
**FIRE STATION PLACEMENT
REVIEW AND CONSIDERATIONS
FOR
EMPIRE TOWNSHIP**

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Acknowledgements

EVALUATION METHODOLOGY

This report was developed by collection and analyzation of data, research and review of literature, and direct observation of current and prospective properties. A compilation of material has been used to include national consensus standards, insurance and risk analysis documents, State and National laws and standards for fire and emergency services

STRUCTURE OF THE REPORT

This report includes detailed background information on fire and EMS station locations and practices and standards to assist with understanding the basis for some conclusions, options, and recommendations.

APPRECIATION

I would like to extend genuine appreciation to the Empire Township officials and staff and members of the Glen Lake Fire Department for their cooperation and assistance in conducting and compiling this Study to develop the Fire Station Placement Review and Recommendations for Empire Township. A sincere appreciation is extended to the Township and these individuals for their support, assistance and contributions to the completion of this Study.

Executive Summary

This is the Executive Summary of the report resulting from a study of the Empire Township owned Fire Station related to the detailed analysis for the Fire Station Placement Review and Recommendation for Empire Township.

VILLAGE OF EMPIRE HISTORY

The Empire village area was first settled in the mid-1850s by John LaRue. Two shipwrecks in the area are thought to have contributed to the naming of the village. The side-wheeler “Empire State” went aground in 1849 and the schooner “Empire” grounded in 1865. The Village was organized by the Leelanau County Board of Supervisors on October 16, 1895.

In December of 1887, the T. Wilce Co. formed the Empire Lumber Company to provide hardwood for their flooring company in Chicago. About 1890, this mill was expanded into one of the largest hardwood mills in the state. Empire turned into a booming lumber town with the population nearing 1,000 people. The mill burned in 1906 and a reconstructed mill burned in 1917. These events ended Empire’s lumbering era. ¹

DEMOGRAPHICS

The Township, including the village, consists of 1,261 residents according to the 2010 U.S. decennial Census. The estimated population in the year 2015 was 1,556 estimated 14.33% growth. The median age of the population also increased as estimated in 2015 was 58.3 years². Geographically, the Township is comprised of 36 square miles. Empire Township has a State Equalized Valuation of \$250,647,600 as of 2017³. Twelve square miles of the Township is owned by the National Park Service.

¹ EMPIRE AREA HERITAGE MUSEUM COMPLEX, BROCHURE

² U.S. CENSUS BUREAU 2010 AND 2015

³ LEELANAU EQUALIZATION DEPARTMENT

The U.S. Census Bureau estimates that, in 2015, the Village of Empire had 358 residents living within the Village limits. This is 23% of the total Township population. Thus, while the Village has a higher population density, it does not contain the majority of Township residents nor is it the most densely populated portion of the Township.

During the summer, the Township population grows to approximately 19,000. Additionally, the area attracts nearly 1.5 million visitors annually due to its many natural attractions and outdoor activities.

Governance of the Township

The Township is governed by a Board form of government. The Board consists of a Supervisor, Clerk, Treasurer, and two Trustees. The Supervisor is responsible for the direction and oversight of the various commissions and departments and works in conjunction with the Board. The Township is the responsible operating authority for Emergency Services.

Inside the Township, the incorporated Village of Empire is governed by a Village Council. The Council is comprised of a President, Clerk, Treasurer, and six Trustees. The Village has no operating authority over the Emergency Services.

The Township does have representation on Glen Arbor's Emergency Services Advisory Commission. Three members from Empire Township participate on the seven (7) member Commission.

Introduction

The Empire Volunteer Fire Department (EVFD) was organized in 1898. The first hose cart building was located off LaRue Street. A new hose house was built in 1911 and was sited on Front Street. Around 1950, the Township and Village entered into an operating agreement and built a new fire house. Modern fire apparatus was purchased in the 1960's. The final fire Hall was dedicated on August 21, 1982 at the current location on Lacore Road.⁴

EVFD operated under its own volunteer fire chief until 1997. At that point, the Empire Township Board authorized operation under a full-time Fire Chief. In 1999, Glen Arbor and Empire townships agreed that the provision of 24/7 EMS service was becoming more difficult to offer. After a period of discussion, the two townships entered a contract to provide Limited Advanced Life Support (LALS). Each department had a few LALS licensed EMTs. With North Flight EMS supplying additional personnel, the Glen Arbor Fire Department and EVFD began handling EMS as a single entity. The new agency started doing business as Glen Lake EMS. Each station continued to house an ambulance, EMT-Basic and LALS providers from both departments provided pre-hospital medicine to both Townships.

Shortly, after its inception it was seen that the dwindling number of available volunteer EMTs and higher certification standards were placing a greater strain on the local EMS response system. Glen Lake EMS needed to further evolve to meet these challenges. As options were explored the best resolution was determined to hire outside staff to augment the system. Rather than taking on the Human Resource burden, maintenance of licensing, and training responsibilities, the best option to was to contract with North Flight EMS. Glen Arbor Township contracted with North Flight to provide a LALS provider for Glen Lake EMS 24/7. The first person hired with adequate credentials to manage the growing organization and its new employees was the Glen Arbor Fire Chief. This worked very well as the Chief could work at the station during the day and respond during his scheduled days of work at night from his home located in the township. Now in conjunction with the Glen Arbor Chief, the other days would be covered with a LALS provider from North Flight, leaving Glen Lake EMS to provide one EMT 24/7 for driving and assisting the LALS provider.

⁴ Empire Village Leader Journal, Centennial edition, June 30, 1995, page 10.

While this helped to relieve the burden on EMS, it created its own challenges. Housing for personnel was not something available at either of the two-fire stations. A cottage was rented near the fire station in Glen Arbor for personnel to stay at for overnight shifts. At this point, due to the geographical location of EMS licensed personnel, both ambulances were housed in the Glen Arbor station and a rehab truck was used for first response from the Empire Station. By 2001, the quantity of LALS licensed personnel in the State and especially the region had dropped drastically. Most LALS individuals had upgraded their licenses to Paramedic to be able to treat greater types of illness and injury with advanced skills. While a paramedic can perform the same skills a LALS employee can, the cost of paying for the paramedic and using them in a limited capacity was not cost effective. To provide better service and utilize the paramedics' skills, it was decided to upgrade Glen Lake EMS to a Paramedic agency over a period of a year. The budget was also increased to facilitate the upgrade. Glen Lake EMS upgraded its State Agency medical license that year to allow for temporary paramedic services. In addition to funding the LALS agency, Glen Arbor and Empire residents were also paying additional expenses and insurance costs when their emergency required Paramedic services. If Advanced Life Support (ALS) paramedics were required, the Glen Lake EMS ambulance would request the North Flight helicopter or ambulance from Traverse City.

After comparing the cost of upgrading to a paramedic service vs. maintaining a LALS service and requiring the addition of a Paramedic 30% of the time, it was determined that the reasonable and financially prudent decision was to upgrade Glen Lake EMS to Advanced Life Support (ALS) license. The upgraded license that Glen Lake EMS now had was a temporary one known as the "Bennett Bill" it allowed a two-year trial period with the possibility of a two-year extension if necessary. This trial period would provide the time need to see if the paramedic service upgrade was affordable and desirable.

In October 2001, Glen Lake EMS, through its contract with North Flight, hired its first paramedic. The paramedic (ALS) employee would split the time with an LALS employee to cover the pre-hospital provider position on the Ambulance 24/7. The driver would continue to be a volunteer/part-time member of Glen Lake EMS. Beginning FY 2003, after budget reviews and evaluation of the ALS care, it was determined to switch to full-time paramedic staffing. This would require two and one half additional paramedics (½-person accommodates overtime and vacations). The LALS employee (the Glen Arbor Fire Chief) would continue to manage Glen

Lake EMS and work as the driver and assistant to the paramedic. This further reduced the burden on the continued reduction of volunteer staffing. By 2004, only four volunteer EMTs actively worked as drivers. In 2004, two additional EMTs were hired to work full-time in rotation with the Chief. This last step created a full-time paramedic EMS service. Secondary calls and vacation time continued to be covered by part-time staff.

In 2008, the Empire Volunteer Fire Department was having increasing difficulty responding to Fire and Rescue emergencies with its volunteer base. With only one full-time staffing position, shared between the Chief and Assistant Chief, the EVFD and Empire Township board started evaluating a contract with Glen Arbor Township to merge fire operations as it had earlier done with the EMS operations. Glen Arbor, contracting for EMS with North Flight since 1999, had also further enhanced their own Fire Department with full-time employees to combat the volunteer dilemma. Neither of Township was having a problem that was unique. The difficulty in recruiting and training volunteers is a problem that has been developing across the country since the 1980s. Increased fire and EMS call volumes, expanded services, more in-depth required training, and changing societal and personal priorities have combined to greatly diminish volunteer fire and EMS participation.

Demographics and Risk

The Township of Empire, is located in the southwest corner of Leelanau County. It comprises 36 mi² of area. State Highways M-72 and M-22 intersect in the village. The Township has a section of the Heritage Trail bike path running through it which also ends inside the village.

The Department of Interior's National Park Service owns approximately 12 mi² of the Township's response area. One of the biggest attractions of the Sleeping Bear National Lakeshore, Overlook 9 and 10, is in Empire Township. Visitor volume to NPS areas throughout the year numbers is approximately 1.2 million people.

The population of the Township (including the Village) is 1,361 residents as of the 2010 decennial census. The estimated 2015 population is 1,556 persons. This is a projected growth of about 14.33%. The figures do not account for the seasonal population increase or for transient tourist visitation throughout the year.

