

## Scott County Addressing RFP – Questions and Answers

*Questions are in bold text, answers in blue.*

*Note: Some questions were inadvertently omitted from the first Q&A posting. This revision was posted later the same day (Tuesday, August 18, 2009).*

### **Will Scott County consider postponing the RFP due date?**

We discussed this as a committee and felt that it would be best to keep the current date unchanged.

### **Can we bid on specific portions of the project (e.g. planning or field data collection)?**

Yes. Scott County reserves the right to negotiate individual elements of the proposed project. Assuming the firms involved in a combined approach agree to the idea during contract negotiation we will consider the option to bid individual scope items. Conceptually, the field data collection and planning components seem the best suited for individual consideration.

### **Completeness of existing centerline geometry (missing physical features, e.g. roads that need digitizing). On page 1, section 1.1 it is noted there are 1800 miles of roads and in section 3.1.3 it is noted 1800 miles of geometry exist, suggestion there is only QA/QC and cleanup of the existing geometry.**

The intent of § 3.1.3 is to describe the centerline file that Scott County and the cities of Bettendorf and Davenport developed internally and/or with consultant assistance. One of the reasons we mention the mileage of 1,800 is to provide a comparison of the county street centerline file with external centerline sources such as the DOT and US Census which vary considerably at 1,500 and 2,300 miles respectively).

### **Would it be fair to say there is less than 5% of the geometry (street segments) missing? Does the county have any sense of where most of the missing geometry is located? More so in the rural areas, city areas, or is there no discernable pattern, or you simply do not know?**

I believe it is safe to assume that less than 5% of the addressed street segments missing. I make that distinction because we will want to account for some of the non-addressed road segments such as alleys, roads in parks and cemeteries and similar features (for emergency vehicle routing purposes). If you add some of these non-addressed road features, you may be higher than 5%; however the non-addressed road features will not have near the amount of attributes as addressed road segments.

Since Bettendorf and Davenport have been continuously maintaining their street centerline files, I assume that streets within those two cities are fairly up to date and won't have too many missing streets (if any). However the features will need to be scrubbed to make sure the geometry is correct, existing attributes are correct, and additional attributes added. Davenport already has most if not all of the alleys and non-addressed roads such as alleys and park roads. It's likely we would need to add some of the non-addressed road segments in Bettendorf and in other areas of the county.

For all addressed road segments outside of Davenport and Bettendorf our parcel conversion consultant, Schneider, added visible streets from the 2005 orthophotos and did some MSAG comparisons and data

conflation from census TIGER files. I would assume that new streets built since the parcel data conversion project was started in 2007 might need to be added and considering the quality of TIGER data, the attributes will need some significant scrubbing.

**Completeness of existing street centerline attribute features (e.g., block ranging, both actual and theoretical, street names field, etc.). Which fields are most incomplete? For example, if you could provide statements along the lines of : "50% of the actual ranging is missing or inaccurate" and "35% of street names are missing or incomplete". This would be extremely useful in judging the level of work required to finish your database.**

I did not run these statistics in lieu of providing the sample street centerline files in the sample data.

**In lieu of answering questions 2 and 3, may we get a copy of current street centerline and address point layers from all participants so we may assess completeness ourselves? This will no doubt help all bidders provide a much more accurate bid.**

Yes (see above)

**In 4.4.1.7 you refer to Davenport/Bettendorf and Scott County address point layers. In Section 3 we only see descriptions of the Davenport/Bettendorf address point layers. Does the county itself have an additional point layer (other than parcel data and ALI database sourced points) that a description was forgotten for? We see no other reference to this Scott County address point layer.**

Scott County does not have an address point layer. We anticipate using the parcel layers as a major source for address point development in the county and towns without address points. Bettendorf and Davenport both have address point layers.

**How many jurisdictions/departments currently handle address assignment today?**

There are 18 jurisdictions within the county who are responsible for address assignment including the county and 17 municipalities. The departments or staff within each jurisdiction tasked with address assignment varies by organization but is typically the clerk for smaller towns and the planning or public works department for larger ones.

