

# **SEDGWICK COUNTY, KANSAS 800 MHz RADIO PROJECT**

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## **REQUEST FOR SPECIAL TEMPORARY AUTHORIZATION WITH STATEMENT OF JUSTIFICATION**

*February 25, 2013*



*The Spectrum Firm, Inc. – 2213 Cypress Court, Flower Mound, TX 75028*

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## 1.0 Sedgwick County, Kansas: Introduction

### Introduction to the Statement documents and request!

Sedgwick County, Kansas was founded in 1867, and named after Major General John Sedgwick of the Union Army during the American Civil War. Since then, the area has steadily grown and expanded to include 21 cities, including county seat Wichita - the largest city in Kansas. The population in 2010 was 498,365.

Sedgwick County respectfully submits herein, their request for an Emergency Special Temporary Authority (STA) in accordance with FCC Rule Section 1.931 in order to be able to expand and improve their existing 800 MHz system, as described in the following pages.



The approval of the Emergency STA will allow necessary optimization and testing of the system and is in the best interest of the public. The County is **already licensed and operational on these channels**; therefore the risk of interference is low. In addition, the changes requested herein have been accepted and approved by the regional planning committee and coordination has been completed and the permanent applications have recently been filed with the FCC under file numbers 0005660444 (WNLE919) and 000563282 (new).

## **Section 1 – Service & Need for STA**

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The STA Applications submitted herein represent a modification to the existing 800 MHz Radio System that is utilized in and for the County of Sedgwick's Law Enforcement, Fire, and EMS departments. This is the third attempt at filing the two STAs, which have been dismissed twice before – first for a missing certification that was needed from the frequency coordinator and the second because two frequencies, 854.0625 and 854.3875, are not available for licensing. However, Sedgwick is already licensed for these channels and they are constructed and operational and receiving no interference from anyone on their existing system. Apparently, public records had shown these channels as having been vacated by Sprint-Nextel when they hadn't been. Furthermore, Sedgwick's frequency coordinator, AASHTO, has contacted Sprint about these frequencies and Sprint has indicated that if Sedgwick lowers the ERP to 180 watts at the proposed Andover site on these two frequencies, that the use of these channels would not create an interference issue for them. Sprint did not have an issue with Sedgwick's use of these two frequencies at any of the other sites. Sedgwick is therefore lowering the ERP to 180 Watts at Andover on these two channels only to satisfy Sprint's request. Sedgwick is also attempting to obtain a LOC from Sprint that hopefully removes the problem with the FCC and that the STAs can both be granted. Also, since the second dismissal, the FCC has also verbally requested additional information to the STA justification, which has been provided at different places throughout this document to provide more evidence that this is a true emergency request.

Sedgwick County provides emergency services for the victims of domestic crime; including Homicide, Rape, Robbery, Aggravated Assault, Auto Theft, Burglary, and Larceny. Sedgwick County's emergency services additionally provide first responders for natural disasters within the County, as well as secondary responders to adjacent counties and throughout the state, when called upon.

In 2008, Sedgwick County, Kansas Crime Statistics reported that between the years of 1999 and 2008, there were 219,842 total crimes reported in the County and 24,408 of them were violent in nature. There were over 21,000 crimes that transpired during each of those years in the County and almost one half of those

crimes took place within a mile from people's homes. The report indicated that on the average, someone was a victim of a crime in Sedgwick County every 23 minutes. This included 243 murders, 2,095 rapes, and close to 156,000 thefts, which included 16,508 automobile thefts. Over that period, reported crime in the County climbed by 16 percent. In the course of the same period, violent crime rose by 40 percent and the report indicated that Sedgwick County had the 2<sup>nd</sup> highest crime rate in the State, when compared to similar counties throughout the State of Kansas. Although current figures were not available for the last five years, it is estimated that the crime rate is well above those reported in that earlier Kansas Crime Statistics for the County.

In 2012, 84 of the 94 tornados in Kansas traveled through Sedgwick County and over 359 people were injured and many more left homeless or with severe damage to their homes and property, as a result of these tornados. Twenty-five of the tornados in Sedgwick County were in the City of Wichita and emergency responders for the County of Sedgwick were called out to provide assistance and protect property. For example, on April 14<sup>th</sup>, 2012, a single tornado touched down and caused over \$500 million in damages and, fortunately, only 38 people sustained injuries as a result of that disaster, but the casualties could have been far worse.

In addition to the ever increasing crime rate in Sedgwick County, as well as being in the center of tornado alley, Sedgwick County also supports five public and four private airports. The NTSB has responsibility for investigating all aircraft accidents and incidents. In the event of an accident, Sedgwick County emergency units, as first responders, may need to remove or disturb a disabled aircraft and/or contents, prior to NTSB or FAA-FSDO assuming custody, in order to:

- Remove persons trapped or injured
- Protect wreckage from further damage
- Protect the public from injury

Emergency Support Function (ESF) # 9 provides guidance for the organization of County resources to conduct lifesaving search and rescue operations. The goal of search and rescue operations is to save the lives of people who are unable to ensure their own survival without assistance. Search and rescue activities include, but are not limited to:

- Locating, extricating and providing immediate medical assistance to victims trapped in collapsed or damaged structures
- Locating and assisting missing or trapped persons, vehicles, boats, and downed aircraft

During events involving search and rescue operations, the Sedgwick County Emergency Management Department coordinates ESF # 9 activities. As the need for search and rescue operations could be centered anywhere within the county, it is imperative that consistent portable radio operations be achievable throughout the County.

The proposed upgraded system and strategically located transmitter sites will ensure that all of the above noted emergency services will be better covered with lifesaving radio communications in all areas of the County.

The advantages of the modified system include expanded coverage, enhanced system reliability/redundancy, replacement of no longer supported proprietary equipment and open standards for P25 interoperability. It is critical to upgrade the existing system in order to better handle the number of life and death situations the County has on a yearly basis, as evidenced by the number of tornadoes and physical damage and personal injuries sustained in the last year alone. Couple that with the number of domestic crime cases in a county the size and population of Sedgwick, as well as our multiple airport and emergency services noted above, our police, fire, and EMS departments stay busy on a 24/7 basis. Our police and fire personnel are put in harm's way every time they take a call and they seriously rely upon their radio communication system to provide and/or receive critical data input to and from their respective stations. Likewise, with the improved communication system, our EMS response teams will be better able to take care of the sick or wounded when called out for medical

emergencies, before and during transport when they need immediate and clear radio connection to hospitals.