Empire Village has the higher population density and, thus, fire and EMS call volumes tend to be denser. Empire Township has more residents outside the Village and a larger number of calls respond to those areas than in the Village. In fact, the further northeast area of the Township (Fire Box 203) has a greater property SEV but has the worst ISO rating due to its distance from a fire station. It has the second highest number of emergency responses. (See Figures 1, 2 and 3). Thus, the Township's residents fare worse in emergency services coverage because Station 2 is the furthest point away from them.

Many factors such as population, age of residents, type and age of structures, and distances from emergency services all have an effect on call volume and prompt mitigation of an emergency incident.

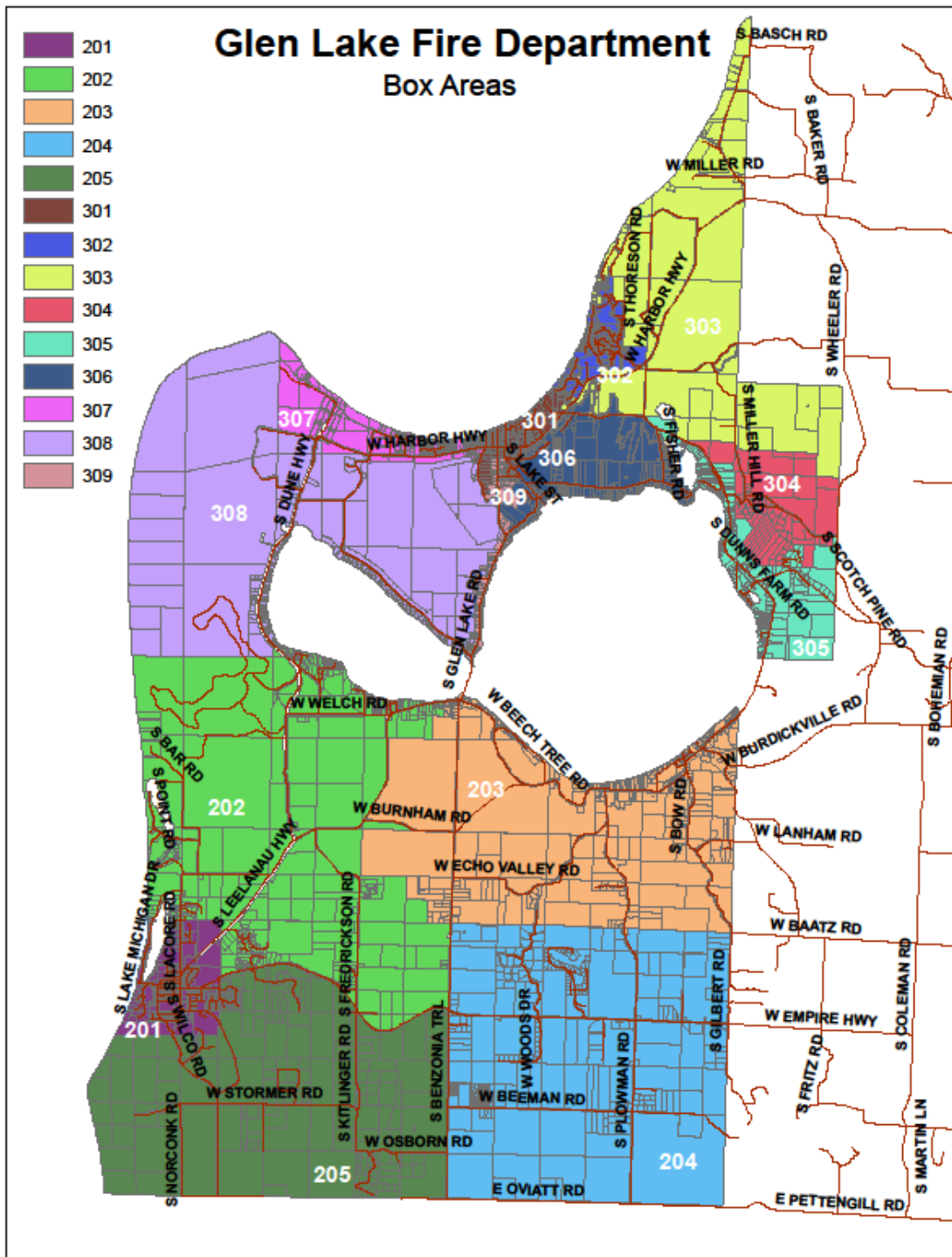


FIGURE 1 - EMPIRE TOWNSHIP FIRE BOX ASSIGNMENTS

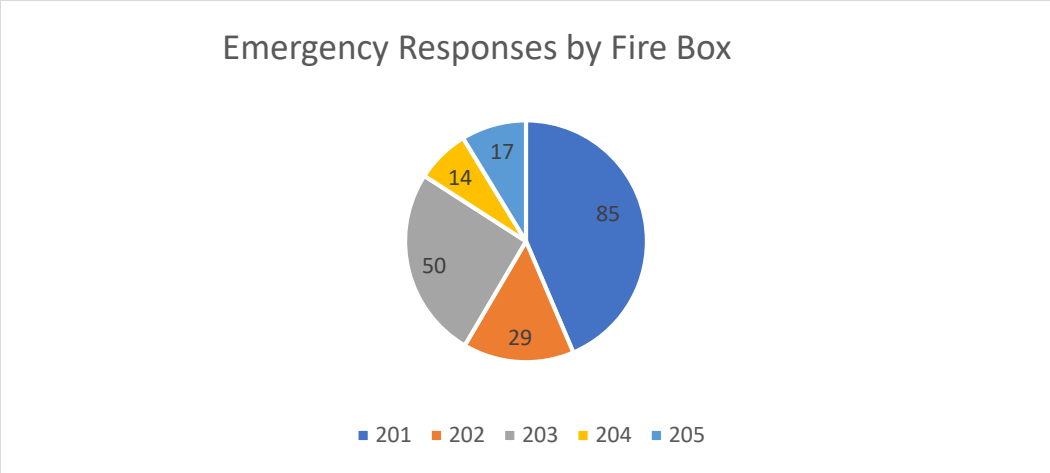


FIGURE 2 - EMERGENCY RESPONSES PER FIRE BOX

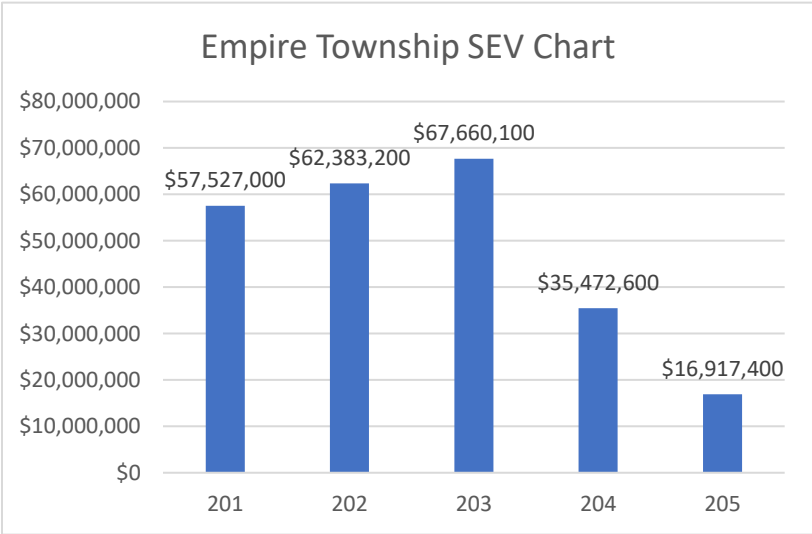


FIGURE 3 - EMPIRE TOWNSHIP SEV VALUES BY FIRE BOX

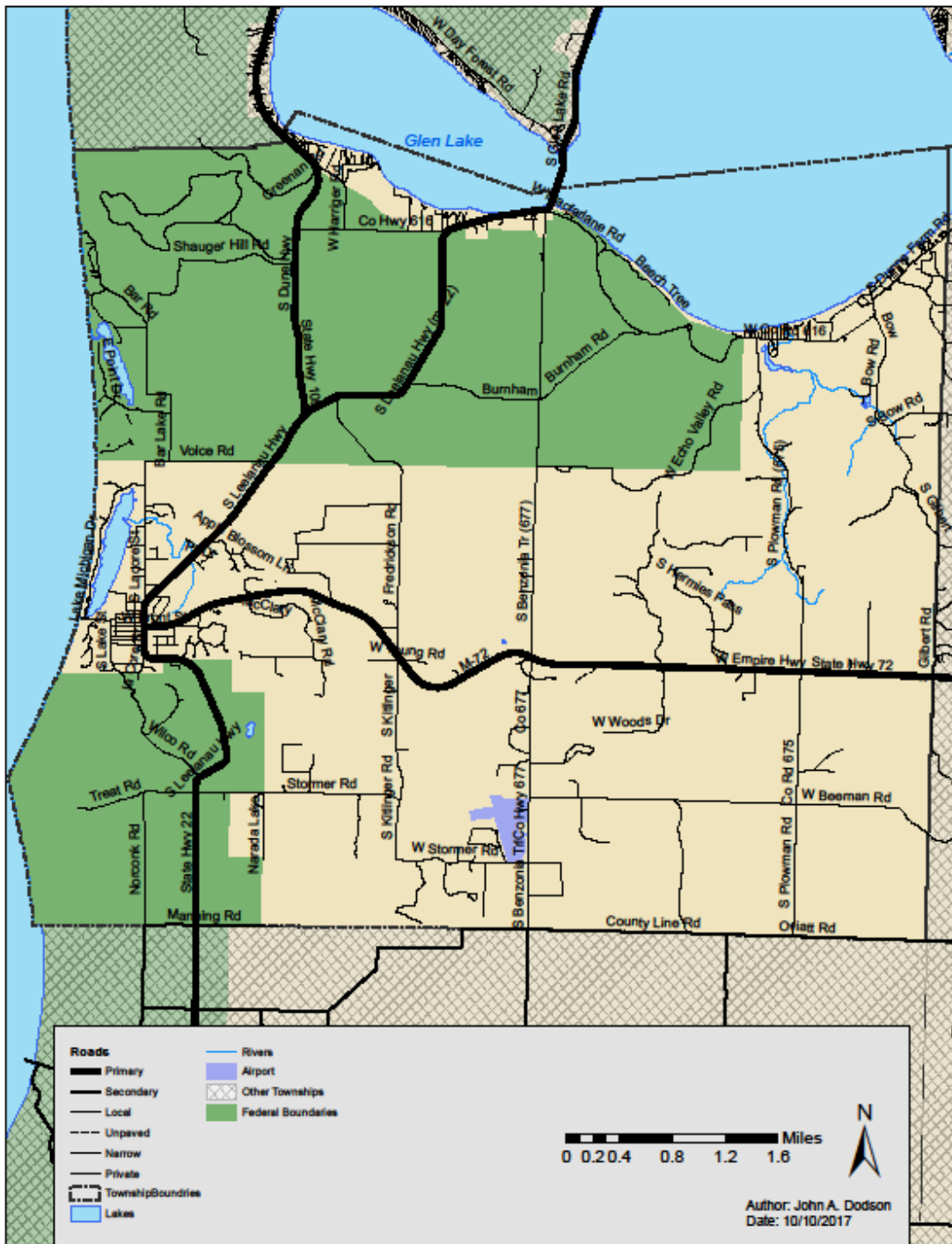


FIGURE 4 - EMPIRE TOWNSHIP MAP

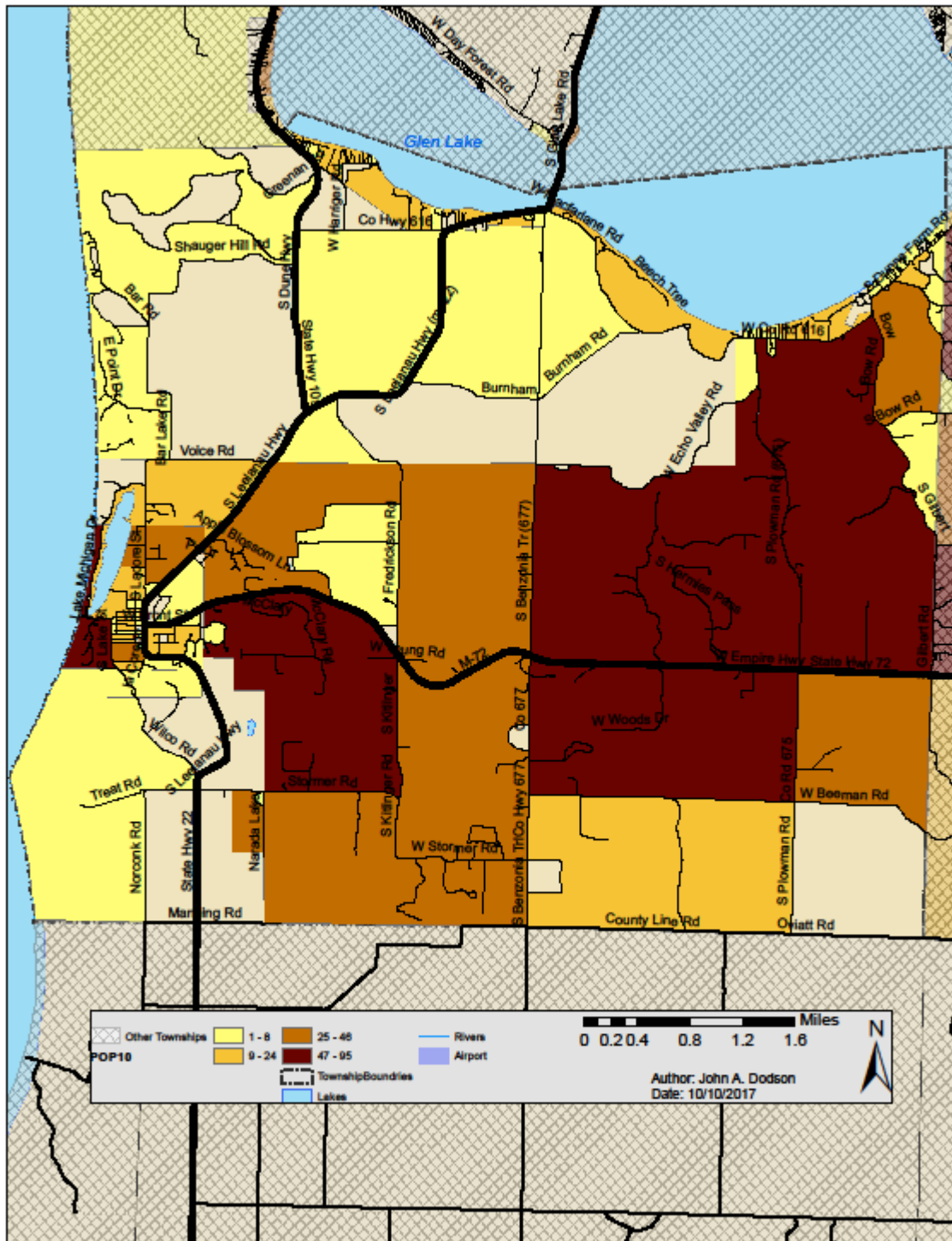


FIGURE 5 - EMPIRE TOWNSHIP POPULATION DENSITY

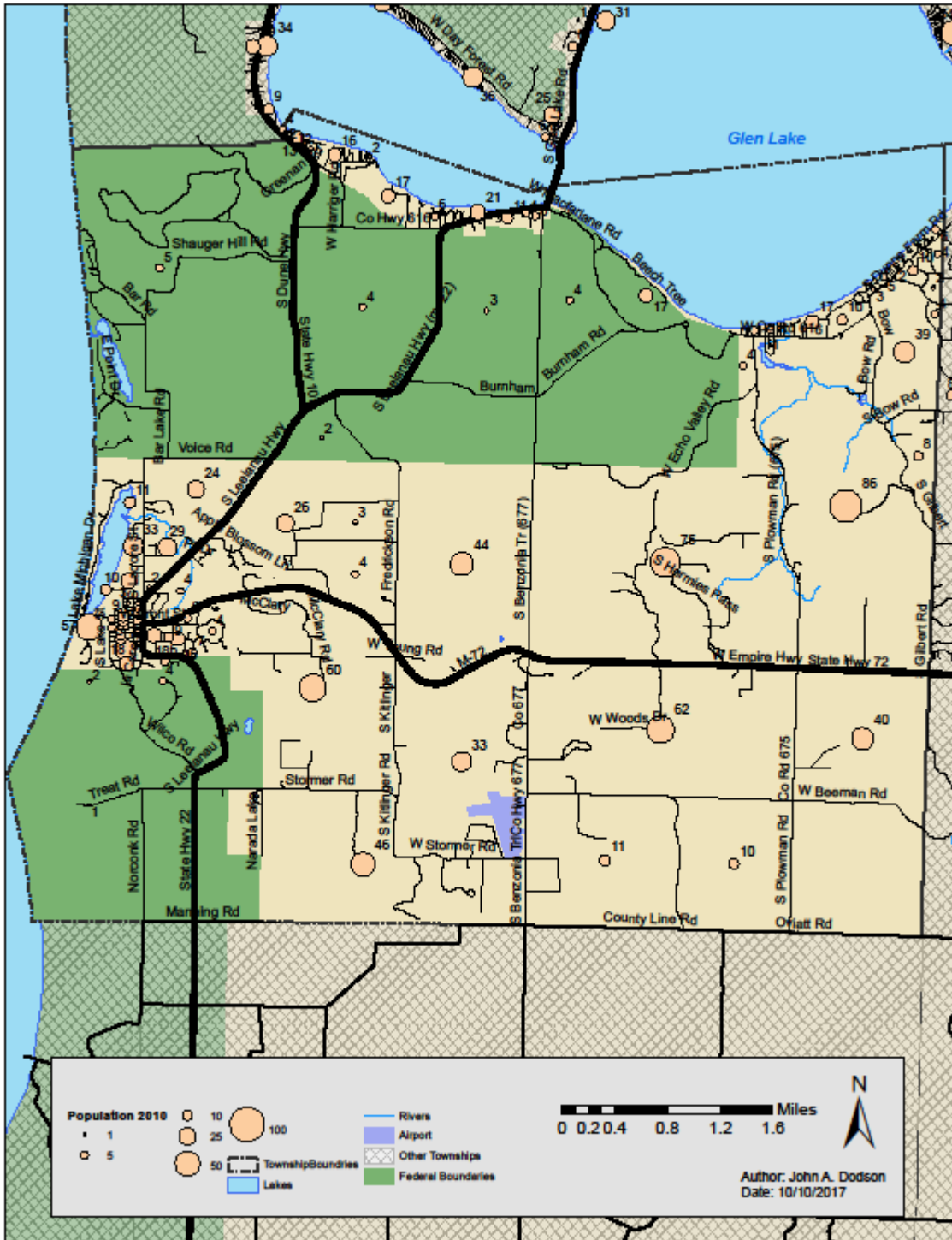
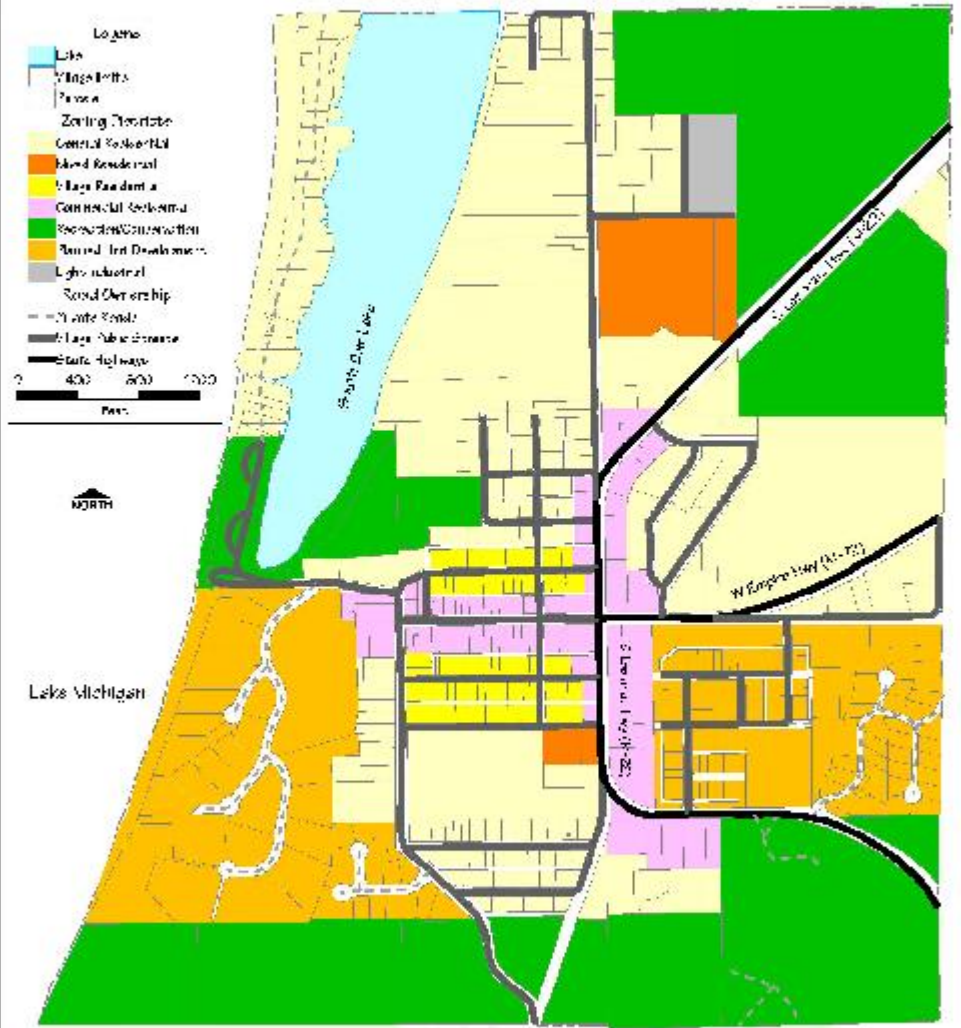