**In sections 4.4 and 4.4.1.9 you state the Consultant will verify multi address structures. Please define verify.**

**For example, in a 100 unit apt complex (in one building), do you require consultant to field verify (walk the corridors) of such a location to ensure the sub address table is 100% correct (i.e., all apts numbers are included, etc)?**

We anticipate all multi-address structures to be field verified according to the example above. However, for practical purposes, verifying the mail boxes located in the entry ways would probably suffice. Many multi-address structures may be able to be field verified via windshield survey (duplexes, etc) assuming that addresses are posted and visible from the street. Other time saving practices such as using laser range finders with GPS units from a vehicle to capture access points (if using GPS) or placing points on an aerial photo using a field computer would speed up collection practices.



### **What is the total available budget for this project?**

We've chosen not to reveal our budget for the project but do feel that we have adequate funding available for the scope items requested. I acknowledge that it can be very helpful to know the amount of money available for the project in terms of choosing appropriate methodologies and cost alternatives in order to meet the budget goal. However, we wish to avoid the tendency of respondents to "work backwards" from a particular budget figure.

While we would like a single project fee schedule based on your project understanding, assumptions, and experience please feel free to suggestion cost alternatives in your response if you think it would be beneficial.

### **Can we see examples of your existing GIS data? Useful datasets would include the following:**

Sample data has been posted to the Scott County website. For information on how to access and download the sample data, please visit the RFP website at the link below:

[http://www.scottcountyiowa.com/fss/bids.php?folder=2009/20090821\\_Addressing\\_Project\\_RFP](http://www.scottcountyiowa.com/fss/bids.php?folder=2009/20090821_Addressing_Project_RFP)

- **Parcel** – Yes, see sample data. We've included sample areas of the Scott County draft parcels, Bettendorf parcels and Davenport parcels.
- **Road Centerline** – Yes see sample data. Yes we've included samples of the Iowa DOT GIMS database, US Census TIGER data (2005 revision) and a draft Scott County street centerline layer which is a combination of Bettendorf, Davenport and Scott County (draft) centerline features.
- **Postal Community** – Currently, we are reviewing tax boundary layers for parcel delivery areas which will eventually be used for city limits layer. Until that is available we are using a modified Iowa DOT boundary layer. See sample data.
- **ESN** – No boundary layer based on Emergency Service Numbers is currently available, however in the MSAG we show 38 Emergency Service Numbers. The ALI database shows 52.
- **Responder** – No complete responder GIS data layer currently exists. We do have fire and police department locations including a nearly complete fire district layer, but do not have all responder locations mapped.
- **Address Point** – Yes see sample data. While there is no Scott County address point data, we've included Davenport address point data and Bettendorf address point data. Note that the Davenport data is maintained in ArcGIS with full address data fields while the Bettendorf address point data is maintained in AutoCAD (which we exported to ESRI format) and contains only the house number.

We have also included sample Auditor tax and (county) assessor address databases for review. For a more convenient view of this data, you may view the Scott County Parcel Query Application online at: <http://www.scottcountyiowa.com/query.php>. The information displayed in the Parcel Query application includes the same information contained in the databases (plus information from the Davenport City Assessor) for all properties within Scott County.

**Can you provide us with a recent Master Street Address Guide (MSAG)?**

We have the ALI and MSAG databases here and checked with Intrado to see if we could share them with vendors at this point. However since we currently only receive free versions of the MSAG and ALI extracts and aren't covered under a formal contract with them, they prefer we do not share the MSAG/ALI data with respondents until such time as we enter into a data contract with them and/or until a firm is selected for the project.

**Can you provide any information regarding your current addressing workflow?**

The addressing workflows vary according to the community responsible so we are not familiar with all the variations. Recognizing the importance of understanding the existing workflows, we've asked the consultant to assist with investigating/revising them as part of the Integration and Maintenance Plan.

In Scott County, addressing is assigned by the Planning and Development Department. For new subdivisions, preliminary addresses are assigned and the post office and affected PSAP notified. This preliminary address information is also shared with utilities as they build out infrastructure to the new developments.

Addresses are officially assigned when building permits are issued. At that point, any ambiguity is resolved (e.g. corner lots) and the post office, PSAP and Assessor's office is notified.

**Does the current Scott County MSAG follow Postal Standards (USPS Publication 28)/NENA Standards?**

The MSAG has not been investigated fully, nor standardized to Pub 28. A brief glance at common street abbreviations reveals nonconforming elements like AV instead of AVE so it is safe to assume that address standardization routines and other QA/QC will be necessary.

