INTRODUCTION

Milton Township, located in Antrim County, is a sensitive ecological region due to the vast water resources of Lake Michigan, Elk Lake, Lake Skegemog, and Torch Lake. The richness of these water sources are a driving force behind the local economy, and the protection of these resources are vital to the area.

On October 8, 2012, Milton Township took an important step in the recognition of these resources by adopting the Septic Inspection and Property Transfer Ordinance (commonly referred to as time-of-transfer (TOT) or point-of-sale (POS)). The adoption of this Ordinance was driven by the desire to protect these natural resources, to provide information to owners and purchasers of properties using on-site water and wastewater systems, and to raise awareness of ways to improve and extend the life expectancies of on-site systems.

This is accomplished through evaluations of residential and commercial on-site water supply systems and on-site sewage treatment and disposal systems (STDS) by trained Environmental Health staff of the Health Department of Northwest Michigan. The resulting evaluation report includes a detailed assessment of the condition and functionality of water and wastewater facilities serving the property, a determination of compliance with relevant regulations, any recommendations to improve existing systems and, where threats to environmental or human health exist, require corrections to mitigate environmental and public health impacts.

To assure consistency of inspections and compliance with the federal, state, and local regulations, Milton Township entered into an intergovernmental agreement (IGA) with the Health Department of Northwest Michigan (HDNW). The IGA establishes a relationship between the two governmental entities and clearly defines the roles of each in executing the Ordinance. Outside of inspection activities, HDNW has an ongoing obligation to provide Milton Township with a report of its finding on an annual basis. Annual reporting is intended to keep the Township informed on the outcomes of the evaluation process, and to discuss where improvements can be made to the program.
Section I, Subsection A (2.) of the intergovernmental agreement states that HDNW is responsible for:

“providing the Township with an annual report, at no cost to the Township, regarding the number of evaluations conducted in the Township the preceding year and the number of evaluations that failed to meet the standards of Section 5 and 7 of the Ordinance.”

Section five (5) of the Ordinance covers both required STDS evaluations, and exemptions to the requirement. Section seven (7) covers the evaluation application and fee.

This document serves as the 2018 annual report for the Milton Township TOT Ordinance, satisfying Section I of the IGA. This document also provides information beyond that required under the Ordinance in an effort to offer a more comprehensive understanding of the program, and its outcomes and recommendations for enhancement of data collection and program improvement.

**METHODS**

In 2018, the sixth year since the enactment of the Ordinance, 42 evaluations were conducted. Since the implementation of the Ordinance in October 2012, a total of 288 evaluations have been performed by HDNW in Milton Township. Prior to sale or transfer, all properties in Milton Township must have an evaluation of the water and wastewater supply performed unless one of the following conditions is met:

- A new STDS has been installed within the past 10 years
- The STDS has been evaluated within the past five years and was found to be functioning properly at that time
- The seller meets the requirement for an exemption under Section 5

When conducting evaluations, Environmental Health staff inspect the water supply system(s) and wastewater system(s) serving the property. Water supply systems are evaluated by determining compliance with Michigan’s Water Well Construction and Pump Installation Code (*Part 127 of Act 368, PA 1978*), the District Sanitary Code serving Antrim, Charlevoix, Emmet, and Otsego counties, and Michigan’s Safe Drinking Water Act (*Act 399 of Act 368, PA 1978*).

Water samples are collected from a tap used for drinking water purposes, and analytical results are compared against the Environmental Protection Agency’s drinking water quality standards. Items of non-compliance are identified and required to be upgraded if the deficiency poses an imminent public health threat to those using the water supply system for potable use.