FIGURE 6 - EMPIRE TOWNSHIP POPULATION CENTERS

Village of Empire Zoning Map

Leslan County, Michigan



Sources: Michigan Department of Natural Resources, Leslan County Planning Department, and MCI Planning & Design

FIGURE 7 - VILLAGE OF EMPIRE ZONING MAP

Empire Township Population Statistics

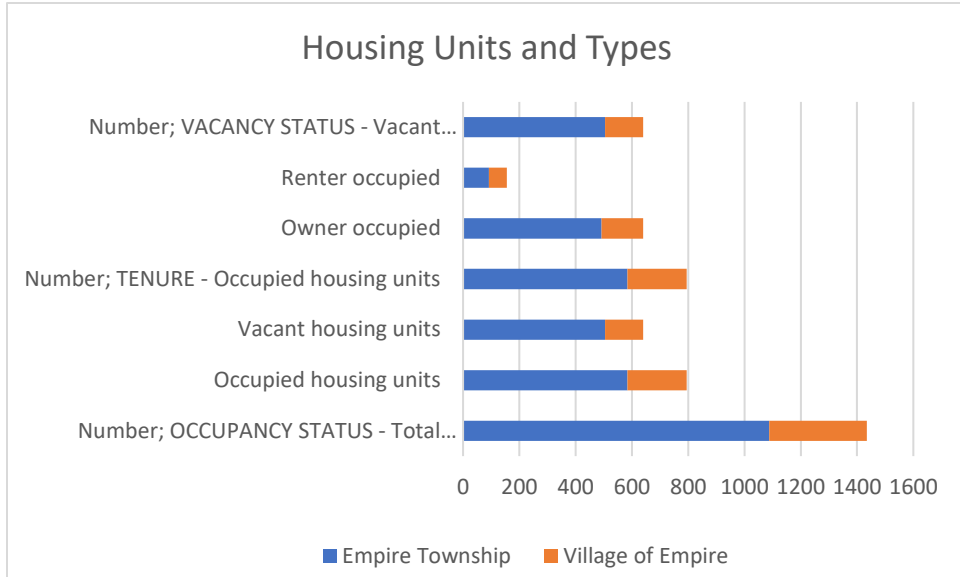


FIGURE 8 - EMPIRE TOWNSHIP HOUSING UNITS AND TYPES

Empire Township has 1435 housing units. If the Village of Empire units are removed, the remainder of Empire Township has 1088 housing units. Of those, 584 units are occupied and 504 units are unoccupied. The year round occupancy rate is 54%.

Counted separately, the Village of Empire has 347 housing units. Of these, 211 are occupied and 136 are unoccupied. The year round occupancy rate is 61%

Thus, the Village of Empire comprises approximately 24% of the total housing units in Empire Township. The majority of the Township’s citizens lives outside the Village.

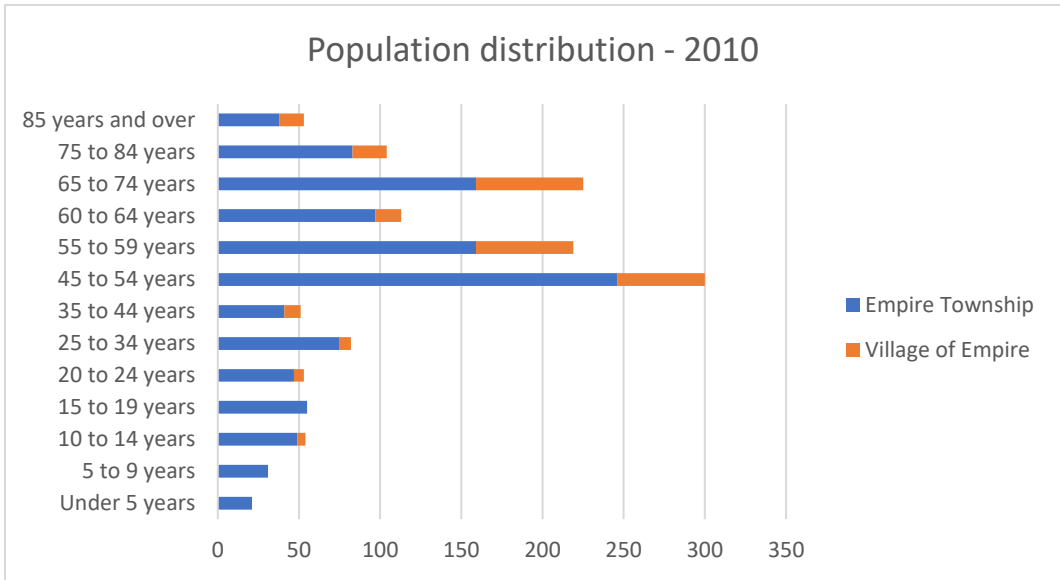


FIGURE 9 - EMPIRE TOWNSHIP POPULATION DISTRIBUTION, 2010

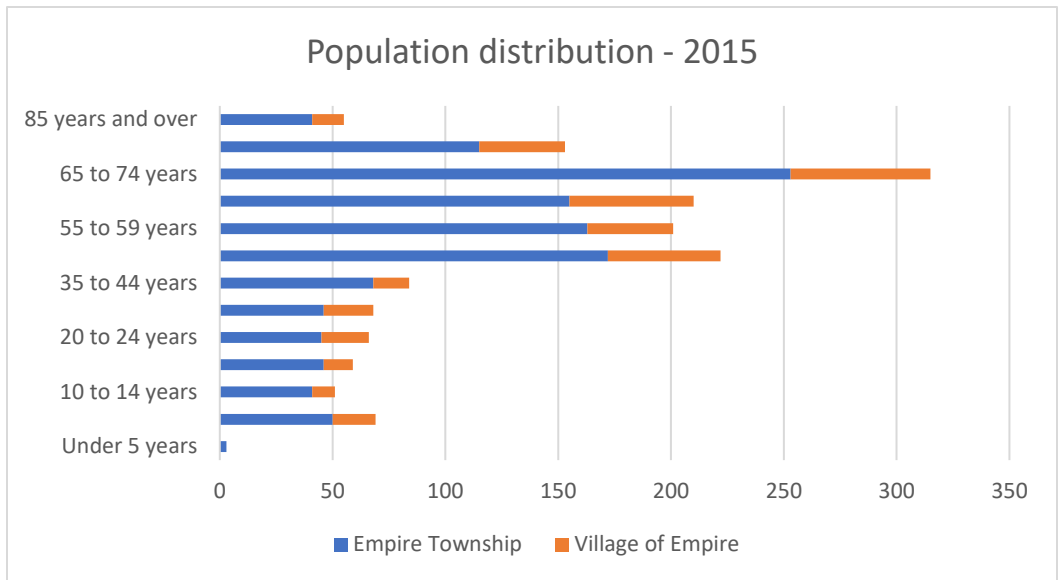


FIGURE 10 - EMPIRE TOWNSHIP POPULATION DISTRIBUTION, 2015

Between the years 2010 and 2016, the US Census Bureau reported a population increase of 27 people. The population of Empire Township (outside the Village) increased from 1182 to 1221. The population of the Village decreased from 375 to 363. Thus, 39 persons moved into the Township; 12 persons moved out of the Village. (revised 3/14/2018)

Fire Station Locations

Currently the Glen Lake Fire Department operates from two stations:

Station 1 – 6401 W. State St., Glen Arbor, MI 49636

Station 2 – 11530 S. Lacore St., Empire, MI 49630

Station 1 operates as the Department's headquarters and the typical daily staffing is three firefighters, two which are EMTs and one which is a paramedic.