**If not, is it the intent of the company to correct any non-postal MSAG entries as well as work with the appropriate telephone service providers to make telephone record corrections?**

To the extent possible, the MSAG should be edited to conform to applicable standards including Pub 28 and NENA. Exceptions including non-postal MSAG entries should be flagged as such and included in QA/QC metric and standard reports. We assume that to the extent non-postal entries can be standardized, corrected or verified, that the firm will do so. We also assume that MSAG and ALI database revisions will be reviewed with the help of county staff and that revisions will be submitted through Qwest (the ILEC) and Intrado unless otherwise directed.

**Does SECC know approximately how many telephone records do not follow NENA/USPS Standards for addressing?**

No, we have not compared/standardized the ALI or MSAG database to NENA or USPS.

**Are there any known incorrect postal community names assigned in the MSAG?**

Unknown. However, the MSAG for each individual PSAP (prior to consolidation) has been maintained and updated regularly by the dispatch centers for many years so the likelihood for widespread errors in community names is low.

**Are there any known incorrect postal street names assigned in the MSAG (example: incorrect - SECOND ST, correct – 2ND ST)?**

Unknown. Assume the MSAG will need to be scrubbed for accuracy and adherence to standards.

**How many telephone records are in the 9-1-1 database? 74,731**

**How many telephone companies (LEC's and CLEC) are in Scott County?**

There are 12 telephone exchanges and 5 telephone companies within Scott County according to the Iowa Utilities Board's (IUB) published map entitled "Scott County Incumbent Local Telephone Service Area Reference Map" dated 5/1/1999 (the most recent available).

The five telephone companies identified are all LEC's with the exception of Qwest which is an ILEC.

F&B Communications, Inc	LEC
Central Scott Telephone	LEC
Iowa Telecommunications Services	LEC
Dixon Telephone	LEC
Qwest	ILEC

The IUB does not have information on CLECs in their map but we are aware of several including Paetech (formerly Mcleod), AT&T, Verizon and Iowa Telecom (which is listed as both a CLEC and an LEC by the IUB).

We were also able to summarize the ALI database by TELCO field with statistics displayed in the table below. TELCO is the abbreviation used for the communications company and ALI\_COUNT is the number of records in the ALI database associated with each TELCO. We currently don't have a complete list of the abbreviations but several are familiar (ATTMO = AT&T Mobile, CSTC = Central Scott Telephone Company, DX = Dixon Telephone, etc). Many of these are wireless carriers. The ALI Count field displays the number of ALI records associated with each carrier.

TELCO	ALI_COUNT
ATTMO	210
CSTC	5463
CSTI	869
DX	593
ETCLC	29
FBCOM	13
HBF	10
IDTC	1
IWA	2002
IWS	107
MCI	115
MCLDU	4308
NXTL	420

QWSTC	49959
QWSTI	30
QWSTP	1964
SPPCS	162
SPRCL	8202
TCS	20
TRDO	78
USCC	147
VNAGE	10
VZW	18

Qwest is the designated ILEC and through Intrado is the county's source for all MSAG and ALI data. Scott County assume that all standardization/synchronization will occur between the county and Intrado, not between the county and any individual telephone company.

**Can SECC provide a recent telephone record list from the ALI database excluding resident/business name and telephone number? This will help identify telephone records that do not follow NENA/USPS Standards that would or may need to be changed.**

We have the ALI and MSAG databases here but are restricted from sharing the ALI/MSAG database until we enter into contract with a firm. This is partly due to the fact that the current ALI database is a "free pull" and provided to Scott County by SECC without an express contract. SECC is currently working towards a data contract with Intrado/Qwest to provide quarterly ALI extracts.

**Has SECC chosen a dispatch vendor? If so, will you provide the name of the vendor?**

We are currently in contract negotiation with New World Systems.

**Who did your original GIS mapping? Perhaps Sidwell or Schneider?**

For the Scott County parcel conversion project, which is currently in progress, we have contracted with the Schneider Company. Davenport originally (15+ years ago) contracted with, I believe, a company called J&E. I think J&E is no more, having been bought up by another mapping firm (possibly Bruce Harris). Davenport also had a local engineering company update their parcel layers in the late 90's/early 2000's and have since maintained the data in-house. Bettendorf's parcel data layers were developed entirely in-house within the public works/engineering department.

**What kind of GPS hardware do you have?**

We use Trimble GeoExplorer Series GPS units, 2005 versions. We have (1) GeoXH, (2) GeoXM's and (4) GeoXT's.