Ninety-nine percent of all 9-1-1 calls for police, fire, or EMS services represent an emergency situation that is already taking place somewhere. Someone's life or property is already being threatened and emergency help is needed immediately. Help to those individuals should not be hampered by an inferior radio system that is either too old or does not have adequate coverage area...or both. By the nature of their jobs, the selfless men and women who provide these life-saving procedures put their lives on the line every day to help people like you and me. Shouldn't they be rewarded by allowing them to obtain the licenses they need to improve their communications system so they can better do their jobs? Bottom line, the modifications requested in these STA's will provide greater coverage capability and greatly reduce areas where current communications are seriously lacking or don't exist at all.

## **Section 2 – System Type**

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The new Sedgwick County radio system will be a managed simulcast radio network utilizing 800 MHz. frequencies/channels on a total of ten (10) sites. All sites are located within Sedgwick County.

## **Section 3 – Intersystem Interoperability**

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The new public safety radio system will maintain the existing mutual aid operations which include the ICALL and ITAC mutual aid channels and an over-the-air interface to the Kansas state P25 radio system. New conventional channels, which are being licensed separately, will be deployed to serve out to the county boundaries and are not included in this STA request.

## **Section 4 – Channel Loading Factors**

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The new public safety radio system will provide expanded countywide operation and coverage for approximately 8000 users of the cities of Wichita (police

department, fire department and EMS), Derby, Haysville, Valley Center, and Cheney, as well as, numerous county offices to include the Sedgwick County Sheriff, Fire, and EMS. Other entities served by the new Public Safety radio system include the Wichita Mid-Continent Airport, Wichita State University and area hospitals. As the current system is over 20 years old there are maintenance concerns that include the phase-out of support and parts availability for some elements of the existing system.

One of the questions raised by the FCC after the second dismissal was whether Sedgwick County is under a construction/implementation/testing deadline and if the loss of “grant money” is at stake. To both questions, we can answer with an emphatic NO. There is no deadline being placed upon the County to meet construction of the proposed system, except that which the FCC will require if we ever achieve grant of our applications. As stated previously, the existing system is already constructed and operational and has been for many years, thus the need for an expanded, improved, and updated system to bring it up to the current needs of our growing populace, which in itself brings on more problems creating more critical emergencies.

## **Section 5 – Coverage area**

The Sedgwick County, Kansas radio system will use ten (10) sites to cover the entire county with a small overlap. Coverage maps for each site are attached to this document to help understand the coverage area.

Radio Sites are listed here:

Location	Street Address	City	County	State
1	250 W. Douglas Ave	Wichita	Sedgwick	Kansas
2	1400 North Woodlawn	Wichita	Sedgwick	Kansas
3	1701 W. 63 <sup>rd</sup> Street S.	Wichita	Sedgwick	Kansas
4	6434 N Hillside St.	Wichita	Sedgwick	Kansas
5	1606 N. Andover Road	Andover	Butler	Kansas
6	23111 W 23rd St S.	Goddard	Sedgwick	Kansas
7	17500 W 71st St S	Clearwater,	Sedgwick	Kansas
8	10248 S 127th St E	Derby	Sedgwick	Kansas
9	6555 M 151st St. W	Colwich	Sedgwick	Kansas
10	1355 S 383rd St W	Cheney	Sedgwick	Kansas

Following the second dismissal of our STAs on March 5<sup>th</sup> , conversation with



FCC personal raised questions about whether the new sites added better coverage for the county that wasn't available before. This was stated in the original justification, such as the last sentence in Section 1 of this document that states; "The modifications requested in these STA's will provide greater coverage capability and greatly reduce areas where current communications are seriously lacking or don't exist at all." However, a more specific explanation is provided as follows:

The new sites of Clonmel Yard in the South Central portion of the County and Mulvane in the SE corner of the county, completes the mobile coverage of this section of the County. In addition, these sites will provide in-building coverage in an area which does not have adequate in-building coverage currently, thus leaving public safety officials without radio contact to back up or dispatch when responding to emergency situations inside professional and residential buildings. The Mulvane area has almost nonexistent radio coverage at this time and is very spotty due to terrain features. These coverage concerns will be remedied by the requested sites at Clonmel and Mulvane. Likewise, the west and southwest side of the County is also seriously lacking radio coverage currently also – the southwest portion of the County (Viola area) not being serviced at all at this time. These areas will be covered by the new sites at Cheney in the west corner of the County and Colwich in the NW section of the County. These sites will also remedy the intermittent coverage experienced on Kansas State Highways 42 and 15, in addition to US Interstate 35.

The relocation of all of the existing sites currently licensed under WNLE919 was required to optimize the overall coverage provided by the proposed system. Location of high crime, as well as, 50 critical buildings within the Sedgwick service area were considered in determining the optimum location for each site, in order to provide overall better coverage for mobile units on the street, as well as inside buildings, so that no public safety personnel is ever unable to call for back up support or contact dispatch. Overall safety to emergency personnel and to the citizens they serve and protect was and is our first priority in developing the County's new and improved public safety system.

## **Section 6 – Frequencies Returned**

The County of Sedgwick will not be returning any channels (frequencies), as this project uses only existing channels already licensed to Sedgwick County.