The sewage treatment and disposal system evaluation consists of determining the location, size, and condition of the existing septic tank(s) and pump chamber(s), location of the existing drainfield and documenting the design, size, and functional status, conducting a soil analysis, determining the seasonal high groundwater elevation, isolation to surface water(s), and future replacement options. These data, along with other requirements under the District Sanitary Code, are used to determine the property’s existing and future compliance with the Code with respect to on-site (and possible off-site) systems.
Together, the information gathered for the water supply and wastewater systems is used to develop a comprehensive report and site plan, document existing facilities, and indicate compliance status of these systems. Additionally, all reports are concluded with marking the following categories (if applicable):

**Required Action:** Where items of non-compliance pose a direct threat to the environment and/or public health

**Recommended Action:** Where the enhancement of existing systems could bring systems into compliance, extend the life expectancy of systems, enhance the ability to maintain systems, increase the safety of systems, or reduce impacts to the environment

**Restricted Future Use:** Where the site is non-conforming with respect to the District Sanitary Code, and any future improvement of the property would require the use of an off-site drainfield location

**DISCUSSION**

In January of 2017, a revision to the 2007 Sanitary Code was passed. In the 2017 Code change, several changes in Code requirements and definitions would possibly impact evaluation outcomes of this Ordinance. Most notably, the definition of failure has been changed to state, “Where the drainfield aggregate of a sewage treatment and disposal system has hydraulically saturated or effluent from a sewage treatment and disposal system is exposed to the surface of the ground, backing up into a structure, or is permitted to drain onto the surface of the ground of into any lake, river, storm sewer, or stream, or where the seepage of effluent is endangering a public or private water supply or where a public health nuisance is created by a system improperly constructed or maintained.”

When reviewing results of the water and wastewater inspections, it is important to note that the District Sanitary Code has undergone several revisions since the initial code in 1964. Sanitary code changes impact regulatory approval criteria for properties, design, and construction requirements, and can change the compliance status of water and wastewater systems. This is important to understand as many systems were installed lawfully under previous codes and regulations; non-compliance with current regulations does not imply that these systems are creating public health threats or environmental impairments. The strength of the evaluation process is to determine the functional status of existing systems and the potential future use of the property. Where existing systems are found to meet the definition of failure, a replacement septic permit will be required. If a replacement septic permit is not applied for, HDNW will enter into enforcement actions until the system has been replaced or an alternative solution has been identified.

The changes in the District Sanitary Code impact both on-site water supply and on-site sewage treatment and disposal systems. One of the code changes over time is an increase in absorption area required per bedroom. With this increase in absorption area, most of the systems installed prior to 2007 do not meet current Code requirements with respect to absorption area size. A water supply or wastewater system is only required to come into full compliance with the Code at the time changes of
RESULTS

Water Supply Systems

In 2018, 41 water supply systems were evaluated. Evaluations consist of a file review to determine whether the systems were installed under a permit issued by the Health Department, if there is a well log detailing the installation of the well, if the well is properly isolated from potential sources of contamination, and if the construction of the well and pumping equipment meet state requirements. Evaluations also include the collection of a bacteriology and partial chemistry water quality sample from a drinking water tap. Table 1 shows the findings of the evaluations.

Table 1: Results of 2018 Water Supply Evaluation

<table>
<thead>
<tr>
<th>Finding</th>
<th>Number of Cases</th>
<th>Percentage of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>No well log</td>
<td>28</td>
<td>68</td>
</tr>
<tr>
<td>No well permit</td>
<td>20</td>
<td>49</td>
</tr>
<tr>
<td>Overlapping well cap</td>
<td>5</td>
<td>12</td>
</tr>
<tr>
<td>Well location unverified/Buried wellhead</td>
<td>5</td>
<td>12</td>
</tr>
<tr>
<td>Coliform bacteria present</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>Inadequate isolation to septic or fuel oil tank</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>Well cap less than on foot above grade</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>Well located in pit</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Well located in well house</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Well located in area subject to flooding</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

When reviewing compiled water sample results, it was determined that nitrates ranged from less than 0.1 mg/L to 5.11 mg/L (or parts per million). The Environmental Protection Agency has established a maximum contaminant level (MCL) of 10 mg/L for nitrates in drinking water. This MCL was not exceeded in any evaluations in 2018.