Station 2 operates as the Department substation and the typical daily staffing is two firefighters, one who is an EMT and the other a paramedic.

Depending on the nature, type, and priorities of calls, Department staff operates the following equipment from each station.

Station 1

- Engine 311: 2000 gpm pumper
- Tankers 321 and 221: 2000 gallon tankers 1250 and 500 gpm pumps respectively
- Quint 331: 105' aerial, 2000 gpm pump, carrying hydraulic tools and air equipment.
- Brush 241: field and brush truck, 150 psi pump with foam
- Squad 352: rescue and EMS first response vehicle equipped with additional paramedic equipment
- Boat 371: Fire and Rescue boat with pump, EMS equipment and water rescue tools
- Utility 381: truck style utility for towing boat, UTV and plowing.
- UTV 282 and 384: Polaris ATVs for sand and snow rescues and wildland fire firefighting
- Ambulance 391: Paramedic equipped transporting ambulance

Station 2

- Engine 211: 1250 gpm pumper
- Tanker 322: 2000-gallon tanker with 1250 pump
- Rescue 351: Heavy Rescue with hydraulic, pneumatic, and electric tools and derrick
- Ambulance 292: Paramedic equipped transporting ambulance

Glen Lake Fire Department Responses

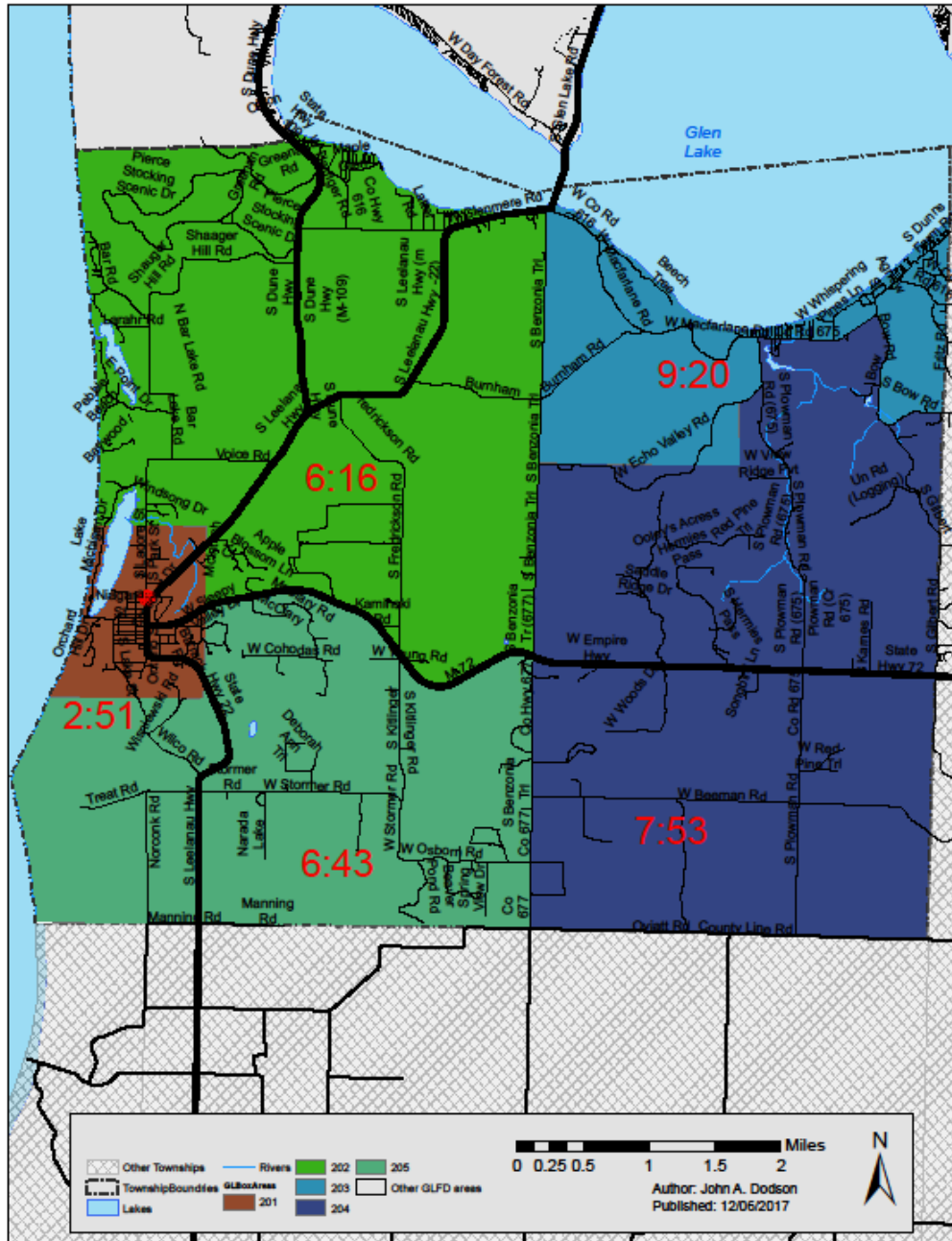


FIGURE 11 - AVERAGE RUN TIME IN MINUTES FROM STATION 2 TO EMPIRE BOXES

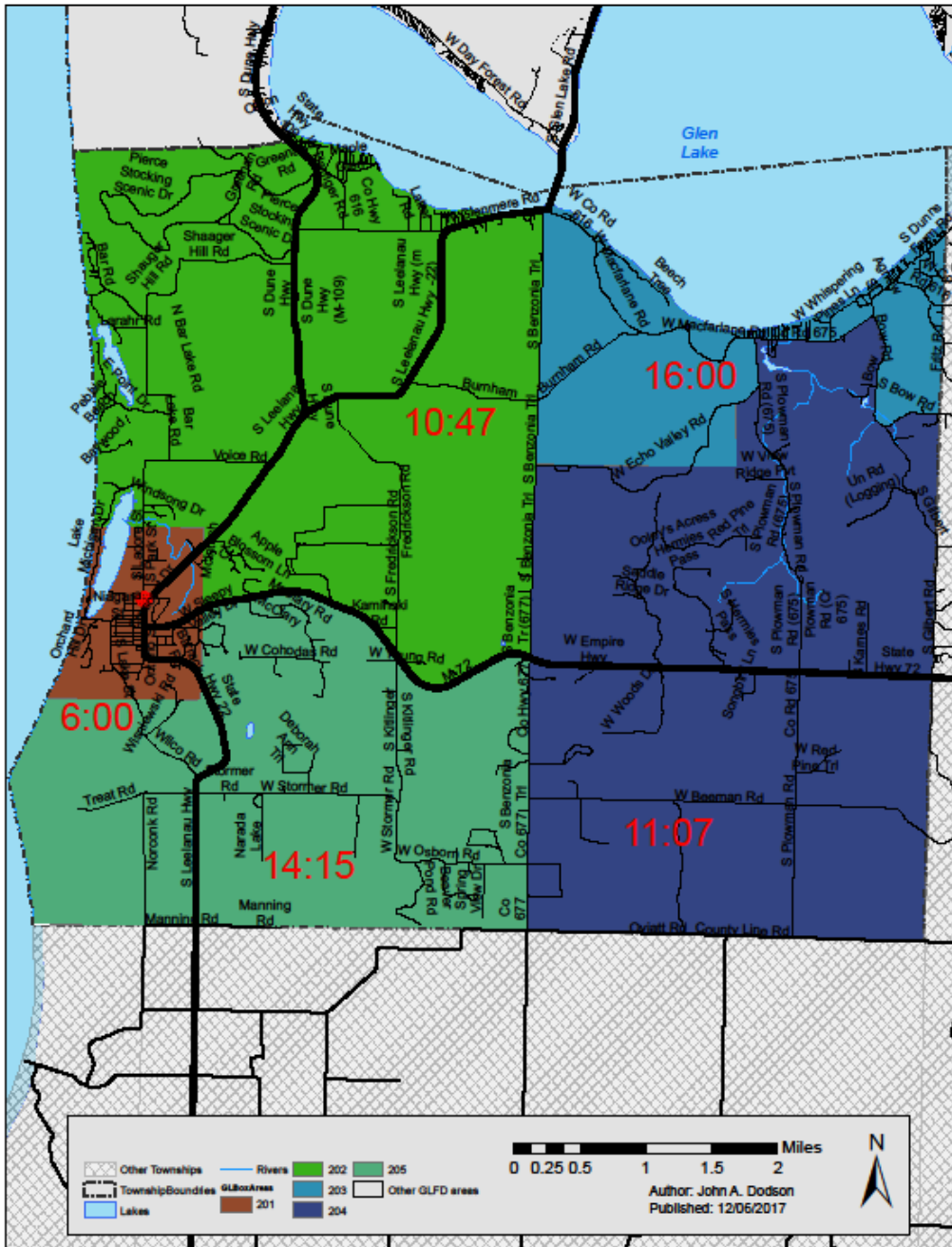


FIGURE 12 - 90TH PERCENTILE RUN TIME (IN MINUTES) FROM STATION 2 TO EMPIRE FIRE BOXES

Empire Station Assessment

BRIEF HISTORY

The purpose of this assessment of the is to analyze the positive and negative features of Glen Lake Fire Station # 2 sited at 11530 Lacore Road, Empire, MI.

