



## Surveyors Certificate

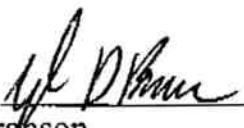
This is to certify the direction of a radio antenna (Station WJCY) located in Hamilton County, Indiana, located at approximately N40.19814 degrees north Latitude and W86.0744 degrees Longitude.

To determine a geodetic azimuth we set three random points several hundred feet apart. Our next step was to complete fast static observations using a Trimble 5700 and Trimble 5800 GPS Units. We then processed this data using Trimble Geomatics Office and attained Indiana East Grid coordinates on these points. Then we created a Grid coordinate that was had the same Longitude as one base random points, but different latitude. From this calculation we arrived at a "theta" angle (The difference between grid north and geodetic north) and rotated the grid coordinates accordingly to attain a true north bearing.

Using a Trimble 5600 series total station, we checked the angle and distance between the set random points and then proceeded to locate the leg of the tower that the antenna would set on. From this located point we then calculated and located a point 500.00 feet away at a north azimuth of 136 degrees from the antenna.

We then occupied this calculated point 500 feet from the antenna with our Trimble 5600, checked angles and distances to our random points and proceeded to align the antenna with our line of site. It is my opinion that the antenna is sighted within +/- 30 minutes of a north azimuth of 136 degrees. This is determined by taking the sin of 30 minutes multiplied by the distance of our instrument from the antenna which would allow a sighting error of 4.3 feet and still be within the needed tolerance.

**This represents a survey completed under my direct supervision on Jan. 18, 2005.**

  
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*Jan. 14, 2005*  
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