**When would you like the project completed?**

The sooner the better. We will be selecting a new CAD/RMS vendor this month (August, 2009) and anticipate a final contract in September, 2009. The new CAD software will be dependent on GIS data and so the earlier we get the address data delivered, the sooner we will be able to develop police beats,

reporting areas, and other address feature-dependent layers. The CAD system is slated to go online (live) near the end of 2010 or early 2011 so we would really like to complete the project in less than one year.

As mentioned in the RFP, the street centerline file is of primary importance since the CAD system requires it. The address point database significantly improves the accuracy of CAD and geo-locates, but is not explicitly required by the CAD software. Therefore, if the project schedule can support development and delivery of the street centerline file first, we'd like to explore that option. That would allow us to test and develop CAD functions without necessarily having to wait for the entire addressing project to finish up. If development of the street centerline and address point database is linked together, we'd like to receive a preliminary version (to use with CAD) and a final street centerline deliverable.

**Who is creating the parcels referred to in the RFP?**

The RFP makes reference to more than one parcel source and author. Ideally we would like to use one parcel source, however a complete single source parcel layer will not be available before the address information is needed for E-911 dispatch. What we propose is that the respondent use Davenport GIS parcel data for Davenport, Bettendorf GIS parcel data for Bettendorf and Scott County GIS parcel data for all other areas. Aside from GIS format parcel features, Scott County also has standard tax and assessor databases that can be made available to the respondent.

**How many multi-unit structures need to be field-verified?**

We have no direct count available. In part that is something that will be answered through the course of this project. However, through analysis of the ALI database and discussion with peer cities and counties, we are suggesting that respondents assume 4,000 site visits. Please use this figure for your field data collection estimates. Scott County realizes that should this estimate vary considerably during the project, a contract adjustment may be necessary. If you believe this estimate to be in error, please feel free to share your own estimates. However regardless of the actual count, it will be important to state any assumptions about the number of multi-address sites or units in your RFP response.

A bit more background information:

The ALI database field structure:

TN	Telephone number
ESN	Emergency Service Number
CUSTOMER	Resident name/business name
HOUSE	House number
SUFF	House number suffix (e.g. ½, B, etc.)
DIR	Directional prefix for street name
STREET	Street name
COMMUNITY	Postal community name
LOCATION	Sub addresses (apt, floor, office, etc.)
TELCO	Telco provider



From ALI database summaries on the sub address field it appears that we have 12,230 units and 2,056 structures based on unique street level address ([HOUSE]+[SUFF]+[DIR]+[STREET]+[COMMUNITY]). However, this is an incomplete picture of the data. The ALI database contains multiple phone records and Location field entries for some single occupancy structures like school offices, retirement centers and businesses via private switches (PS/ALI) and for other reasons. Also, the ALI database does not reflect addresses of those without land-lines and does not distinguish multi-unit structures such as duplexes where each unit is assigned unique street level addresses. Lastly, it is assumed that not every land parcel in Scott County has an address assigned to it.

Davenport accounts for roughly half of the countywide parcel county and over 61% of the population with the largest density of multi-unit housing and businesses. The city of Davenport typically prefers to resolve addressing to the building level, not the unit level (although approximately only 200 of the sub addresses are resolved to the building with the remainder to the unit level which includes several mobile homes and condos). They have roughly 1,100 address points with sub-address information and 1,700 parcels which contain multiple residential address points. With few exceptions, the vast majority of the address points within the Davenport database are residential units/structures and do not account for multi-unit commercial buildings.

Muscatine County provided a count of their address points and determined that 8.6% of their address point database represents unit level addressing. Assuming similar percentages and an assumption that total address points roughly correspond to the number of ALI database records then we should have  $74,731 \times 0.086 = 6,427$  multi-unit addresses and a number of multi-unit structures less than twice this number (depending on structure to unit ratios).

**Do you anticipate the vendor create address pts based on existing resources only and then just field verify the multi-unit structures and other unknowns?**

Yes we anticipate the vendor using existing resources for the bulk of the address points, particularly the single unit addresses. The multi-unit structures and other unknowns could be identified via the ALI database and using existing Davenport and Bettendorf address point data (field verified), though vendor suggestions are welcomed.

**If so, can you provide samples of each of their addressing resources and aerial images?**

We can provide examples of known resources. Please visit the Scott County Addressing RFP link: <http://www.scottcountyiowa.com/fss/bids.php?folder=2009/20090821> Addressing Project RFP for more information on the sample data available.

