



Meeting: Village Board
Meeting Date: 3-26-12
Agenda Item: 7b

Mission Statement

Delivering quality services in a courteous, cost-effective and efficient manner.

VILLAGE BOARD MEETING STAFF REPORT

REPORT TO: Burt R. McIntyre, President
Village Board of Trustees

REPORT FROM: Director of Public Safety Ed Janke

AGENDA ITEM: Information regarding Tornado Sirens

ACTION REQUESTED: ___Ordinance ___Resolution X Motion ___ Receive/File

POLICY ISSUE

Should the Village Board authorize staff to seek bids for an additional tornado siren in the Village of Howard.?

BACKGROUND INFORMATION

Tornado Sirens

Tornado sirens, formally known as civil defense sirens, were used during WWII to warn of a nuclear attack and of natural phenomena such as tornadoes, according to Academic Dictionaries and Encyclopedias. During the Cold War, also in response to fears of nuclear attack, the Federal Civil Defense Act of 1950 led to public warning systems such as outdoor warning sirens.

Outdoor Warning Systems

Tornado early warning systems, or outdoor warning systems, were developed by Edward S. Holden, who worked for the US Naval Observatory. In 1883, Holden felt that if there could be a system developed to provide the residents of a town even five minutes of warning, it could save lives, and the Holden Tornado System was developed.

Today's Tornado Sirens

Today's technology and improvements in weather service products allow people to simply find the emergency information they desire on TV, a weather radio or the Internet and be informed whether there will be a tornado in the area. Serving the public since WWII, tornado sirens have been around and have come to be an expectation. Do these sirens still serve a purpose to inform the public even with the technology available for people to inform themselves of incoming severe weather? Or should they be discontinued? That is a policy question for the Howard Village Board to answer.

Problems

There have been a number of problems cited regarding Tornado Sirens. The system may seem simplistic, however the technology regarding activation still leads to countywide alerts, many times miles from the actual path of the tornado. If people are only relying on tornado sirens for their information, there are many false alarms.

Tornado sirens can lead to a false sense of security; weather conditions as well as construction can become an inhibitor to the alerting features of a tornado siren. People who cannot

BACKGROUND INFORMATION CONTINUED

hear the sirens are potentially in jeopardy of being in between siren ranges but can't hear any of them.

Sirens in Brown County are activated by radio frequencies sent from the Brown County Public Safety Dispatch center. These frequencies can be jammed or blocked by other signals. Additionally, the radio system, both sending and receiving units can fail. It is not uncommon for tornado sirens in Brown County to malfunction, with no ability for the Dispatch Center to recognize whether in fact the system worked as designed.

Right or Wrong

It seems that the controversy surrounding tornado sirens continues. The conflict largely looms due to the costs of tornado sirens. Initial costs of the siren and installation can be as much as \$50,000, in extreme cases which does not include on-going maintenance. Siren costs alone are approximately \$15,000 to \$18,000. These sirens generally provide a range of 1.5 to 2 miles.

In Brown County, Emergency Management will maintain the sirens after a community installs them. Brown County Emergency Management is also responsible for activating the sirens. With the National Weather Service's polygon warning system, siren systems can now be zoned according to location, better enabling them to take advantage of sending warnings to specific locations rather than to an entire county.

Tornado sirens are probably best suited when considering where citizens in the community may be active without access to the technology that alerts them to dangerous weather conditions. Parks and other outdoor venues are priority areas for coverage by the alerting features of a tornado siren system.

Based on a limited investigation conducted by staff, the equipment price for a battery operated 2001-130dB siren is approximately \$11,000 with installation on a new 50-foot wooden pole at \$4,800 with batteries. In total a new battery operated siren would come in at approximately \$15,800.00. This includes radio operation, installation, programming, local and remote testing. Power would still need to be run to the pole, which can in some cases be a donation from WPS.

Appendix A shows the sound propagation of the sirens currently positioned in the Village of Howard. There are population centers as well as outdoor venues not currently "covered" by the existing siren system. Appendix B shows siren placement throughout Brown County.

Appendix C shows the projection of a new "2 mile" siren mounted approximately 40 ft. from the ground. Placement at this site would overlap with the siren already placed at Bay View.

Appendix D shows the projection of a new "2 mile" siren mounted in the same way as the siren in Appendix C. Placement at this site would probably provide the greatest square mile coverage in the Village, with coverage of both Spring Green and Mill Center Parks.