Coliform bacteria was present in two water samples. Following chlorination and subsequent flushing of the well, one water supply was non-detect for coliform bacteria, and the second was inconclusive. A note on the evaluation for the inconclusive samples advises additional bacteriological water testing. The possible causes of coliform bacteria in the water supply can be attributed to work being performed on the water supply system without chlorination afterwards, and the well not being used routinely.

For several evaluations, the pressure tank and associated water well plumbing was not available for inspection. In the majority of these cases, the pressure tank was located in the crawl space and was not accessible for inspection without an undue burden on the homeowner/realtor to make the crawl space

use are proposed to the home, most notably with living space additions or complete replacement and reconstruction activities.
accessible. Overall, the majority of plumping equipment, pressure tanks, and water plumbing inspected appear to be in good working condition.

**Wastewater Systems**

In 2018, 42 wastewater systems were evaluated. The evaluation includes a record search for any previous septic permits issued for the property, and an on-site assessment of the various components of the system. The on-site assessment includes the following: septic tank(s), pump chamber(s) and components, dry wells, block trenches, conventional trenches, drainbeds, elevated systems (mounds), off-site systems, or advanced treatment systems. Inspections include determination of horizontal and vertical isolation compliance with the District Sanitary Code, evaluation of soil conditions, and the functional status of the system at the time of the inspection. Table 2 shows the findings of the evaluations.

**Table 2: Results of 2018 Wastewater Evaluation**

<table>
<thead>
<tr>
<th>Finding</th>
<th>Number of Cases</th>
<th>Percentage of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Septic permit not available</td>
<td>13</td>
<td>31</td>
</tr>
<tr>
<td>Drainfield undersized</td>
<td>12</td>
<td>29</td>
</tr>
<tr>
<td>Drainfield dimensions not confirmed</td>
<td>7</td>
<td>17</td>
</tr>
<tr>
<td>Drainfield &lt;4’ to groundwater</td>
<td>4</td>
<td>10</td>
</tr>
<tr>
<td>Groundwater or soils non-compliant with Code</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>Drywell</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>Drainfield &lt;100’ to surface water or high water line</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>Drainfield straddles property line</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Drainfield partially located under drive</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

A high number of septic tanks were not available for inspection, and this is primarily due to two factors. First, if the septic tank has been pumped within five (5) years of the evaluation, the septic tank is not required to be pumped again. Very few of the septic tanks pumped within this five-year span were available for inspection. Second, the inlet of the septic tank was left uncovered more often than the outlet lid, which does not allow for a complete evaluation of the outlet of the tank to determine if an outlet baffle and effluent filter are present.

In 12 evaluations (29%), the existing sewage treatment and disposal system was undersized for the home. This can attributed to several different factors, with the primary factor being required absorption area changes in the 2007 District Sanitary Code. In addition, several of the homes had an increased number of bedrooms from when the system was originally permitted. Finally, several of the systems were not adequately sized for the soil conditions found on-site at the time of inspection.
Waterfront properties comprised 19 evaluations of the total 42, or 45.2 percent. These properties have a greater potential of contaminating surface water and generally have a higher seasonal groundwater level than non-waterfront properties. Overall, four (4) properties had drainfields that were improperly isolated to groundwater, with four feet being the minimum separation distance. Of these four properties, three were waterfront lots. In many cases, the groundwater elevation level noted on the original permit differs from what was measured on-site. Overall, HDNW has found that groundwater and surface water levels have been increasing in the past several years compared to the last decade.

Of the 42 wastewater systems evaluated in 2018, 13 (31%) were found to have no records of permitting or installation. Of the systems where records exist, the average age of systems evaluated was 27 years. Assuming the systems without records represent those that were installed prior to the first sanitary code in 1964, the continued operation of these systems would suggest that these systems are greater than 50 years old. Historically, many of the properties evaluated have experienced only seasonal use, thus being used at a factor of their system design capacity. Other potential explanations for the lack of information may be the result of poor record keeping or systems installed without permitting. In these cases, it is impossible to accurately determine the age of the system.

