shall be utilized in accordance with the permit.
- Weight limits shall be strictly enforced by the State Patrol
- 80,000 on posted roadways---not to exceed 92,000 without posting.
- Permit to exceed the aforementioned weight limits shall be requested 24hrs in advance of usage. Physical permit must be present in the vehicle.

Should all of the aforementioned stakeholders remain consistently accountable to these measures, we can look forward to a consistent and productive year. Please refer to your town officials when communicating your intentions.

#### Town of Lincoln Highway Spending, 2006-2016

- |                       |                       |
|-----------------------|-----------------------|
| • 2006 - \$193,652.34 | • 2012 - \$219,247.52 |
| • 2007 - \$193,652.64 | • 2013 - \$178,440.66 |
| • 2008 - \$219,462.62 | • 2014 - \$145,754.73 |
| • 2009 - \$222,013.23 | • 2015 - \$107,640.78 |
| • 2010 - \$139,763.00 | • 2016 - \$155,634.46 |
| • 2011 - \$163,147.54 |                       |

### Adopt-A Road Initiative

In August 2015, the Town Board and several volunteers organized a new volunteer initiative, “Adopt-A-Road”, in order to keep the road ditches clear of trash and debris. Interested individuals and businesses choose a designated section of road and committed to a one-year period of road clean up. Reflective vests were provided to all volunteers for safety, and a lightweight trash picker to alleviate some bending. The importance of this initiative is to highlight the cooperative nature of the residents of our community.

“With a little work from enough people, we can make a big difference in our town’s appearance.”



### Transportation Plan

#### Pedestrian and Bicycle Facilities

As with most rural communities, pedestrian and bicycle access in the Town of Lincoln is limited to the existing road network. This poses risks for children, the elderly, and people with disabilities. This is even truer in Lincoln Township as a portion of the Ahnapee Trail runs through the southern sections of the Town. To provide safe access for pedestrian and bicycles the Town may:

- Seek funding to add wider, paved shoulder to town roads.
- Work with Kewaunee County and WisDOT to include pedestrian and bicycle facilities along county and state highways when these routes are repaired or reconstructed; identify potential routes to connect the Town with the Ahnapee State Trail terminating in the City of Kewaunee.
- Add road signs advising motorists that bicyclists may be present

Ahnapee State Trail, courtesy WDNR



The primary mechanism for creating a pedestrian and bicycle system is a Bicycle & Pedestrian Master Plan. Such a plan identifies existing and potential bicycle routes and pedestrian improvements within the Town. It would also identify and prioritize pedestrian/bicycle facility needs and provide references for best practices in planning, designing, implementing, and maintaining those facilities. The plan would serve as a blueprint for continuous improvement of pedestrian and bicycling conditions throughout the township.



Courtesy Town of Minong, Wisconsin

### Asphalt vs. Gravel Roads

Road maintenance generally accounts for the largest town budget expenditure. With recent cuts in state funding, a greater portion of the cost of repairing and replacing paved roads falls on local taxpayers. In communities like the Lincoln Township, where many of the roads experience light traffic loads or are primarily used by agricultural equipment, some may question the merit of expending such a large percentage of limited Town resources on their upkeep.

This is especially true given the disproportionate wear and tear due to residential vehicles versus agricultural use, where agricultural land is taxed at a fraction of the rate of residential property. In Kewaunee County, agricultural land represents a mere two percent of the equalized value of the tax base but 70% of the land in the county.

It is further divided between implements of husbandry (haybines, combines, and harvesting equipment) that use the roads occasionally and industrial haulers of agricultural wastes. The latter can use any given road over two hundred times a day for round trip runs while emptying a wastewater lagoon onto a crop field. It is no wonder that residential taxpayers question elected officials about this taxation disparity.