Staff continues to work with Brown County Emergency Management to provide information to Village residents that will assist them in making appropriate decisions regarding the use of technology for hazardous weather early warning. Weather radios are now available at the Village of Howard through the assistance of Brown County Emergency Management.

BACKGROUND INFORMATION CONTINUED

Academic Dictionaries and Encyclopedias. "[Siren \(noisemaker\)](#)". en.academic.ru. Accessed Aug. 25, 2010.

Coleman, T.A. and Pence, K.J., Dec.2009. "[The Proposed 1883 Holden Tornado System](#)". *Bulletin of the American Meteorological Society*. ametsoc.org. Accessed Aug. 25, 2010.

Laidlaw, E. Jan./Feb. 2010. "[The Controversy Over Outdoor Warning Systems](#)". Vol.63, Issue 1. *Weatherwise*. weatherwise.org. Accessed Aug. 26, 2010.

Off, G. Mar. 8, 2009. "Without Warning: A Tulsa World Analysis Shows Not Everyone in the County Can Hear the Blaring Tornado Sirens". *The Tulsa World*. tulsaworld.com. Accessed Aug. 27, 2010.

PRIOR ACTION/REVIEW

Staff Report Dated 4-25-2011

<u>FISCAL IMPACT:</u>	
1. Is There A Fiscal Impact?	<u>Yes</u>
2. Is it Currently Budgeted?	<u>No</u>
3. If Budgeted, Which Line?	<u>No</u>

RECOMMENDED ACTION

Village staff recommends the Village Board consider all information contained within this report and decide whether the purchase of additional tornado sirens for placement within the Village is necessary. If the Village Board feels it is appropriate to purchase an additional siren a motion should be made to "authorize staff to seek bids for a tornado siren and installation for placement at Howard Fire Station 2."

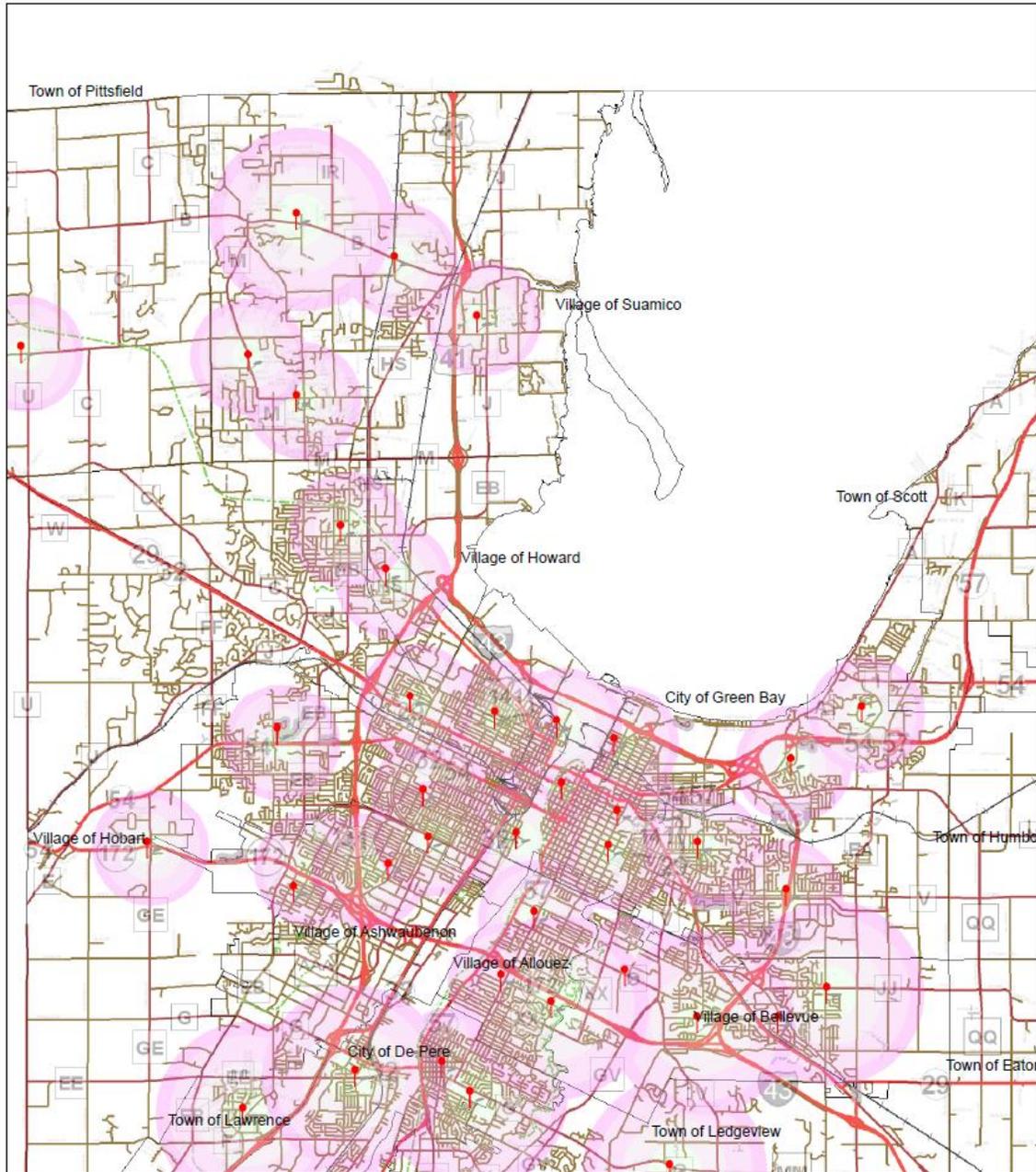
POLICY ALTERNATIVE(S)