Regarding functional status of the STDS, many of the homes inspected are not year-round, full-time residences. That is an important factor in determining the functionality of the existing wastewater disposal system. Many of the homes inspected had not been occupied for quite some time, or had only seasonal or weekend occupancy for the life-span of the system. A full functional analysis of the STDS cannot be completed for a system that has not been utilized under normal operating conditions or has not seen peak demand use.

**Required, Recommended, and Restricted Actions**

As mentioned in the methods section, the report can include marking any required, recommended, or restricted actions, if applicable. Table 3 shows the findings of the evaluations.

<table>
<thead>
<tr>
<th>Finding</th>
<th>Number of Cases</th>
<th>Percentage of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Required</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Recommended</td>
<td>15</td>
<td>35.7%</td>
</tr>
<tr>
<td>Restricted</td>
<td>3</td>
<td>7.1%</td>
</tr>
</tbody>
</table>

Overall, 15 (35.7%) of the homes evaluated had associated recommendations to extend the life expectancy of the water supply or wastewater systems. These recommendations ranged from updating a pump chamber with approved lid, riser, and high-water alarm, to trimming vegetation to reduce root intrusion into the drainfield, to replacing well caps with a newer vented style, and on one site, not to grow crops for human consumption on the drainfield. Specific recommendations were made for each
home evaluated, along with a general comment for all homes that HDNW recommends pumping the septic tank every three to five years. The recommended pump-out for STDS maintenance was not commonly known among buyers and sellers, and regular pump-outs can help maintain longevity of the system.

Of the 42 evaluations conducted, three (7.1%) sites had restricted future use. In these cases, there were site factors that did not allow for additional bedrooms to the existing home or replacement of the home without a suitable off-site drainfield location. The site factors included soils non-compliant with the District Sanitary Code and/or seasonal high groundwater less than 12 inches. The restricted future use of the site provides information for the buyer and seller and is only relevant when changes of use to the existing home are proposed (changes of use include remodeling greater than 50%, proposing additional bedrooms, and tear down/rebuild). Typically, this category is used when the existing home and STDS are operationally functional and there is no requirement to upgrade or replace the system at the time of the evaluation.

**Seasonality and Turnaround Time**

While application can be made at any point throughout the year to perform an evaluation, the majority of the evaluations are performed during the summer and fall seasons. Figure 1 below indicates the number of applications received each month in 2018.

![Figure 1: Number of Applications Received Per Month in 2018](image)

Few evaluations are requested during the winter months and that speaks to two different factors. The first factor being that Milton Township has a strong seasonal population and winter is simply not as active for tourism. The second factor is that due to possible frozen ground conditions and snow cover, HDNW has encouraged realtors and homeowners to apply for the evaluation during the fall months if they think the property may be listed in the winter. Since the evaluation is good for five years, there is no penalty for performing an evaluation early.
Additionally, HDNW frequently receives questions regarding the turn-around time of the evaluation. A three-week (15 working days) time frame is given to process the application, schedule and perform fieldwork, receive water sample results, and write the report. Note that due to weather conditions, staff vacation, water sample results, and scheduling the time frame cannot be guaranteed. In 2018, the average turnaround time of this service was 14 business days.

**EDUCATION AND POLICY**

Over the years, various program improvements and homeowner education have been value added components of the TOT ordinance. This ordinance has increased residential awareness of on-site water and wastewater supplies, and as such, there have been various opportunities for homeowner education and policy change.

In 2018, HDNW partnered with WasteWaterEducation (501 c(3)) to put on a webinar discussing the Milton Time of Transfer Ordinance. The webinar, titled Peace of Mind, was presented January 18, 2018 to a live web audience of wastewater professionals across the nation. The primary topic was the Milton Township Ordinance and the benefits of time of transfer programs. The webinar was well received and invited discussion and comments from the attendees. For those who were unable to attend, the presentation can be found here ([https://www.youtube.com/watch?v=J0kY2eVrJD4](https://www.youtube.com/watch?v=J0kY2eVrJD4)).