The paved roads that brought rural America into the 20th century may start to disappear across the Midwest in the 21<sup>st</sup> century. Local officials, facing rising pavement prices, shrinking budgets, and fewer residents, are making tough decisions to regress. Many rural roads are deteriorating faster than they used to because farm and industrial equipment are heavier than ever. Meanwhile, the cost of pavement has risen dramatically in recent years. In Northeast Wisconsin, seal coat runs from \$26,000 to \$40,000 per mile for a road in good shape. If a road has deteriorated to the point where it needs replacement, the cost is from \$440,000 to \$540,000 per mile.<sup>1</sup>

With maintenance costs included, engineers have often used a rule of thumb that a road needs 150 to 200 cars a day, or the equivalent in heavyweight traffic, to be worth paving. Few town roads see this kind of daily car and light truck traffic. Gravel isn't free, but it's far less expensive, and will likely be considered an option for roads that see light vehicle traffic but heavy truck traffic—unless the taxing mechanism for roads shifts from the residential base to those more heavily impacting road wear and tear. In light of the fact that state politicians consider shifting road taxes to the

<sup>1</sup> Portions of this paragraph excerpted from *Making a Rural Comeback: The Old Gravel Road*, Minnesota Star Tribune, March 2011.



agricultural sector “political suicide”, ideas that have been floated include impact fees for industrial haulers and a cow tax for CAFOs.

### Capital Improvements Plan

A Capital Improvements Plan (CIP) assists in planning for major project costs by creating a multiyear scheduling plan for physical public improvements, including transportation. Scheduling is based on the projection of fiscal resources and prioritization of improvements five to six years into the future. Capital improvements include new or expanded physical facilities that are relatively large in size, expensive, and permanent. The town’s CIP outlines the community’s capital item needs and purchase plans, including:

- New or improved town community center.
- Funds for emergency vehicle purchase and replacement.
- Trail development.
- Street improvements (e.g. lighting, widening, crosswalks, paved shoulders, corridor studies, etc.).



### **Proposed New Town of Lincoln Community Center**

Capital items are generally defined as those that are expensive (cost \$5,000 or more) and will last at least 3-5 years. A CIP also includes improvement projects required for the community’s future and the appropriate timeline and funding to be followed to implement the improvements. In Lincoln Township, capital improvements are few and typically considered during the annual budget process with citizen input.

## Utilities & Community Facilities

### Introduction

Utilities and community facilities comprise the systems, services, and infrastructure necessary to support a municipality, its residents, and its economy. Lincoln's long-term wellbeing is dependent on the adequacy of this support system. Anticipating and preparing for the future utility and facility needs of the community is essential to ensuring its sustainable future.

### Utilities & Community Facilities Vision

*The Town of Lincoln will provide well-planned, cost-effective municipal services and infrastructure, in harmony with its rural character and natural environment, and maintain a fair and equitable tax rate for its citizens and business owners. It will continue to pursue opportunities with its municipal neighbors to increase the efficiency and lower the cost of providing these essential services.*

### Utilities & Community Facilities Issues & Initiatives

#### Algoma School District Update

The Algoma School District (ASD) is composed of two educational buildings. Algoma Elementary School is located at 514 Fremont St. and the Middle/High School and Business District Office is located at 1715 Division St. ASD is only one of just a dozen or so districts across the state with increasing enrollment. In 2011 the enrollment was around 605. Currently, the district serves 757 pupils from Early Childhood through 12<sup>th</sup> grade. That is impressive growth by any standard and one that is expected to continue considering the Elementary School has very large class sizes from early childhood through 3<sup>rd</sup> grade. The hope is that enrollment will stabilize at or around 800 in the next 5-10 years. The district proudly employs 55 highly qualified educators.

There was a \$4.86M referendum on the ballot in April, 2016. The referendum was very successful boasting an 80% approval rating, the highest in the state. The referendum was for renovations, improvements, and additions to elementary school, high school restroom renovations, parking lot improvements at each school building, and equipment acquisition. The last time a referendum was approved was in 1997.

#### Luxemburg-Casco School District Update

The four schools in the Luxemburg-Casco School District had a 2015-2016 total enrollment of 1,911 students. Luxemburg-Casco Primary School has an enrollment of 470 students in grades PK-2, and recently added 4-year old kindergarten. The school is located at 318 N. Main Street in the Village of Luxemburg and has a student-to-teacher ratio of approximately 15/1.

