

### **Save Customer Money**

The Radio Frequency (RF) Site Survey of the ESTeem Engineering Services was created to fulfill our customer's need for temporary engineering services. The Site Survey saves the customer money by removing the trial and error practices often required to make a site operational. Typical mistakes made are wrong radio tower heights, wrong antenna location, inappropriate RF frequency, wrong installation practices, site licensing and interference issues are created. The costs for correcting these errors on a site or changing operating frequency are much higher than doing it right the first time.

### **Organize RF Project**

The Site Survey attempts to answer the following questions and link them together for an overall RF plan:

1. WHO will be completing various actions to provide the permanent RF installation?
2. WHAT RF equipment and mounting hardware are needed for the project.
3. WHERE to install the RF equipment.
4. WHEN are the licensing, equipment ordering, installation and site commissioning tasks needing to be conducted for the final project.
5. HOW the RF equipment or mounting hardware is to be installed.

Upon completing of the Site Survey, a Site Survey Report is prepared that provides guidance for site installation and FCC Licensing, if required.

### **Accurate Bill of Material**

Actually visiting each master and remote location along with conducting the RF measurements allows the Site Survey Engineer to create a complete list of RF material for each site and total RF system price. The Bill of Material can also include all mounting hardware and fasteners.

### **Provide Training to Customer**

While on site, the Site Survey Engineer can introduce the customer to the ESTeem products they may eventually use. The ESTeem Site Survey procedure and test methods will be explained and the customer will be encouraged to take part in the testing and using the ESTeem Utility Software. From the customer's participation, they will have "first hand" knowledge of the tests taken and final site selection criteria. The customer's "hands on" experience will provide the knowledge for maintaining the future RF project.

### **Provide Installation Guidance**

The Site Survey Report provides limited guidance for special needs, usually related to lightning protection grounding, antenna height, nearby power lines, equipment operating temperature etc. The Site Survey Report lists safety concerns for each site pertaining to protecting the installation personnel and ESTeem equipment. The Site Survey Report does not provide the detail necessary to supplant experienced installation personnel.

### **Provide Information On Future Expansion**

While on site, the Site Survey Engineer discusses future expansion plans with the customer. From the on site analysis and test results, EST is able to provide guidance on the projects future expansion needs. The ESTeem modems versatility allows numerous agencies to communicate using the same wireless network. While on site, the Site Survey Engineer gains the needed knowledge to provide guidance on adding other agencies (fire, police, ambulance, sheriff, etc.) to this Wireless Local Area Network (WLAN).

### **Site Survey Report Provides Information for ESTeem Technical Support**

The report's Site Connection Diagram, Data Polling Test Summaries and Data Table document for the ESTeem Technical Support personnel the project's RF signal levels, nearby emitters and data quality between sites.