On March 22, 2018, Representative Lower Introduced House Bills 5752 and 5753 to the Michigan House of Representatives. These bills were introduced in an attempt to create a statewide sanitary code and to invalidate the established codes from the 45 local health departments in Michigan that did not comply with proposed standards and receive approval from the Michigan Department of Environmental Quality (MDEQ). The bills proposed to amend Act 368, the Public Health Code, and fundamentally change the ability of local health departments, boards of commissioners and township boards to adopt health regulations or ordinances relating to wastewater management and mandate repeal of existing time of transfer programs across the State.

The Environmental Health Directors across the State opposed the proposed House Bills (77%) as overreaching and not containing provisions for properly funding the elements of the bills, which would leverage the current capabilities of health departments to implement and administer the proposed mandates. Many Health Departments, Boards of Health and Local Units of Government, including Milton Township, also opposed the bills, based on their desire to maintain successful time of transfer programs legally adopted under ordinance or regulation procedures. Many communicated their positions with their local representatives and senators, passed resolutions opposing the House Bills and/or drafted letters of opposition (appendix I).

Due to the rallied opposition to the proposed legislation, HB 5752 and 5753 died in the December 2018 lame duck session. There is support for the establishment of minimum standards, with respect to wastewater management, in Michigan. To be successful, future efforts would need to include more representation from local public health and inclusion of local units of government that administer wastewater regulations through time of transfer programs or other wastewater management programs.
CONCLUSION

Over the past six years, the evaluation and evaluation process has been generally well received by buyers, sellers, and realtors. While very few required actions have resulted from the inspections, the Ordinance has helped raise awareness regarding the installation, use, operation, and maintenance of on-site systems. Homeowner education has been one of the positive outcomes of the Ordinance and evaluation findings serve as a broad indicator of the overall status of on-site systems in Milton Township.

Beyond the status of existing water and wastewater systems, the determination of compliance with the current District Sanitary Code and future uses of the property has put relevant information in the hands of buyers and sellers. On some sites, the existing structure cannot be replaced or added onto due to non-compliance of the property, with respect to current regulatory requirements. This information is critical to buyers wanting to establish a home in Antrim County, and it also encourages the home to be advertised and priced accordingly. One local realtor commented, “The Ordinance has been well received in my opinion by buyers and sellers. . . . .Sellers are ok with the process as long as it’s not brought up at the last minute and buyers generally like the idea since it puts the burden on the sellers.”

In addition to property owner and buyer benefits, Milton Township and HDNW have also benefited by having a better understanding of how existing systems are functioning and what impacts they are having on public health and the environment. The on-site evaluation findings indicate that there are relatively low rates of on-site septic system failures with life expectancies that commonly exceed statewide averages, and on-site water supply systems are largely compliant with state regulations and are providing safe water for domestic uses. While the District Sanitary Code serving Antrim, Charlevoix, Emmet, and Otsego counties is one of the more restrictive sanitary codes in the state, it appears that the Code encourages system longevity and minimizes impacts to public health.

The success of the Milton Township Ordinance relies heavily on collaboration between township officials, HDNW staff, realtors, land surveyors, and homeowners. Without this strong community support, the program would not achieve the same effectiveness.
CONTAC T INFORMATION

Milton Township

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10 Milton Township Time of Transfer Ordinance 2018 Annual Report
Health Department of Northwest Michigan

RESOLUTION

OPPOSING HOUSE BILL 5752 and 5753

WHEREAS, House Bills 5752 and 5753 would add Part 128 to the Public Health Code and establish state and local standards for onsite wastewater treatment systems which would require the Michigan Department of Environmental Quality to develop a statewide code to govern the installation, operation and inspection of septic systems;

WHEREAS, The Amendatory Act restricts and removes local controls and changes existing regulations and guidelines that have effectively been enforced by the Health Department of Northwest Michigan;