**How many cell sectors will need to be developed? The 911 folks should have this info by carrier in a “routing sheet”.**

I have not received this data from SECC. My understanding is that the sector refers to the directional area of the cell tower signal vs. an omni-directional signal which transmits 360 degrees. Presumably every cell tower in or near Scott County will have one or the other. We currently do not have a cell tower layer in GIS so I do not have a count available. I believe cell data and structure information in GIS format is available from the FCC at:

[http://wireless.fcc.gov/geographic/index.htm?job=licensing\\_database\\_extracts](http://wireless.fcc.gov/geographic/index.htm?job=licensing_database_extracts)

**Who is on the addressing project review committee?**

1. Andorf, Paul – Medic EMS, Quality Education Manager
2. Bickford, Jim – Davenport Fire Chief (alternate Mike Ryan, also a DFD Chief).
3. Burgstrum, Jon – Scott County Engineer
4. Fitzpatrick, Gloria – Scott Emergency Communications Center, Technology Systems Coordinator
5. Hitchcock, Brian – Scott Emergency Communications Center, Director
6. Huey, Tim – Scott County Planning and Development Director
7. Isham, Gloria – Scott Emergency Communications Center, Deputy Director
8. James, Kevin – Davenport GIS Coordinator
9. Kelly, Sherry – Scott County Planning and Development Specialist
10. Kurylo, Peter – Scott County GIS Technician
11. Lannan, Kevin – Bettendorf Engineering/GIS Technician
12. Macuga, Stephanie – Scott County GIS Analyst
13. Nixon, Terry – Davenport Police Department/IT
14. Weiser, Ray – Scott County GIS Coordinator

**Who did you send the RFP to (directly)?**

Note that since the RFP was posted to the web site, user groups and in public notice given in the local newspaper it is impossible to know who all the responding firms will be. We did send notice of the RFP directly to a group of firms specializing in data conversion/addressing that had either been in contact with us about the project prior to RFP release or had come up in discussions with peer Iowa counties. They are:

- |                                  |   |
|----------------------------------|---|
| 1. Bullberry                     | <a href="http://www.bullberrysystems.com/">http://www.bullberrysystems.com/</a> |
| 2. GeoAnalytics                  | <a href="http://www.geoanalytics.com/">http://www.geoanalytics.com/</a>         |
| 3. GeoComm                       | <a href="http://www.geo-comm.com/">http://www.geo-comm.com/</a>                 |
| 4. GIS Workshop                  | <a href="http://www.gisworkshop.com/">http://www.gisworkshop.com/</a>           |
| 5. Geographic Technologies Group | <a href="http://www.geotg.com/">http://www.geotg.com/</a>                       |
| 6. Midland                       | <a href="http://www.midlandgis.com/">http://www.midlandgis.com/</a>             |
| 7. Schneider                     | <a href="http://www.schneidercorp.com/">http://www.schneidercorp.com/</a>       |
| 8. Sidwell                       | <a href="http://www.sidwellco.com/">http://www.sidwellco.com/</a>               |

**Who is your CAD vendor?**

We are currently in contract negotiation with New World Systems.

### **How is the project funded?**

The project is funded from the sale of local government bonds for the purpose of developing enterprise wide GIS system/capabilities in Scott County.

### **What are the selection committee's biggest project concerns?**

I posed this question to the committee members and received several replies. The most common one was a concern with accuracy (that we receive an accurate addressing product). The second most common concern was project schedule. Specifically that it is developed in time to support the new CAD system. One responder was also concerned about cost. Lastly, one responder was concerned about "...developing an Address Model that will be easy to work with and still meet the needs of the County and the Cities. The Address model should be easy to update and still provide proper support for the various departments and agencies, especially consolidated dispatch (SECC)."

### **Can we get an estimate on how many multi-unit structures need to be field verified? An estimate on Multi-Unit locations as well as an estimate on the total amount of units would be beneficial.**

Please see earlier discussion of multi-unit counts. We were able to come up with an estimated number of sites but not total units.

### **Also, was wondering when you anticipate publishing answers to those questions asked previously?**

Answers will be published Tuesday, August 18, 2009 by end of day (4:30pm).