Luxemburg-Casco Intermediate School had a 2015-2016 enrollment of 501 students with a ratio of approximately 15 students for each teacher. The grades 3-6 school is also located at 318 N Main Street in Luxemburg. Luxemburg-Casco Middle School is located at 619 Church Avenue in the Village of Casco. The school had a 2015-16 enrollment of 305 students with a student to teacher ratio of approximately 15/1. It provides an education for grades 7 and 8. Finally, Luxemburg-Casco High School provides an education for students in grades 9-12. It had a 2015-2016 enrollment of 644 students with approximately 18 students per teacher. Its offices are located at 318 N. Main Street in the Village of Luxemburg.

In May, 2015, the district conducted a two and a half day “comprehensive planning” session with parents and stakeholders about the state of the district and where the future should lead. Out of those discussions came a blueprint to guide the district for expected future growth. Areas to be addressed ranged from and educational technology and business partnerships to facilities and technology upgrades. The district is preparing for slight growth over the next five to 10 years.

### Septic Systems

Over the last decade Lincoln, Township has experienced an increasing groundwater contamination problem. Several potential sources of that contamination have been researched including, but not limited to, faulty septic systems. Although owners of large-scale farms, also known as Concentrated Animal Feeding Operations (CAFOs), have argued for a long time that the amount of contamination was exaggerated, and that antiquated septic systems and bad wells played a bigger role in the problem than agriculture, research does not scientifically support those allegations and actually reveals the contrary.<sup>2</sup>

The Department of Safety and Professional Services (DSPS) is the state agency that oversees regulations regarding private onsite wastewater treatment systems (POWTS) also known as septic systems. Wisconsin State Statute Chapter SPS 383 covers POWTS regulations. According to the DSPS website, “County staff are particularly important to protecting our wells and groundwater from pollution through their services in plan review, permit issuance, and inspection of installation and maintenance of private onsite wastewater treatment systems. Counties are the basis for the Wisconsin Fund, which provides money for improvement of failing POWTS.” In Kewaunee County, the county zoning department is the agency responsible for septic system permitting and compliance oversight.<sup>3</sup>

On September 11, 2015, Glen Selner, the Kewaunee County Zoning Administrator, gave a presentation to the WDNR Compliance Work Group on the status of septic systems in Kewaunee County. County zoning has a GIS system to track septic systems. All newly installed systems are inspected. Old systems are reviewed with the use of air photos and soil maps. System inspections are ongoing across the county, with the systems installed prior to 1978 having the highest priority, as well as those with obvious discharges to the surface. Owners of non-compliant septic systems have one year to replace their systems. Nearly 80% of the septic systems in Kewaunee County are compliant with state standards, one

<sup>2</sup> Excerpted from “CAFO owners discuss role in pollution solutions,” Kewaunee Star-News, April 2, 2016.

<sup>3</sup> Excerpted from Septic System Overview, WDNR Compliance Work Group Draft Report, 10/11/15.

of the highest percentages in the state of due to the diligence the county zoning department. Countywide, perhaps 10% of the septic systems are non-compliant and need replacement.<sup>4</sup>

As of March 1, 2016, Lincoln Township has 385 septic systems, of which 326 (84%) are compliant with current state standards or tagged for replacement if they failed inspection. Of the remaining 59 (16%) non-inspected septic systems in Lincoln Township, the zoning administrator estimates that perhaps 50% are non-compliant and must be replaced. This means that perhaps 30 or 8% of the septic systems in Lincoln Township are non-compliant and need replacement.<sup>5</sup> To put this in perspective, those 30 homes generate the equivalent amount of waste of five dairy cows.