WHEREAS, The Amendatory Act would add additional mandates that would increase the amount of agency staff time and expenses that the Health Department of Northwest Michigan would incur under the new Act without adequate funding from the state;

WHEREAS, The Amendatory Act would compromise and threaten existing regulations and grant the Michigan Department of Environmental Quality authority to approve local sanitary codes, undermining the duties of local health departments, under the Public Health Code, to implement and enforce laws;

WHEREAS, The Michigan Department of Environmental Quality lacks the necessary budget and staffing levels to meet the mandates of the Amendatory Act, which will place an additional financial burden on local authorities;

WHEREAS, The creation of the State Technical Advisory Committee, under the Act, would take away and replace local control of the design, permitting, inspection and management of onsite wastewater treatment and disposal facilities and greatly limit local public health input into the rulemaking process;

WHEREAS, The Amendatory Act fails to adequately address funding for distressed homeowners and vacated properties with onsite wastewater treatment and disposal facilities;

THEREFORE BE IT RESOLVED, That the Health Department of Northwest Michigan Board of Commissioners oppose HB 5752 and HB 5753 and requests State Legislators to oppose the legislation.

Karen Bary, Chairperson
Antrim County Commissioner

Lisa Peacock, Health Officer

Date 12/4/18

Date 12/4/18
Board of Health Vote - All years
Nancy Ferguson, Vice Chair
Charlevoix County Commissioner
Melissa Zeleash, Antrim County Commissioner
Shirley Roloff, Charlevoix County Commissioner
Betsy White, Emmet County Commissioner
Jonathan Scheel, Emmet County Commissioner
Duane Switalski, Otsego County Commissioner

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RESOLUTION
OPPOSING HOUSE BILL 5752 and 5753

Health Department of Northwest Michigan
November 30, 2018

Tom Frazier
Legislative Liaison
Michigan Townships Association
512 Westshire Dr.
Lansing, Michigan 48917

RE: HB5752

Dear Mr. Frazier,

As you are aware, Milton Township is nearly surrounded by Lake Michigan, Torch Lake, Torch River, Lake Skegemog and Elk Lake. The protection of water quality and the health of our residents are among our highest priorities. To this end, we enacted our Septic Inspection and Property Transfer Ordinance on October 8, 2012.

This has been a very successful program that we implemented with the full partnership of the Health Department of Northwest Michigan. We have identified failed and failing onsite wastewater treatment systems and drinking water systems. The program has been well received by those purchasing homes because they are assured that systems are functioning properly or that they may have to expand systems if dwellings are planned to be enlarged.

From the onset we had the cooperation of the real estate community and Ordinance provisions have been conducted smoothly and without complaints for over six years.

If enacted, the provisions of HB5752 Sec.12815 (2) will not allow a local government unit to enforce a point of sale ordinance related to onsite wastewater treatment systems. Further Sec. 12816 preempts local government units from enacting any provisions for the inspection of onsite wastewater systems.

HB5752 does allow local health departments to require point of sale inspections, BUT MAY NOT restrict or condition the sale. This in effect makes a requirement with “no teeth” for enforcement. Further it is not clear that health departments have the authority and/or administrative structure to require such inspection programs. District health departments are unlikely to consider implementing multicounty programs.

Milton Township
P.O. Box 309 Kewadin, MI 49648
Earlier versions of this Bill actually proposed provisions for a new Statewide system for routine evaluations of onsite wastewater systems. But they have been stripped from the current HB5752, leaving the issues of inspections/evaluations as status quo, and thus inadequate.

In summary, HB5752 prohibits townships from enacting any oversight of the inspection and evaluation of onsite wastewater systems. This infringes on the responsibilities of townships to adequately serve our citizens in protecting water quality and human health.

Respectfully,

Lon Bargy
Supervisor
Milton Township

Elizabeth Atkinson
Treasurer
Milton Township

Copy to:
Scott Kendzierski
Director, Environmental Health
Health Department of Northwest Michigan

Milton Township
P.O. Box 309 Kewadin, MI 49648