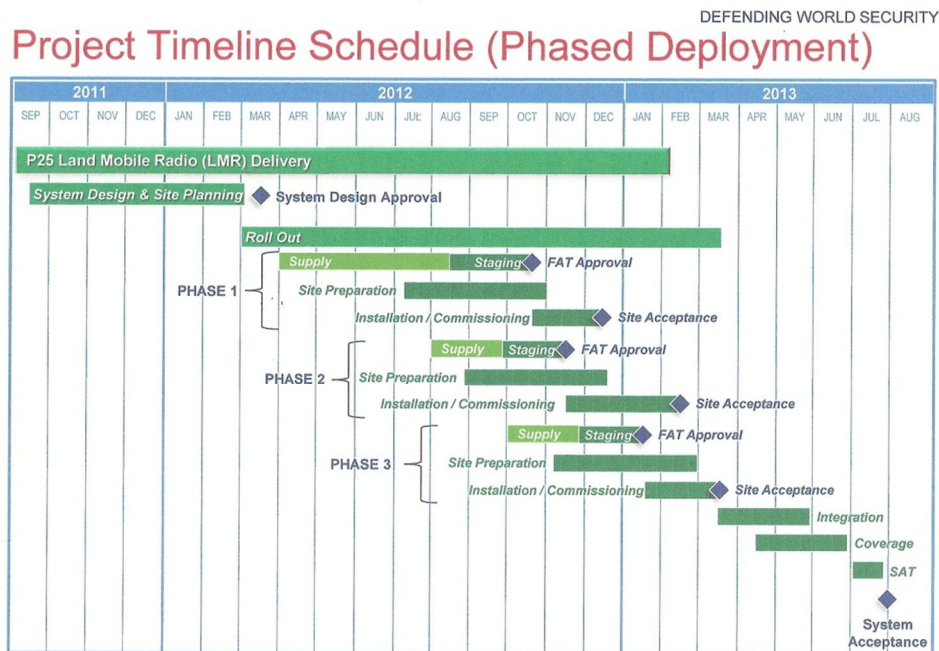
## **Section 7 - Conclusion of Written Request**

The build-out of the proposed system modifications and addition of new sites have already been seriously delayed due to sites changes, the need for FAA and ASR filings for one of the new sites, licensing preparation and coordination procedures. Our first two filings were dismissed by the FCC, due to an oversight by the coordinator and therefore had to be filed again, which was finally done earlier this month. Due to the massive narrowband filings this past year and the January filings for 800 MHz giveback channels, we understand the FCC has a serious backlog at this time and that our permanent applications may not be granted for several months. Therefore, it is critical that we be allowed to begin construction and implementation of this system immediately, in order to resolve our current communication problems. To this end and based on the information provided herein, the County of Sedgwick County respectfully requests an affirmative reply from the FCC to this Emergency STA application. Thank you.

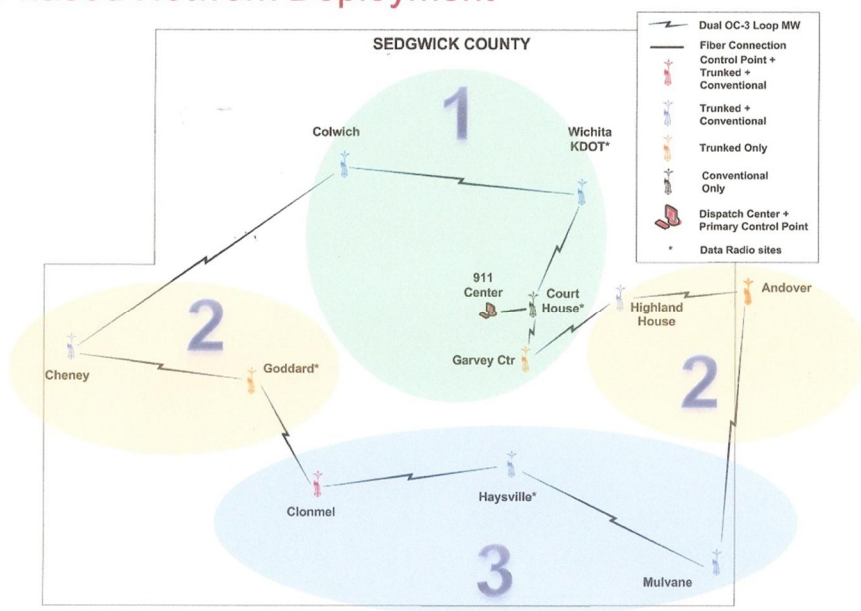
## Section 8 – Attachments

### Implementation Schedule

The Implementation Schedule or Project Timeline Schedule is also inserted below:



## Phased Network Deployment



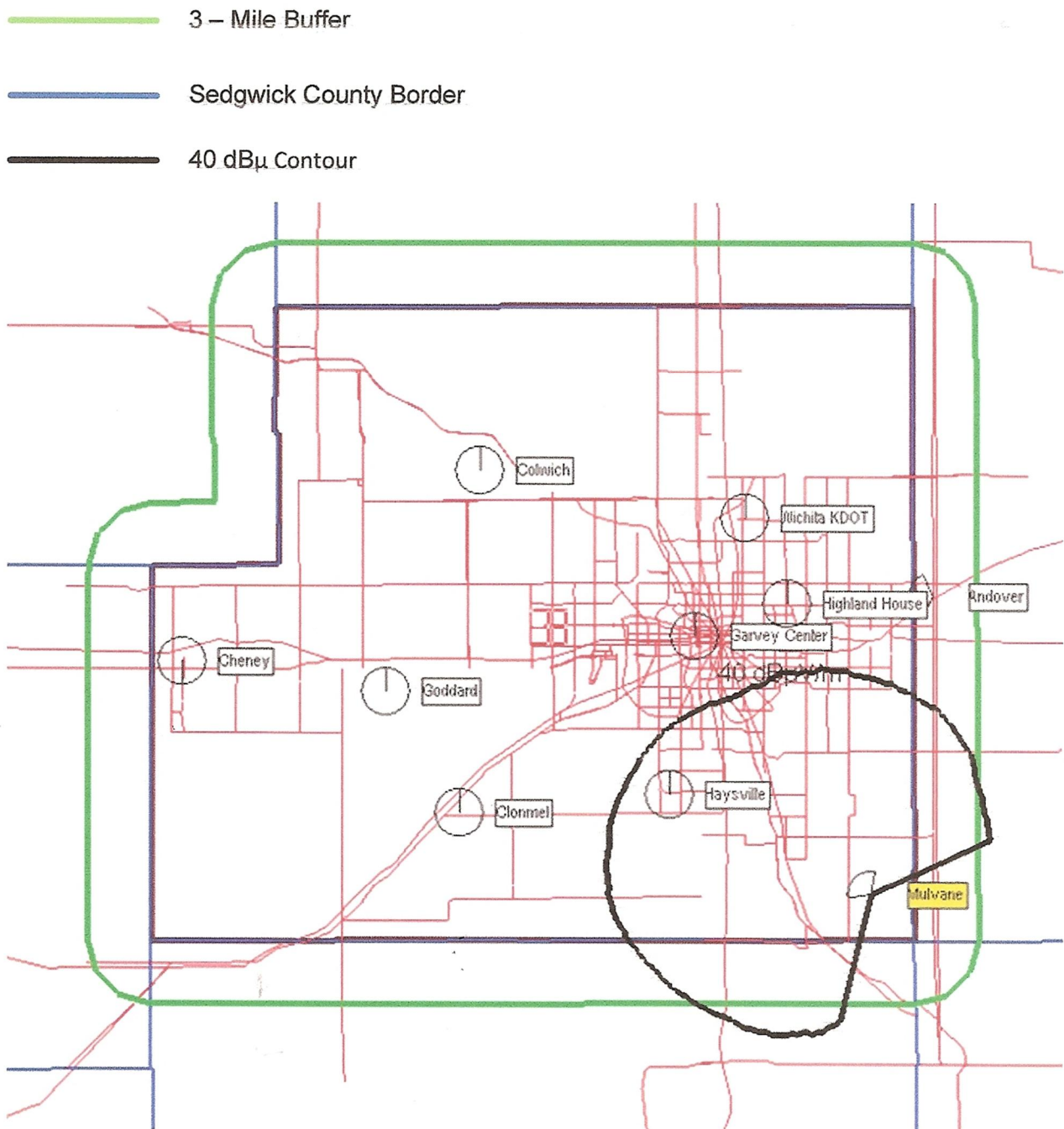
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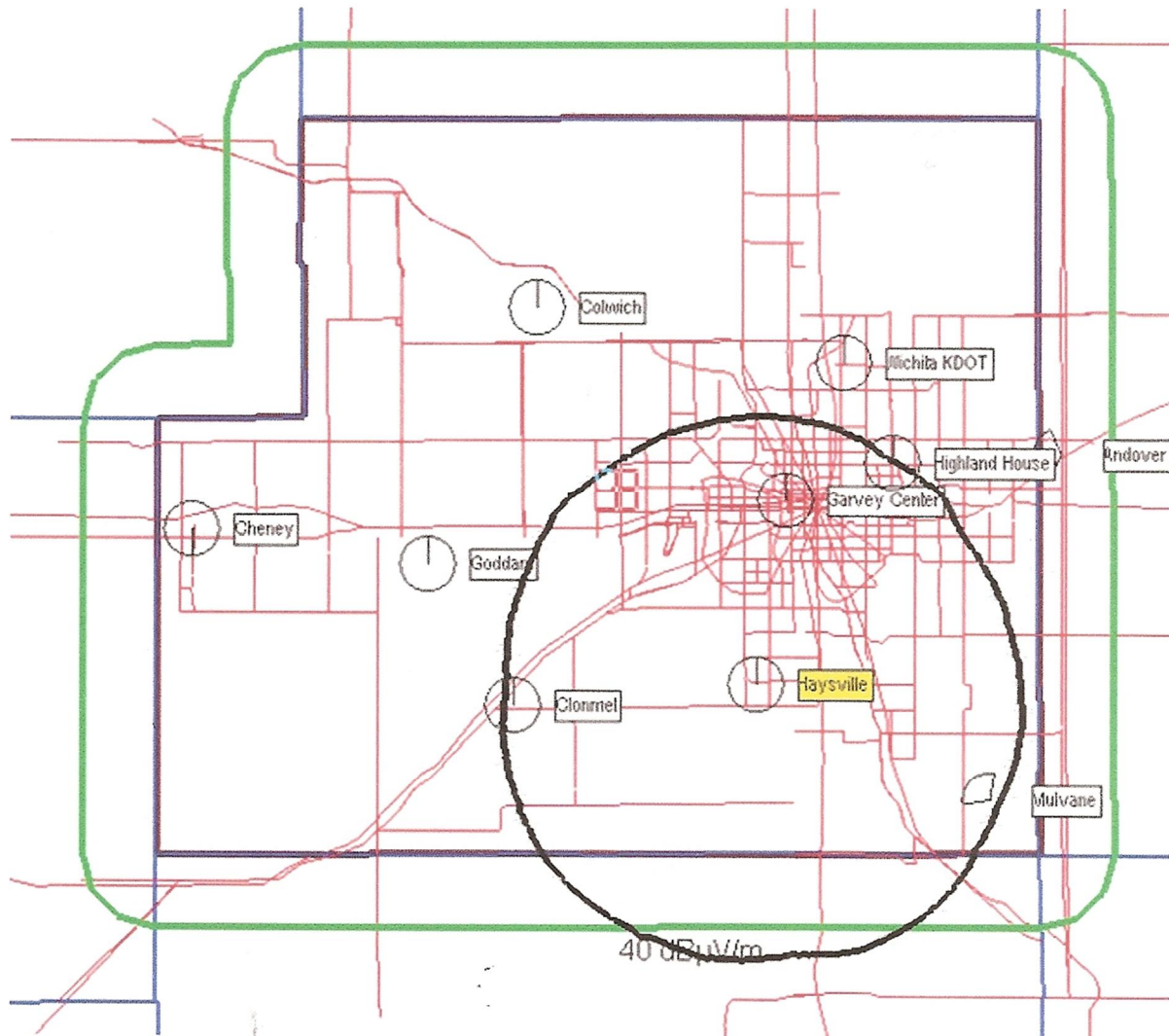
## Contour Maps:

## Mulvane 40 dB $\mu$ Contour



## Haysville 40 dB $\mu$ Contour

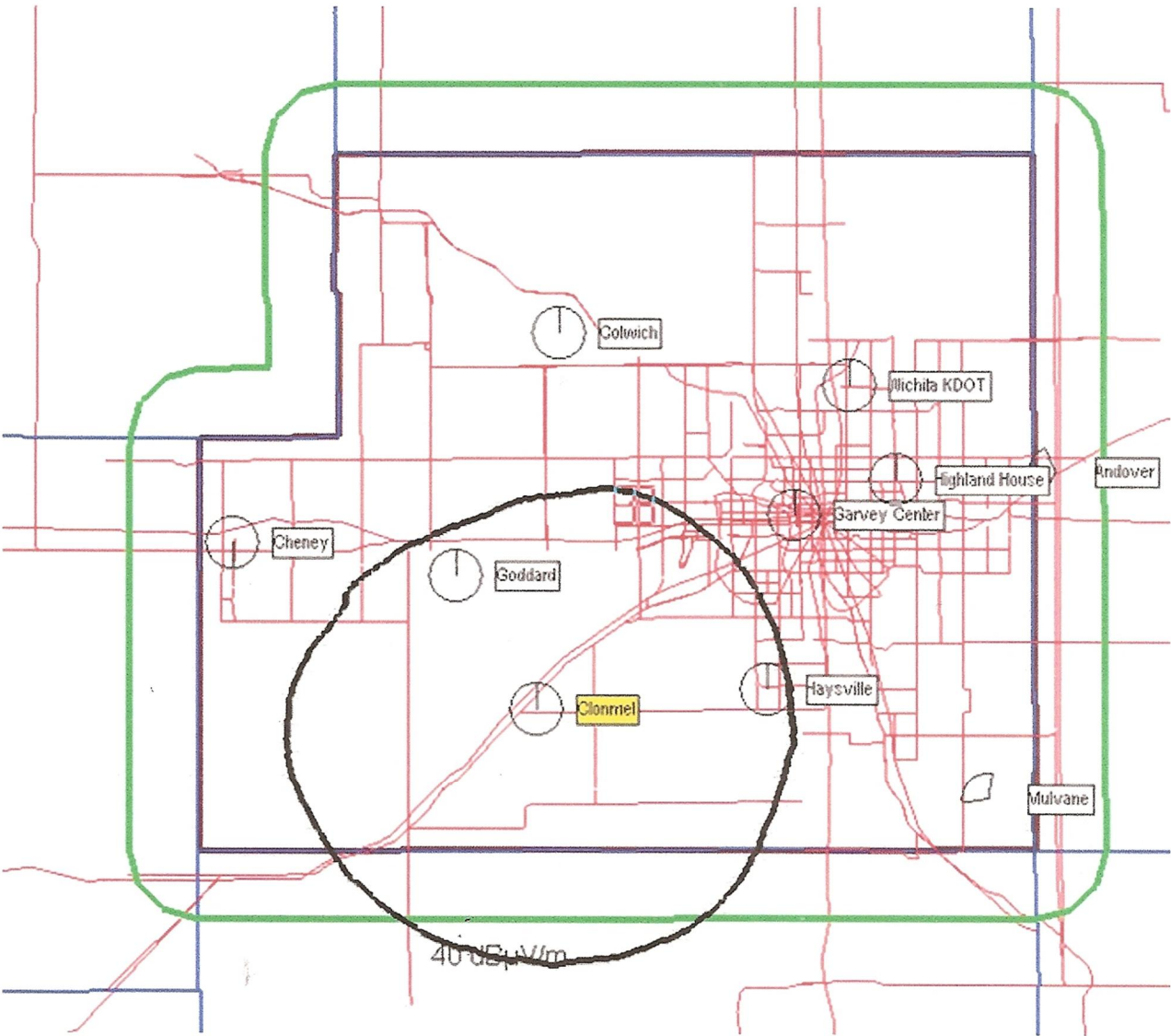
- 3 – Mile Buffer
- Sedgwick County Border
- 40 dB $\mu$  Contour





