

## **Why can't I get GPS Coordinates from Aitkin County to set or locate my property corners?**

I/We are frequently asked here at Aitkin County to provide GPS coordinates (or Latitude/Longitude) for property owners here in Aitkin County.

The following is a brief explanation of why it is not feasible for us to do this.

The basis for most computer programs that allow someone to “pick off” GPS coordinates is a “mapping” program, i.e. “Google Earth”, DNR aerial photos, Aitkin County aerial photos, etc.

Property lines (or Parcel boundaries) are then “superimposed” or overlaid on these photos or maps. The basis for these property lines here in Aitkin County is primarily the original Government Survey which was done in Aitkin County between 1850-1870. As part of the original Federal Government Survey, plat maps were prepared. These plat maps were prepared for each Township. They show each of the Sections within each Township. The information shown on these old plat maps were used to prepare the property lines that are shown on our maps. The interior of each Section is then “divided” into the current recorded parcels based on the legal descriptions for these parcels. The lines depicting these legal descriptions are placed on the map, with adjustments made to fit within the theoretical “perfect” Section, being shown as 5280’ by 5280’ and having 90 degree angles at the corners and containing 640 acres. This is the biggest problem encountered when trying to extract coordinates – as there is no such “perfect” Section in reality. This is primarily due to the crude equipment that was available and that was used by the original Government Surveyors. The original Surveyors did the best that they could with the equipment that they had, but the truth is that many Sections are larger and many are smaller than the theoretical 640 acres and therefore the boundaries are also not 5280’ by 5280’. There does not exist this “perfect” Section, even though that is what is depicted on the original Township Plat maps and is what has been used to show property lines.

The second major problem with trying to use GPS Coordinates to locate or place your property corners is the built-in inaccuracies of the typical user’s GPS equipment. Most people have a hand-held GPS unit that is suitable for hunting and fishing purposes. These units “typically” have an accuracy of plus/minus 20 feet, depending on the quality of the receiver. Obviously that accuracy is not going to be good enough to locate what you think is your property corner and not have your neighbor question it.

The ONLY sure way of locating your property corners correctly is to have them set by a Licensed Land Surveyor. He is the only one qualified by State Law to locate or set them. If they have not been set previously, he will review your legal description and use that as the basis to set your corners.

As we all know, property values have become more and more important and each Owner wants to know exactly where his/her boundaries are. The use of a handheld GPS unit is not accurate enough to accomplish this task. That fact, coupled with the inaccuracies of the data base to begin with, is why Aitkin County will not and does not provide Coordinates or Latitude/Longitude for property corners.

If you have any further questions in this regard, call Tom Veenker, Aitkin County Land Survey Coordinator @ 218-927-7326.

**The next page is a copy of a related article from the Star Tribune, January 2007:**

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## Working without a map


Web Search's answer to a recent reader question about finding the coordinates of a property online led to a good follow-up clarification by a county official in the know.

By **Randy Sales**, Star Tribune  
Last update: January 07, 2007 - 4:43 PM

Web Search's answer to a recent reader question about finding the coordinates of a property online led to a good follow-up clarification by a county official in the know.

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When readers Betty and Gary Dagen wrote to ask how they could find the coordinates to their township property in Otter Tail County, Minn., to enter into their GPS system, I turned to Google Maps Mania ([googlemapsmania.blogspot.com](http://googlemapsmania.blogspot.com)). Its owner, Mike Pegg, suggested using ACME Mapper 2.0 ([mapper.acme.com](http://mapper.acme.com)) to obtain a satellite view of the property and click on its corners to get the coordinates -- something the Dagens said they had been unable to get from the county.

That answer didn't sit well with Thomas Veenker, land survey coordinator for Aitkin County, Minn. A registered land surveyor, he criticized the information as being misleading to the general public.

"You *cannot* get accurate coordinates for your property corners from the mapping database quoted," he said in an e-mail.

He said he gets the same question -- "Can you give me the coordinates (latitude/longitude) of my property corners so I can take my handheld GPS receiver and find them?" -- from property owners every day. His answer is always no.

"By giving your readers the impression they *can* do this is probably going to cause many property-line disputes," he continued. "It would take a lengthy response to explain exactly why this is the case, but basically there are too many 'built-in' inaccuracies in a 'mapping' database and the fact that one's handheld GPS unit is not accurate enough."

I asked Jef Poskanzer, who created ACME Mapper, what he thought about the issue. He replied that Veenker makes a good point but that the reason he alludes to is wrong.

"Property boundaries are not defined in terms of longitude and latitude," Poskanzer said. "In general, property boundaries are defined by a distance and direction from a landmark such as a surveying monument.

"It is certainly possible to take these legal definitions from your deed, do some trigonometry and come up with longitude/latitude coordinates. However, that still won't be the legal property boundary."

So, the lesson here is not to use online mapping tools as legally binding applications but as the helpful aids they are intended to be, a sentiment echoed by Google Map Mania's Pegg in a follow-up e-mail.

"I suppose I should have suggested that people use this data as anecdotal and not to use the data provided as 100 percent accurate," Pegg said.

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