N/A

ATTACHED INFORMATION

- I. Appendix A – Brown County Tornado Siren Map with Streets
- II. Appendix B – Brown County Tornado Siren Map without Streets
- III. Appendix C – Village of Howard Map – New Siren Coverage placement at Kings Ct. Water Tower
- IV. Appendix D – Village of Howard Map – New Siren Coverage placement at Howard Fire Station 2.

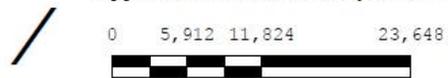
Appendix A



Part of Brown County, WI

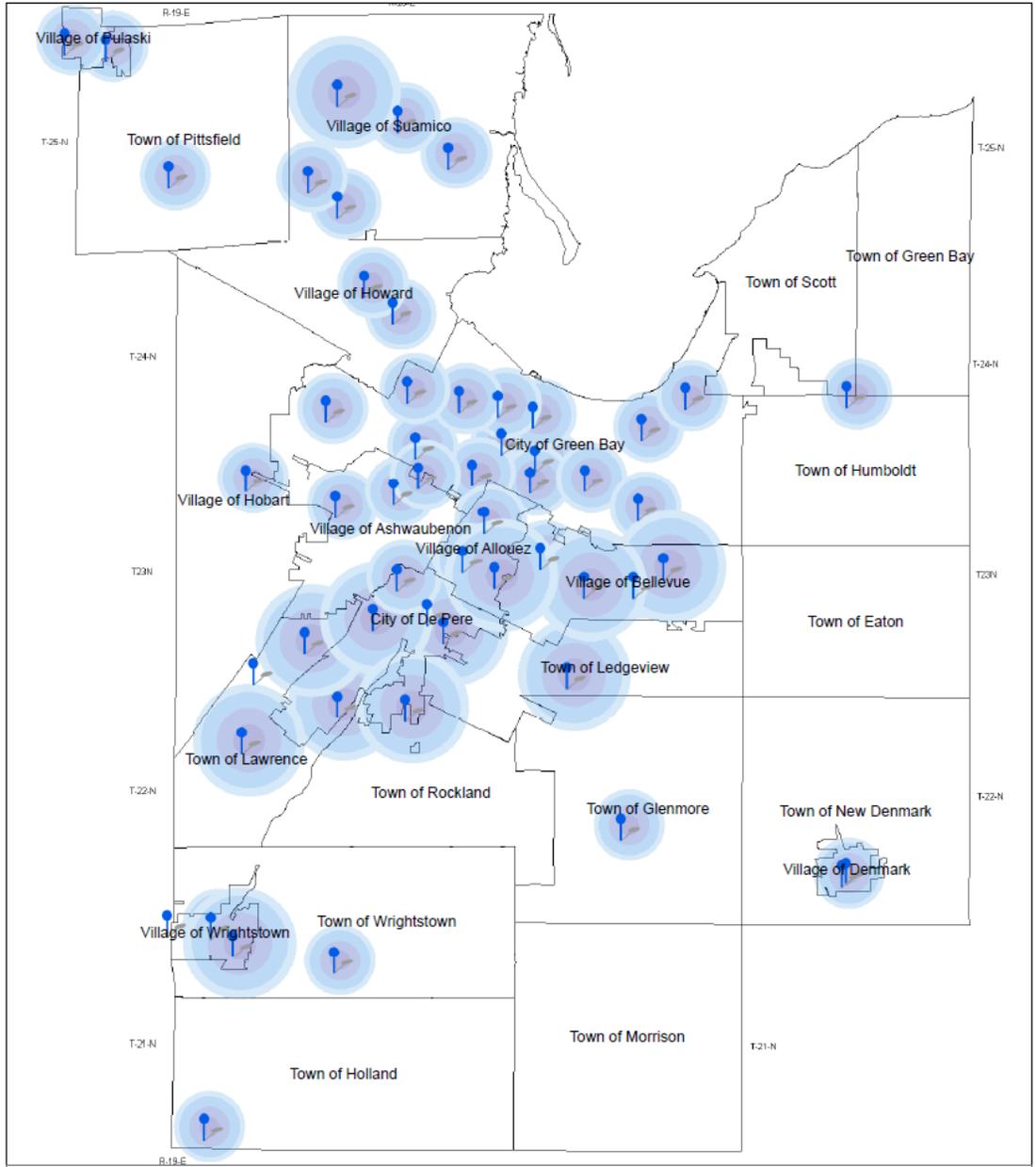
This map was created using GIS "Layers" from various dates/sources. Not all "layers" are in sync with each other. Please call 920-448-6295 for more details, or visit: www.co.brown.wi.us/land_information_office/