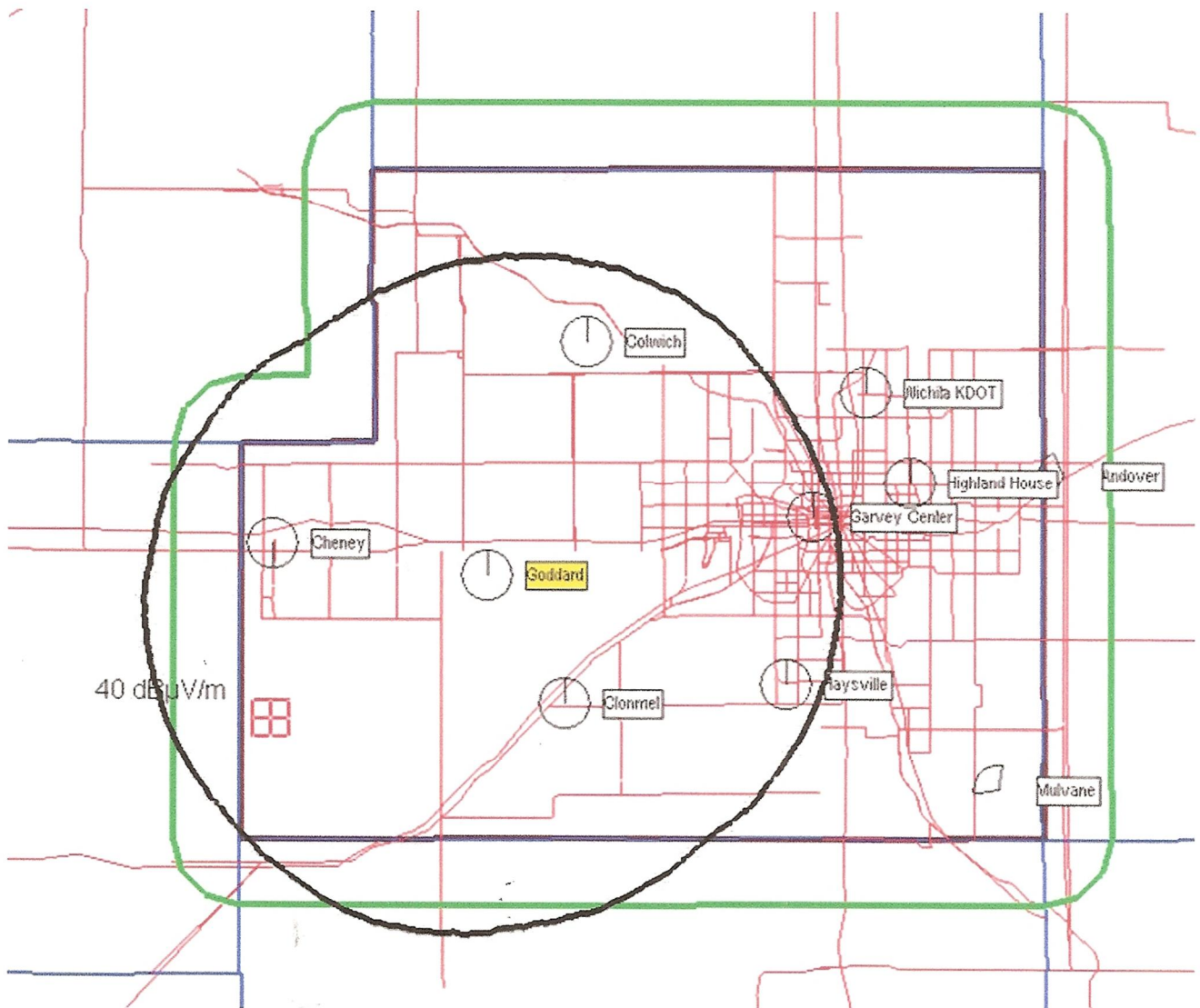
Clonmel 40 dB $\mu$  Contour

- 3 – Mile Buffer
- Sedgwick County Border
- 40 dB $\mu$  Contour



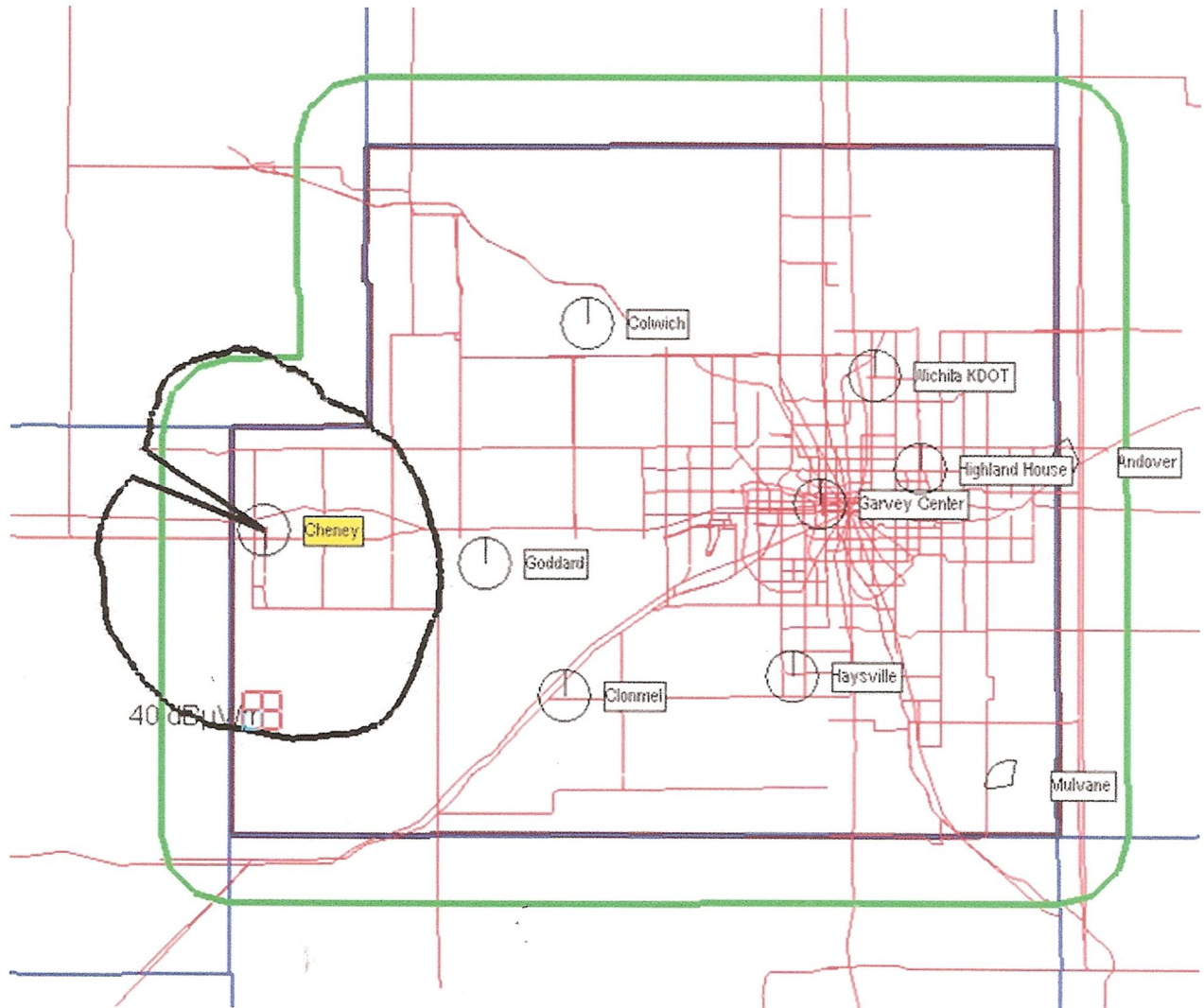
## Goddard 40 dB $\mu$ Contour

- 3 – Mile Buffer
- Sedgwick County Border