The Village of Empire was incorporated in 1895 and a short time later in February of 1898 Empire purchased 500 feet of hose and 2 nozzles to begin the "Empire Volunteer Fire Department." In April of that year, they built a small building to house equipment on the east side of LaRue street just north of Front. That July, for \$700, they purchased all the water pipe and fire equipment from Lake Ann after a fire destroyed much of that village. This included a hand pulled hose cart and other items.



Thus began the Empire Public Water system operated by the Empire Lumber Company. The village paid \$500 annually for this service. The village now had underground piping, fire hydrants and equipment to pull hoses around town to the nearest hydrant to fight fire!! What a leap forward. Again, in 1908, the village purchased an additional 500 feet of hose (at 40cents per foot) and an additional hose cart. In July of 1911 a new 20' X 40' hose house was built on lot 21 on the south side of Front street (where the library sits today).



Empire fought fires in this manner with the addition of a large fire bell purchased in 1918 for warning the volunteers of a fire. This bell was paraded about town and rang vigorously celebrating the end of WWI. In 1947 a fire siren replaced this bell. (The original bell is on display at the Empire museum complex.)

In 1949 Empire took the huge step into the modern world by purchasing two 1917 Seagrave fire trucks. These were beautiful, gleaming, gas powered, chain driven, extremely noisy machines

that were envied by everyone in town--except for those volunteers who drove them. They were very top heavy and had no protection what so ever--and yes, one was rolled over!



In 1950 the hose house was moved back (south) on the property to make room for a new fire house and later a newer fire truck followed, located on Front Street where the hose house once stood. The old hose house was now used as a village council chamber and other various uses. In 1976, the newly formed Empire Area Heritage Group was allowed to turn the south half of this building into our first museum. In 1982, a new fire station was opened on Lacore street allowing the museum group to take over the entire hose house. The Glen Lake Community Library took over the fire house on Front street and remodeled it into a beautiful community library⁴.

In the spring of 2008, the Glen Arbor Fire Department and Empire Fire Department completed a merger of operations. Glen Arbor Township is currently responsible for 53% of operating costs. Empire Township is responsible for 47% of operational costs. The merged departments operate under the business name of Glen Lake Fire Department.

In the summer of 2008, the Empire station (which was now called Glen Lake Fire station 2) was staffed with 2 firefighter/EMT's for 12 hours a day. The crew then returned to the Glen Arbor station at night while the Empire building was being renovated. After several months of renovation and refit, duty crews began 24/7 coverage from the Empire fire station. The work at the Empire station included providing two bedrooms for crew quarters, a laundry/shower room, a bathroom, a galley style kitchen, and combined office/day room. A local contractor performed some of the work. Department employees assisted in general cleanup, painting, and repairs to the parts of the building that were not renovated.

Four apparatus are housed at the station: an Engine (211), a Tanker (321), a Heavy Rescue (251), and an ambulance (292). Incident responses are dispatched with a complimentary box type response. Response is determined by the type of call. EMS calls are handled by the crew from station 2 (paramedic/EMT) and assisted by an employee from station 1.

⁴ EMPIRE AREA MUSEUM, WEBSITE

SUMMARY

Glen Lake Fire Station 2 is over 30 years old. Structurally, it is fairly sound. It was built to house vehicles and was not intended to house personnel 24 hours per day. Too, its' size is a reminder of the smaller size of fire and EMS apparatus in the past. Apparatus has grown in all dimensions since Station 2 was built.

The living space that was retrofitted into the building is very small and affords little privacy for staff. The building is limited by several factors in its capability for being renovated or expanded. Chief among these is cost of upkeep on a building initially designed as a storage building, the land footprint it is built upon, and the ability to accommodate modern fire/EMS apparatus. Many repairs and improvements have been completed by staff and by outside contractors since the main renovation in 2008. As the building ages, more substantial and expensive repairs should be expected to be needed.

There are several items that fall in the category of life safety or are required by current NFPA/OSHA/Homeland Security standards that would be (prohibitively) expensive if they were to be implemented. Among these are building ventilation, security, ADA access, electronics provisioning, physical fitness area, ability to work on vehicles, access door height, etc. Re-purposing an older sub-standard building can be more expensive than building a new structure and still be left with deficiencies due to limitations imposed by the initial building.

The building is sited so that it has good visibility to the public, especially residents of Village of Empire. It enjoys close proximity to the Village offices. John Friend, a member of the Department, is especially helpful in maintaining snow removal in the summer and assisting the Department with hydrant issues.

Informal discussions as to adding on to the building to suit Department needs have come to the same conclusion of replacement because the building is land locked on all sides, and the apparatus we have now have more capabilities, carry more equipment and are quite a bit larger;

DETAILS

Station 2 consists of four (4) single depth apparatus bays with no drive-through capability. Each bay fits one (1) truck with about 5 feet on the back wall for gear lockers, storage and work bench. The ambulance bay has about six (6) *inches* of clearance between the bumper and the wall. Currently housed in the facility are one fire engine, heavy rescue truck, ambulance, and a pumper/tanker truck.

There is no exhaust ventilation system in the building. Vehicle exhaust fumes can linger in the apparatus bay, accumulate in the workout area, and seep into the living quarters.

The GLFD is constantly evolving and apparatus is moved around to the stations for the best response configurations, but configurations are limited by the building's size when making the specifications for new apparatus.

Some examples of limitations imposed by building design and construction:

When one of the Department's tankers was moved to the Empire station it needed to be modified to fit inside the building. The lid on the foam tank had to be cut to fit under the low clearance. While this allows the truck to fit into the building it also allows foam concentrate to spill from the tank.

When the Heavy Rescue (251) truck was designed it had to be specially designed to fit under the low overhead doors.

The ambulance stationed in Glen Arbor (391) cannot be placed in the Empire station unless all the antennas be moved from the roof to the cab. If this would be done, the radio transmission/reception would degrade significantly.

When designing the new ambulance (292), the standard specification had to be altered to fit the shorter bay at Empire. This change increased the cost approximately \$20,000.

The Emergency Services Advisory Commission has suggested that any costs for future special modifications to emergency apparatus due to Station 2 limiting factors would be passed on to Empire Township.

Station 2 seems to be structurally sound and in good condition and would be better suited for a small equipment shed or other small demand uses.

STRUCTURE



FIGURE 13 - EXTERIOR VIEW OF STATION 2

CONSTRUCTION TYPE

Concrete block with a brick façade on the front side of the building only; a concrete slab with a wood framed, pitched roof structure with a standing seam metal roof which was repaired in 2014.

DATE BUILT

1982

AUXILIARY POWER

20 kw automatic starting bypass generator system was installed in 2014.

CONDITION

Acceptable for the age of the building type but many cosmetic items need to be addressed.

SPECIAL CONSIDERATIONS

The building is not compliant with the American with Disabilities Act of 1990 (ADA).

SQUARE FOOTAGE

Approx. 5000 ft²

INTERIOR FEATURES

EXERCISE AREA

Equipment is available in the old office area located in the apparatus bay. The door does not close well and the ambulance is parked almost up to the door entrance. There is no ventilation or window in the workout area.



FIGURE 14 - EXERCISE AREA

KITCHEN/DORMITORY



FIGURE 15 – KITCHEN AREA

The entire crew living area consists of a galley kitchen, dayroom/workspace, two (2) bedrooms, one bathroom, one laundry/shower area comprising approximately 450 square feet.

It was renovated in 2008 with typical residential finishes. Some of the original light fixtures, door closers and other items were re-installed when the construction was done. These finishes and hardware do not withstand constant use well. The area is very cramped. Fixtures need repair often.

Lighting quality is poor in the day room/office area.

LOCKERS/SHOWERS

Lockers for employee belongings are in the hall. They are very small.

Showers are in the back in the laundry room. A single toilet and sink are also installed. There is very little installed storage for towels, laundry supplies, etc.

Washer/dryer unit is a stackable residential-quality unit installed in the same room as the water heater, utility sink, and shower.



FIGURE 16 –
STORAGE FOR STAFF

FIRE PROTECTION SYSTEM

Fire sprinkler system is installed in living area only. It was installed in 2008.

One smoke detector is installed in each bedroom; one is installed in the common room.

SECURITY

Electronic key-pad locks secure the two door entrances to the building. Exterior entrance doors are NOT commercial doors. Security is an ongoing issue. Several times, employees have found members of the public alone in the crew living spaces.

There is very poor privacy for employees. Citizens are known to peek in the windows or let themselves in if the door has not latched. There is no space to segregate work spaces from public spaces.