Kevin Masarik is the Groundwater Education Specialist for the University of Wisconsin-Stevens Point Center for Watershed Science and Education. Masarik is a highly sought out presenter by communities doing well testing in their areas. One comparison Masarik makes is the nitrogen loading on groundwater between a four-person household living on 20 acres and 20 acres planted in corn. The nitrogen loading from the septic system equals less than three percent of the nitrogen applied and leached out of the cornfield.<sup>6</sup>

In 2014, Masarik and Davina Bonness, now the Kewaunee County Conservationist, presented their findings of a yearlong well testing program in Lincoln Township.<sup>7</sup> For the ten wells investigated, an average of 0.8% (eight tenths of one percent) of the nitrogen in the wells was from the septic systems; the remainder from agricultural sources. Some of Bonness and Masarik's conclusions include:

1. "The degree to which nutrient management has been implemented around these wells (89% of cropland acres) is extensive...The extent to which nutrient management plans are being followed could not be verified; unless information exists to show otherwise, we assume that they are an accurate representation of what is taking place on the landscape. Therefore, we conclude that the elevated concentrations of nitrate in these ten wells are not the result of gross mismanagement or negligence."
2. "If the goal is significant long-term reduction of nitrate concentrations in groundwater of Lincoln Township, it would likely require active efforts to reduce nitrogen inputs (e.g. less nutrient intensive cropping systems, strategic reduction in acreage, etc.) beyond the current source, rate, and timing risk management strategies outlined in existing nutrient management plans."

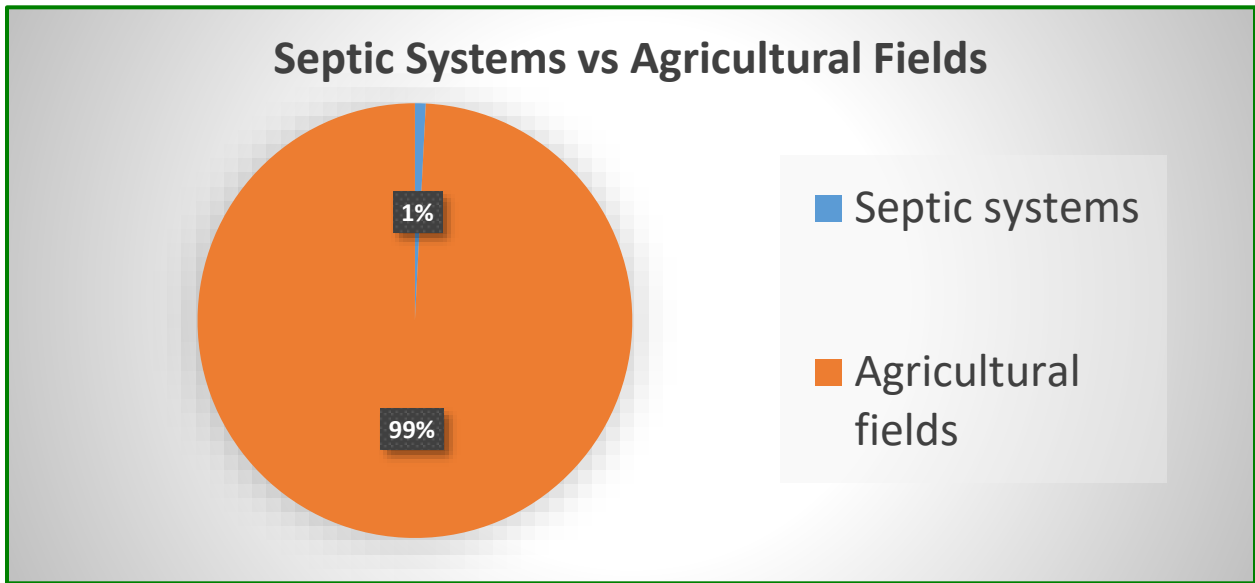
As a result of all of the above and other discussions, the WDNR Compliance Work Group accepted that less than one percent (1%) of the waste generated and/or spread in Kewaunee County is attributable to non-inspected and potentially non-compliant septic systems. Accordingly, the WDNR Compliance Work Group considered septic systems, for all intents and purposes, to be a very minor contributor to contamination of the county's groundwater, and would no longer take time to discuss or consider the issue.