- 40 dB $\mu$  Contour



## Cheney 40 dB $\mu$ Contour

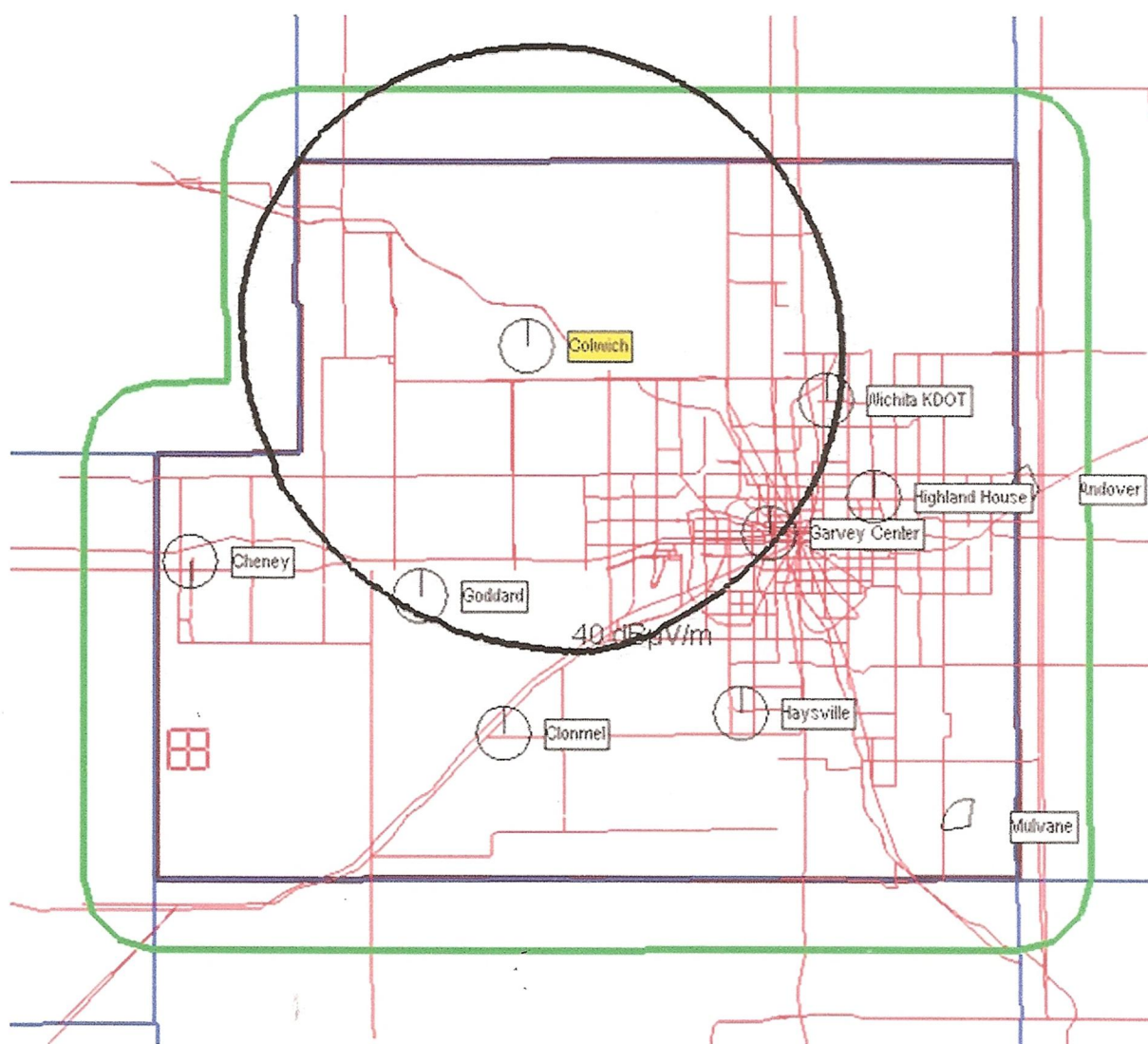
- 3 – Mile Buffer
- Sedgwick County Border
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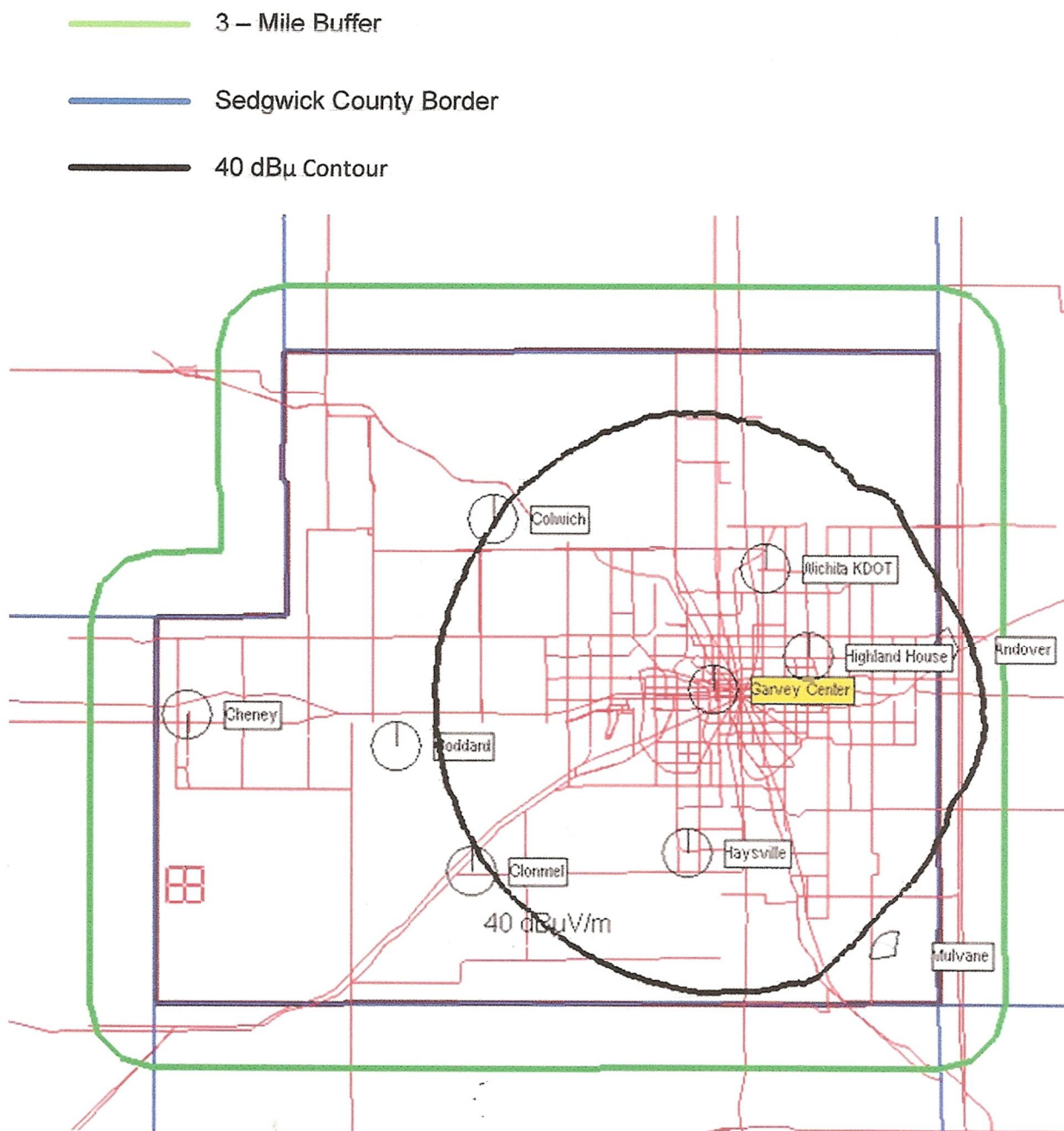