### **Do we need to provide location verification on entrance points for multi unit structures with same address? Reference 2.7.2**

For multi-unit structures with the same street level address, we would like the address point placed on the structure access point (e.g. for an 8 unit apartment building at 100 Main St) you would place the address point near the main lobby entrance). If an apartment complex composed of 6 buildings all have the same street address (e.g. 101 Main St, Bldg A-F with 8 units each), we would like an address point placed for each building (six total points located at each apartment building's main entrance).

If a multi-unit structure has a unique street level address for each unit (e.g. a duplex with addresses of 1202 and 1204) we ask that you place one point per address at the approximate entrance point (front door). Technically duplexes are multi-unit structures even though they have individual street level addresses. However as described elsewhere in this summary, windshield surveys would suffice in these cases or perhaps even for some multi-unit structures where all unit numbers are visible from the road.

All multi-unit structures require field verification. This is necessary because not all units will show up in the ALI database (due to cell phone subscribers without land lines, etc).

### **Is imagery for both years leaf on or off? Reference 3.1.1**

Yes, imagery for both years is leaf off (both the 2005 and 2009 flights were April flights).

**Are parcels guaranteed to be current when received or current to what date? Reference 3.1.2.1**

Parcels within Davenport will be current (within a week or so), parcels within Bettendorf are fairly current but we need to verify the update frequency. Parcels within Scott County (and outside Bettendorf and Davenport) will be current as of April/May 2007. We are planning to update the county parcel deliveries sometime within the next two months but there is likely to be some lag in the parcel update process as it relates to the addressing project. We will work with the addressing firm to provide updates within each delivery area as soon as they are available and can assist the firm in locating new subdivisions, streets and other recent development.

**Is all data maintained by Bettendorf and Davenport up to date? Reference 3.1.2.2**

Yes, they update the street centerline files and parcel data layers as changes occur though we need to verify the timing with Bettendorf. Davenport is generally updated within a week or so of new development.

**Are emergency districts accurate or do they need some fixing as applied to ESZ's? Reference 3.1.6**

Since we have never had a spatial ESZ layer derived from MSAG data, there are sure to be discrepancies between our fire/police/ambulance boundaries and the ESZ layer.

**Will we be provided with DOT data? Is there a cost?**

DOT data is freely available. We will make sure that the DOT data, Census data and all relevant county/city data mentioned in the RFP is made available for the consultant's use at project start.

**Is parcel data provided by cities in GIS or CAD? Reference 3.1.2.2**

All data can be provided in GIS format. Most data can also be provided in AutoCAD format or converted to AutoCAD if required. Some information such as the Bettendorf address point data was converted from AutoCAD to GIS.

**Has a CAD/RMS software vendor been chosen?**

Scott County is currently in contract negotiation with New World Systems.

**Is assessment information available in the tax data?**

Some assessment information is available in the tax database such as the property valuation. The assessor database from both the Davenport City Assessor and Scott County Assessor contains the bulk of the detailed assessment information. Scott County uses Vanguard appraisal software while the City Assessor uses CLT UNIVERS for commercial appraisal and a custom application for Davenport residential data. Information from all assessment databases is available for the addressing project.

**Is the address information in the tax data the mailing address, property address or both?**

We have both site address and mailing addresses available.

**If cell tower coverage information is not available or not shared by the telco, should an estimated coverage area be created?**

Yes.

**We are assuming that the name of any renters is not included in the tax database. Is this true?**

Yes, we only record the name of the property owners not tenants. Furthermore, a duplex or other multi-unit structure generally only has one address in the tax database even if there are two or more street level addresses associated with the property.

**Is the intent of the cell tower location and tower coverage area to simply show where they are located within the county, or is it to show the total area of the county with tower coverage?**

We would like to show all towers in the vicinity that might pick up wireless 911 calls originating from inside the county. So some towers may fall outside the county boundary depending on range. My understanding is that the cellular service providers can supply information associated with the range/orientation of their antennas/transmitters which will allow the creation of coverage areas or sectors that can then be used by E-911 to improve wireless caller locations. Barring the availability of this sort of information we could use default coverage rings or simply plot the tower locations.

**What are the specifications of the existing county address grid? For instance, does the numbering start in the SW corner of the county and increase by 400/mile in the N and E directions.**

Each city may have its own addressing grid. Rural Scott County has a typical 911 rural addressing standard with streets (E-W) and avenues (N-S) increasing in the N and E directions like a Cartesian coordinate system. Addresses are even on the north and west side; odd on the south and east side. Addresses are assigned incrementally between sections every 1/1000<sup>th</sup> of a mile.