Map printed 7/11/2008 at 09:29 AM by BC-PSCEM-001



This map is intended for advisory purposes only. It is based on sources believed to be reliable.

Appendix B



Part of Brown County, WI

This map was created using GIS "Layers" from various dates/sources. Not all "layers" are in synch with each other. Please call 920-448-6295 for more details, or visit: www.co.brown.wi.us/land_information_office/

Map printed 9/14/2010 at 08:51 AM by BC-PSCEM-033



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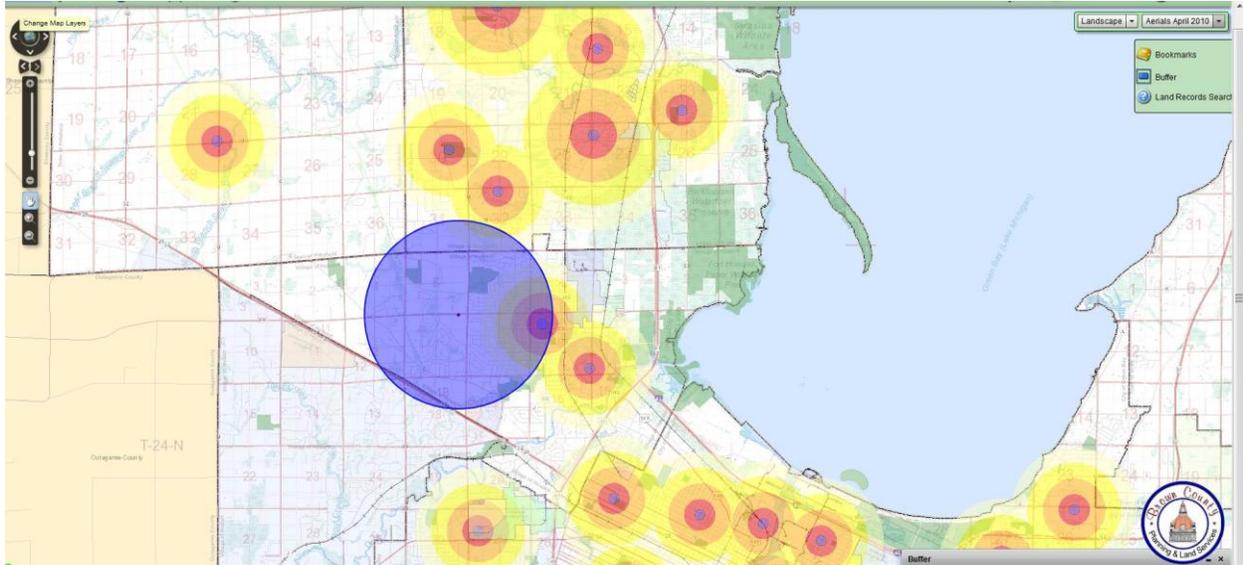


Feet

This map is intended for advisory purposes only. It is based on sources believed to be reliable, but Brown County distributes this information on an "AS IS" basis. No warranties are implied.

GIS map compiled by the Brown County Land Information Office (LIO). Data sources include the LIO group: Survey, Planning, Treasurer, Land Conservation, I.S., Register of Deeds and other departments.

Appendix C



Appendix D