APPARATUS EXHAUST SYSTEM

There is no exhaust system installed in the apparatus bay. The air quality is bad and most of the time the air in the building is quite stale and does not even address the particulates from apparatus exhaust in the building.

UTILITIES

Natural gas for hanging heaters

150-amp electrical service (with no space left in it)

20 kw standby generator to run entire station.

Served by Village of Empire water system. Waste is routed to a septic tank. The septic tank is shared with the Empire Museum which is not an ideal situation.

Apparatus Bay has electric baseboard heat in exercise area.

2 forced air hanging natural gas Modine heaters are installed in the apparatus bay.

Living quarters has electric baseboard heat in all rooms which affords no fresh air into the building. There is very little air exchange and the air can be very stale, especially in the winter.

A/C 1 zone Mitsubishi electric A/C unit that was installed in 2008.

Water Heater is a 50-gallon electric water heater that was installed in 2008.

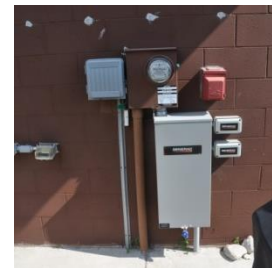


FIGURE 17 -
EXTERIOR VIEW OF
UTILITY SITE



FIGURE 18 -
MODINE
HEATER IN BAY



FIGURE 19 - ELECTRIC
BASEBOARD HEATER

APPARATUS BAY EVALUATION

GARAGE DOORS

They are showing their age and have many dents and dings. The door opener remotes do not work anymore. Service on them can be a struggle.

The doors are ten (10) feet tall. This door height is inadequate to move heavy trucks in and out. It is limiting the design of new apparatus and housing existing apparatus,



FIGURE 20 - EXTERIOR VIEW OF BAY DOOR

FLOOR

Part of the floor is severely cracked and now pitches back to the rear of the building. To counter this, a piece of composite trim was installed piece around the wall and gear locker and then caulked to ensure the drywall does not become wet. This temporary (become permanent) repair needs renewed periodically due to its temporary nature.

In the summer, trucks are washed outside. In the winter, the trucks are cleaned less often. It is very difficult to wash them inside the building due to the confined space, low overhead, and drainage problems due to the incorrectly sloped concrete and the lack of drainage. Even if careful, overspray will often hit the walls.

Vehicles need washed often to rinse the salt and road grime off the vehicle so that its service life is extended. No warm water for washing vehicles in winter.

FLOOR DRAINS

The floor drain does not have an oil separator and frequently gets clogged.

EXHAUST SYSTEM

There is no method to exhaust vehicle emissions in the apparatus bay. This is a long-term carcinogenic and pulmonary health risk.



FIGURE 21 - LIMITED AREA BEHIND AMBULANCE



FIGURE 22 - LIMITED WALKWAY BEHIND APPARATUS

WORKOUT AREA

It is necessary for firefighter to maintain good physical conditioning because of the nature of the work. The station has an entirely inadequate workout area. It is currently housed in an old 10x10' office that is unventilated and very poorly lit. It is not separated from the apparatus bay and can have vehicle fumes in the space.

WORKSHOP/TOOL BENCH

Behind the apparatus area there is a small work bench and with a small selection of tools. There is very limited storage for vehicle and tool supplies.

LIGHTING

The lights in the bay were updated and installed by staff in 2011. They are standard fluorescent light fixtures.

HANGING HEATERS

Original 30-year-old Modine heaters required several hundred dollars in maintenance.

STORAGE

Part of the bay has 3 wall-unit storage closets for supplies, and the quartermaster uses the other 2 for uniform storage.

CLEANING AND MAINTENANCE

There is a residential kitchen sink and cabinets that were not removed when the building was renovated. There is also a 21 ft³ small full-size refrigerator in the bay as there is no room in the kitchen for it. The crew must use this unit for overflow storage because the small built-in unit is insufficient for regular use by multiple personnel.



FIGURE 23 - LIMITED ACCESS TO STORAGE



FIGURE 24 – STAFF REFRIGERATOR IN BAY

LIVING QUARTERS EVALUATION

Upon entry of the front door you enter the day room which has a small eating table, 2 recliners, end table, a work area and a television. Since this is the only way in or out, the carpet has seen heavy traffic in its short life and is regularly cleaned by Glen Lake staff. The bedrooms and kitchen are right next to each other with hollow core non-fire rated doors. Again, this is an occupied commercial building with residential style finishes.

The bedrooms are small, but they do afford a little privacy and are the best feature of the station however they are not fire rated doors which is commercial code

The kitchen has an electric stove, microwave, and a college dorm style refrigerator. It does not have a dishwasher. The residential laminate counter tops and cabinets are showing a lot of wear. Dishes constantly must be washed in the sink leaving water on the counters. A dishwasher was talked about but the refrigerator would have to be removed to install one.

The bathroom/laundry and shower are small but are in good shape and functional.

The finishes such as cabinets, counter tops, interior doors were an average residential type to begin with and they cannot take the long-term wear and tear. No entry way into the main area which causes a lot of dirt/snow to get tracked in.



FIGURE 25 -VIEW OF KITCHEN AREA FROM BEDROOM

The front window was not replaced in the renovation and is very drafty and inefficient.

EXTERIOR

The road side of the building has a brick façade over concrete block. Many of the bricks are chipped and in need of repair.

The garage doors have many dings and dents from a long service life. They have required frequent maintenance to maintain their operability. The garage door openers are very old and need replaced.

The soffit and fascia were not replaced when the roof was replaced. It is dented in many areas and the finish is peeling off.

The metal roof is in good condition because it was repaired in 2014. The snow slides off the roof and deposits in front of the garage doors. If not cleared immediately, trucks traffic will compact it into a block of ice. This causes the truck to ride up and, potentially, hit the jamb and damage the building. Careful, and intensive, maintenance has avoided that thus far.

The window on the front of the building was not replaced when the renovation was done. It needs to be replaced.

The building is landlocked on all sides. The Empire Museum are on the on the side and back and the village garage on the other with a septic in the back of the building so expanding is not an option.

No on-site parking available. Employees must park across the street or at the museum (winter). Empire Township employees park on the pad next to the fire station. Lacore Road must be blocked while apparatus is backed in.

OPTION

There have suggestions that a second story be added to the structure. This is problematic for several reasons. The building was not engineered for a second story. Also, adding height does not solve the problem of insufficient depth for apparatus, plumbing difficulties by being landlocked, parking, or solve many of the factors listed above. It would be a stopgap effort that would not result in a quality station needed for the fire response the community has grown to expect.



FIGURE 26 - EXTERIOR VIEW OF STATION 2



FIGURE 275 - MUSEUM SIDE OF STATION 2



FIGURE 29 - REAR VIEW OF STATION 2



FIGURE 28 - EMPIRE DPW SIDE OF STATION 2

CONCLUSION

Besides the major renovation, there have been continued major and minor efforts to keep the building serviceable:

Blown insulation in walls and attic (contractor)

New lighting in apparatus bay (employees)

Paint interior and exterior (employees)

Concrete apron (contractor)

Standby generator (contractor)

Bathroom Fan. (employees)

Metal roof (contractor)

Entry door in apparatus bay (employees)

While these have been helpful in the short term, they do not change the basic difficulties that have been encountered in creating a habitable working fire station.

OTHER CONSIDERATIONS

ISO CONSIDERATIONS

Distance from Station 2 to sites in Empire Township (majority of population)

Travel to Village incidents is generally quick due the proximity of Station 2. Responses to other areas of Empire Township are increased because Station 2 is not near the majority of the Township's population. The ISO rating for Empire Township reflects this fact. The Village has a rating of 5 (due to its excellent hydrant system) while much of the Township has a rating of 6 (recently improved from 7). There is a portion of Empire Township, with a notable population which continues to have a rating of 10 (the worst) because it lies more than five (5) miles from the fire station. A consideration for the Township would be to site a fire station that is more centrally located to the population of the Township as a whole. This would not negatively affect service to the Village nor would it cause the Village's ISO rating to change.

OPTIONS AND RECOMMENDATIONS

OPTION 1

Option 1 proposes a modification of the current Station 2 to meet current health and safety standards along with continued delivery of service at present staffing levels. This option is very limited in scope and result. Modifying and upgrading the existing building (without expansion of building footprint) would result in serious emergency services delivery deficiencies.

Additionally, Empire Township's ability to provide emergency services on its own (if the current arrangement with Glen Arbor Township were to end) in the future would be severely crippled. The building would not be able to house the equipment required to house a modern fire department. If Empire Township desired to retain operational autonomy of a fire department the current building would hinder operations administratively and operationally.

Too, the Township service area would continue to favor the area around the Village of Empire. Specifically, the east-northeast side of the township would remain underserved. The best response and distance parameters from a single station in its current location cannot be met in this configuration. Most of the Township service area, which has the majority of population and calls, would be underserved. The current station site favors the Village of Empire to the detriment of much of the rest of the Township. The Insurance Service Organization (ISO) and American Heart Association (AHA) both have optimal measurements for distance and time so that emergency services are delivered in the best time sensitive manner.

This option is the least desirable to the Glen Lake Fire Department.

Pros:

Least expensive option
Closest to the Village of Empire where population is concentrated
Location is very visible to the public

Cons:

Large portion of Empire Township is not within National Standard response area
Largest volume of calls are outside of Village of Empire area
ISO protection class benefits <50% of the Township.
Building is expandable for future need

OPTION 2

Option 2 proposes building a new station in a more centrally located area of the township. A single located station would provide better delivery to the majority of citizens and even out response times within the Township. This option still falls short of providing optimal coverage to all Township properties. Estimates have not been obtained, but this option is possibly the most expensive of the options based on the needed size of a new single station. Certain areas of the township will still be underserved and not be within the targeted response time goals of ISO and AHA.