## Colwich 40 dB $\mu$ Contour

- 3 – Mile Buffer
- Sedgwick County Border
- 40 dB $\mu$  Contour

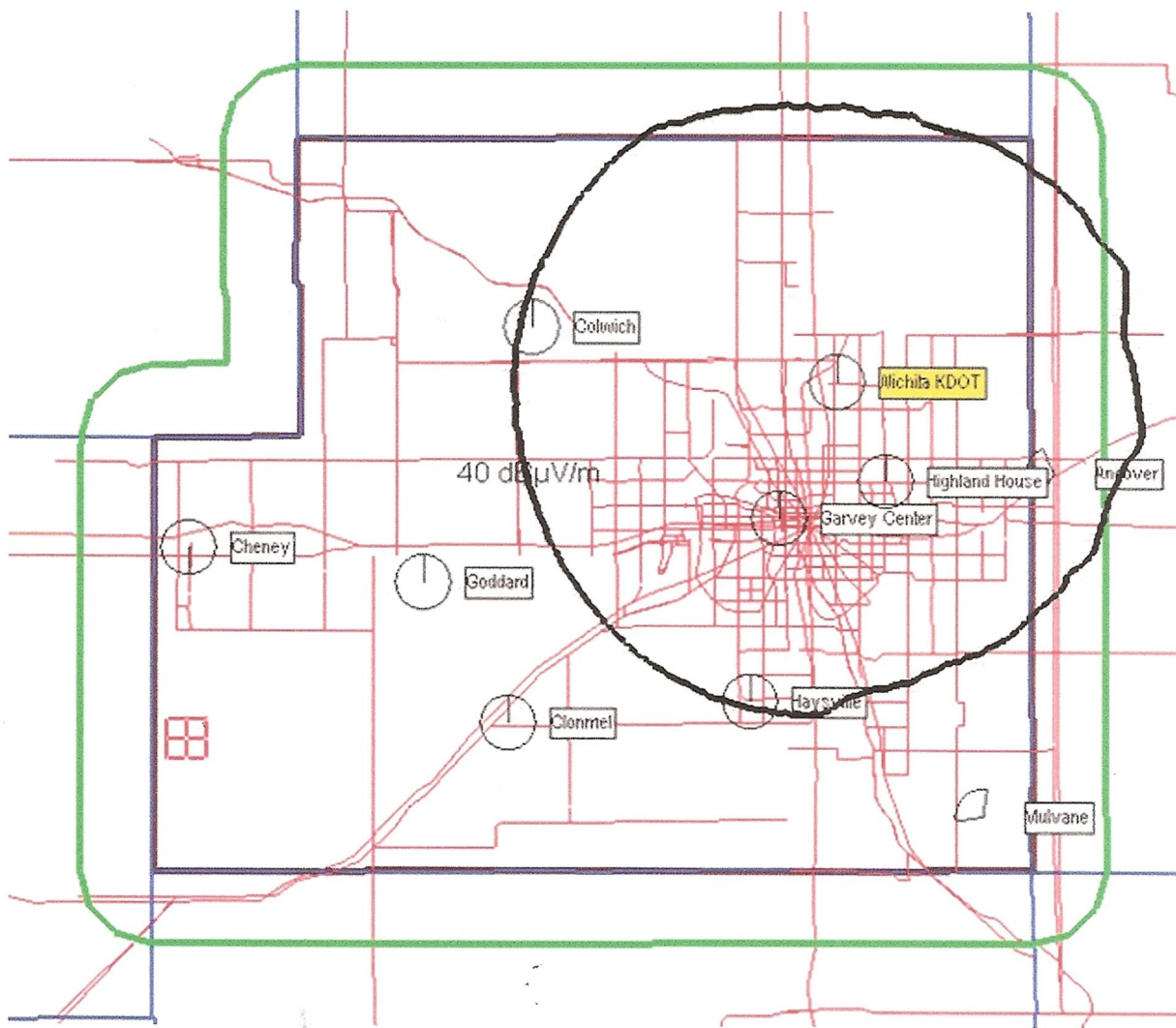


## Garvey Center 40 dB $\mu$ Contour



## Wichita KDOT 40 dB $\mu$ Contour

- 3 – Mile Buffer
- Sedgwick County Border
- 40 dB $\mu$  Contour



## Highland House 40 dB $\mu$ Contour

- 3 – Mile Buffer
- Sedgwick County Border
- 40 dB $\mu$  Contour