<sup>4</sup> Glen Selner, WDNR Compliance Work Group, September 11, 2015.

<sup>5</sup> Kewaunee County Zoning Department 2015 Annual Report to the Kewaunee County Board of Supervisors, March 15, 2016.

<sup>6</sup> Effects of Nutrient Management Practices on Water Quality: Nitrogen Issues and Concerns.

<sup>7</sup> Investigating Inter-annual Variability of Well Water Quality in Lincoln Township, June 2014.



As stated above, the number of non-compliant septic systems in the township is perhaps 30 out of 385 total systems in Lincoln Township. Consequently, the Town of Lincoln will accept the similar position that it is clear that the number of non-inspected and potentially non-compliant septic systems in Lincoln Township is very small contributor to the overall groundwater contamination situation we are experiencing. Further, the preponderance of data shows that the Kewaunee County has a well-managed septic system inspection and compliance program that would make efforts at the Town level redundant and inefficient. We need to look at other ways of reducing contamination in our groundwater.

Regardless, the Kewaunee County Zoning Office has proposed an amendment to the Sanitary Ordinance that would require all septic systems installed prior to January 1, 1985 to have a new soil evaluation completed within four years. In order to support all efforts to assure clean groundwater, the Town of Lincoln supports any efforts that will help resolve groundwater contamination problems, regardless or source.

### Utilities & Community Facilities Plan

#### Renewable Energy Systems

With rising energy prices and a greater awareness of the environmental impacts of conventional power plants, more Americans are utilizing personal energy systems to reduce costs associated with electricity, heating, and cooling. In addition, state and federal tax incentives have reduced the total



costs of these systems making them available to a greater percentage of users. Personal energy systems include photovoltaic solar, solar thermal, small wind, geothermal, and EPA approved wood-fired boilers among others. ,

Lincoln Township has a decades-long history of citizen interest in utilizing wind and solar energy resources. In addition, Lincoln Township (and Red River Township) is home to the first two wind farms east of the Mississippi River, one installed and operated by Madison Gas and Electric and the other by Wisconsin Public Service Corporation.



### Methane Digesters<sup>8</sup>

Anaerobic manure digesters (or methane digesters) collect manure and convert the energy stored in its organic matter into methane, which is used to produce energy (gas or electricity) for on-farm or off-farm use. The conversion to methane is the result of anaerobic digestion, a biochemical process in which organic matter is decomposed by bacteria in the absence of oxygen. Digesters must be airtight for anaerobic digestion to occur. The resulting methane (known as biogas) is flared or combusted to generate energy. Generally, the manure used in digesters should have a total solids concentration of 14% or less and be mostly free of soil, sand, stones or fibrous bedding material. Supplemental feedstock such as food processing wastes and wastewater can often be added to manure digesters. The benefits provided by a methane digester include:

- Turns waste gas (methane) into a source of renewable energy.
- Generates energy that can be sold.
- Generates heat or other energy for on-farm use.
- May qualify for carbon credit payments.
- Results in potentially higher-quality manure for use on crops (more nutrient-rich and fewer weed seeds).

Lincoln Township is home to one methane digester serving a large dairy operation, Dairy Dreams LLC.



Courtesy RCM Digesters

<sup>8</sup> Excerpted from Manure/Methane Digester, Minnesota Department of Agriculture website, 2016.

It is estimated that between the 14 wind turbines owned by Wisconsin Public Service and eight wind turbines owned by Madison Gas and Electric operating in Lincoln Township plus the methane digester operated by Dairy Dreams, the township generates over six and a half times the electricity consumed by all of the residences in the entire township annually (not including the large CAFOs or other commercial operations).



Broadband Internet

Access to high-speed (or broadband) internet service is critical in the 21st century economy. The improved connectivity provided by such access supports robust business services, expands access to health care, and improves the quality of education in schools. It has become a necessity, as vital to rural America's future today as electricity and the telephone were in the last century. The technology is a must for the types of home-based and value-added businesses that may grow and thrive in a rural community like Lincoln.