Pros:

Covers a larger part of the township

Facility is expanded to accommodate for future expansion and/or need

Location is outside the heavy congestion of populated areas and the traffic of high volume periods

Facility would include an administrative area

Location provides reduced response times to calls

Cons:

Property must be studied and acquired

This is (possibly) the most expensive option

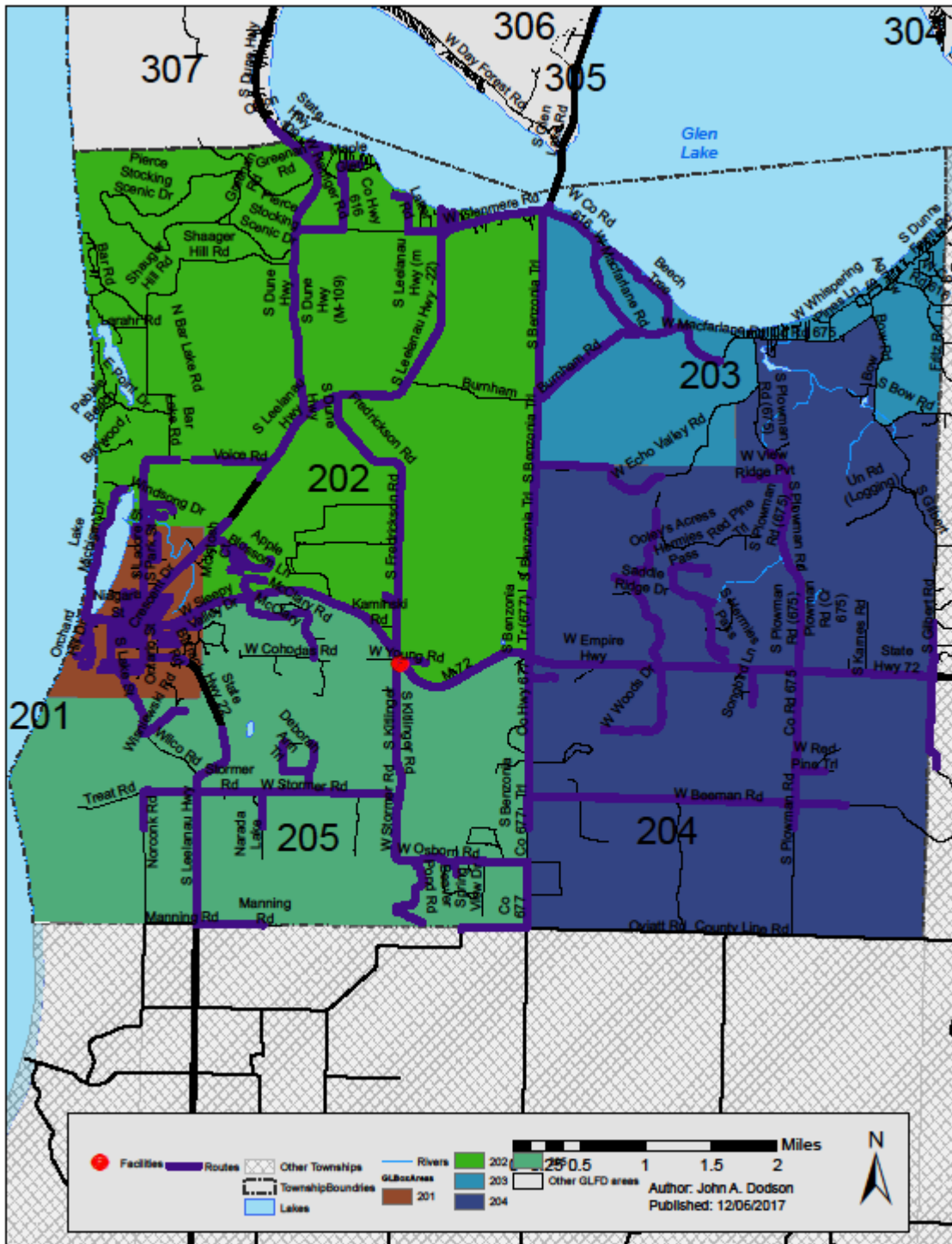


FIGURE 31 – NEW STATION 2 TO STRUCTURES UP TO 5 MILES AWAY

OPTION 3

Option 3 proposes a combination of a new station and significant modification of the current station. A new station built further east in the Township along with the upgrading the current station would provide the best overall emergency response coverage of the Township. The new station could be considerably smaller than that proposed in Option 2 because it would only need to house a portion of the fire equipment. A study may show that a smaller new station and remodeling of the current Empire station may be possible for a similar price to one large central station.

This option would increase operating costs because multiple buildings necessitates increased utility usage. Staffing levels would need to be studied also so that the stations are adequately manned. An engineering study may even find that two smaller stations utility costs are the same as one larger station.

Pros:

Covers most of Empire Township. It is considerably better coverage than provided by current location.

Provides needed space for growth

Administrative offices in place should Empire Township eliminate contract with Glen Arbor Township

Cons:

Property must be studied and acquired

The village station will still have to be significantly updated

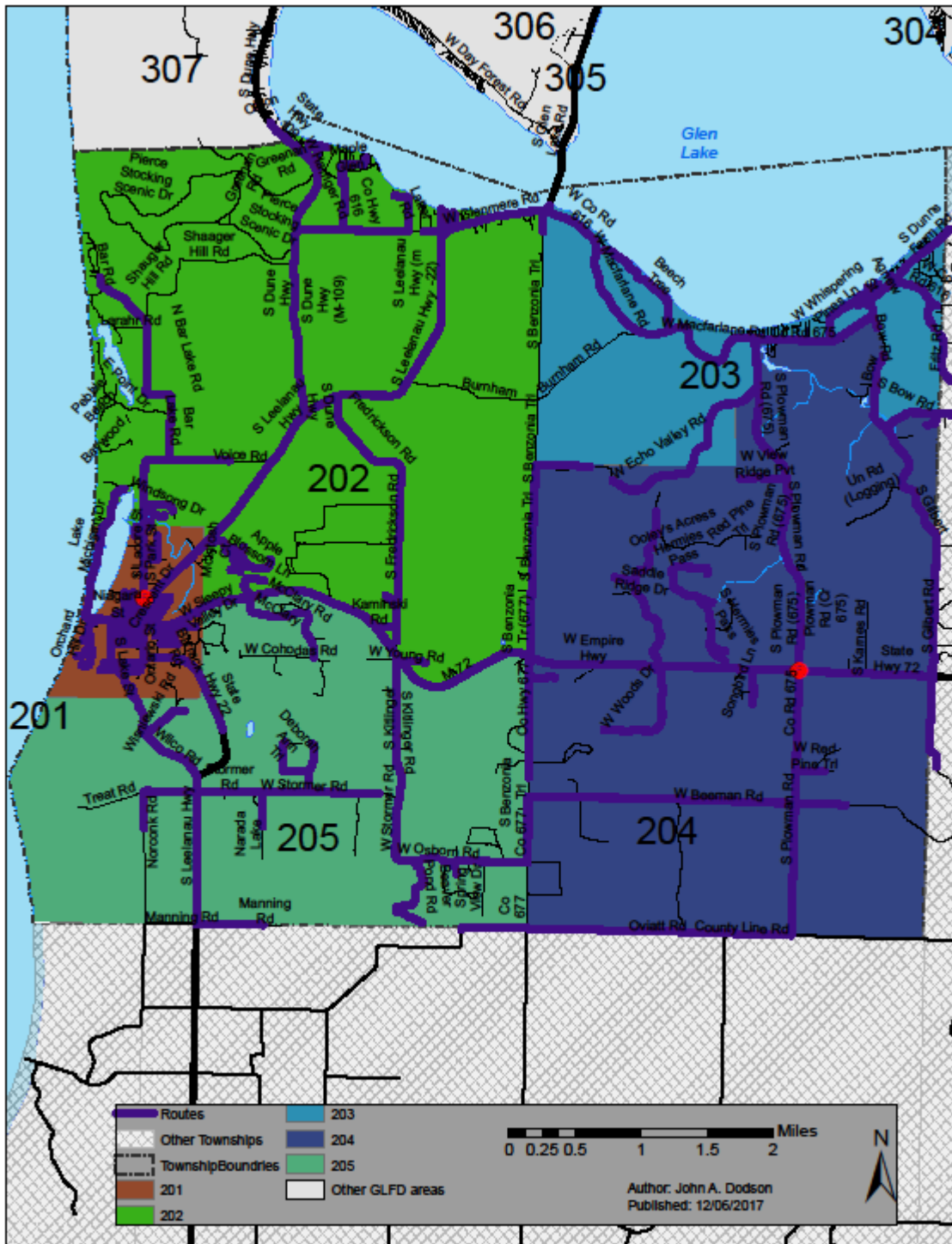


FIGURE 32 – STATION 2 (CURRENT) AND NEW STATION TO STRUCTURES UP TO 5 MILES AWAY

FINAL NOTE

The Glen Lake Fire Department makes no specific recommendation regarding each option. The Department also has no specific building site in mind for any of the above options. The locations on the option maps are generalized points and do not reflect any specific properties in Empire Township.

The decision is solely up to Empire Township officials and citizens. This report was prepared to assist in the decision making process only.