



HARRIS SURVEYING & ENGINEERING COMPANY, INC.

LAND SURVEYING AND CIVIL ENGINEERING DESIGN / Georgia and Florida

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October 7, 2003

Location of tower: Brunswick, Georgia

Procedure of determining orientation of antenna on tower for Bill Tidwell of WAYR FM:

1. First we observed location of the tower relative to the road out front, and took magnetic compass reading to determine which of the legs of the tower was the N.E. leg of the tower.
2. Secondly we set control points to begin location of the tower legs and guy wires.
3. Thirdly, using the control points we located the 3 guy wires, 3 tower legs, and the center of the tower. With a projected a line out from the tower on a North 51° East bearing, mathematically.
4. Fourthly, using the 51° true line of the North East legs we added a 19° trueline to make a total of 70° North East, which is our antenna direction. We set a traverse to a point on that line 666.91 feet away from the tower.
5. Using our telescope on the Total Station, we were able to visually verify that the antenna was pointing directly at us. At this point we observed all 4 bays of the antenna and determined they were true with North 70° East.
6. The center of Radiation Elevation was determined using Angle Side Angle.
7. Height of tower was confirmed at $322' \pm$ by measuring a vertical angle of $64^{\circ}11'20''$ with the horizontal.

Sincerely,

Robin N. Harris, P.E./R.L.S.

