



Village of Maple Park

302 Willow Street ♦ P.O. Box 220 ♦ Maple Park, Illinois 60151

Village Hall: 815-827-3309

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Website: <http://www.villageofmaplepark.com>

INFRASTRUCTURE COMMITTEE MEETING AGENDA

Tuesday, June 13, 2017

7:00 p.m.

Maple Park Civic Center

302 Willow Street, Maple Park, IL

1. **CALL TO ORDER / ESTABLISHMENT OF QUORUM**
2. **PUBLIC COMMENTS** – *Any resident wishing to address the Board may do so according to the Rules of Public Comment and should register with the Village Clerk prior to the meeting.*
3. **APPROVAL OF MEETING MINUTES**
 - May 9, 2017
4. **APPROVAL OF GIS PLAN**
5. **DISCUSSION OF WATER TOWER INTERNET PROPOSAL**
6. **DISCUSSION OF WATER TOWER ACCESS (CRITICAL INFRASTRUCTURE) POLICY**
7. **OTHER ITEMS**
8. **ADJOURNMENT**

Committee Members:

Trustee Harris, Chair

Trustee Higgins

Trustee Goucher

Trustee Dries



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Approved:

INFRASTRUCTURE COMMITTEE MEETING MINUTES

Tuesday, May 9, 2017

7:00 p.m.

Maple Park Civic Center

302 Willow Street, Maple Park, IL

1. CALL TO ORDER / ESTABLISHMENT OF QUORUM

Chairman Brandon Harris called the meeting to order at 7:00 p.m.

Deputy Clerk Cheryl Aldridge called the roll call and the following Committee members were present: Trustee Brandon Harris, Trustee JP Dries, and Trustee Chris Higgins.

Absent: Trustee Luke Goucher.

Also present: Deputy Clerk Cheryl Aldridge.

2. PUBLIC COMMENTS – *Any resident wishing to address the Board may do so according to the Rules of Public Comment and should register with the Village Clerk prior to the meeting.*

None.

3. APPROVAL OF MEETING MINUTES

- April 25, 2017

Trustee Dries made a motion to approve the meeting minutes from April 25, 2017, seconded by Trustee Higgins. Motion carried by voice vote.

4. DISCUSSION OF GIS

- Plan and Goals
 - Activating new license and account by end of June
 - Training by September
 - Setting up online account and user privileges by July (once account is set up)
 - Load and configure online account application by November
 - Converting existing data by August
 - Collecting new data utilizing new mobile application by January
 - Establish 5 year plan
 - Identify top priorities
 - Quality review after data is captured, gap analysis

Motion by Dries with second by Harris to send GIS plan to board. Motion carried by voice vote.

5. DISCUSSION OF FEES

Discussed the current fee schedule for building permits, water meter fees, and other infrastructure fees. Committee consensus was to not make any changes to the fee schedule at this time. Any changes to fees would need to be updated via ordinance.

6. DISCUSSION OF MAINTENANCE PLAN

- Crack filling – Settlement Subdivision
- Squires Crossing Subdivision – Punch List

Curbs patched. No answer on bridge has been received, but inspection has been paid for.

7. DISCUSSION OF CAPITAL IMPROVEMENTS PLAN

Grant projects

- Water Tower – must be completed by September
- Water Treatment Plant
 - Policy
 - Access to Critical Infrastructure, i.e. Water Tower
 - Capacity
 - Need to review

8. OTHER ITEMS

9. ADJOURNMENT

Trustee Higgins made a motion to adjourn the meeting, seconded by Trustee Dries. Motion carried by voice vote.

Meeting adjourned at 8:09 p.m.

Cheryl Aldridge
Deputy Clerk

Committee Members:

Trustee Harris, Chair
Trustee Higgins

Trustee Goucher
Trustee Dries

Maple Park Internet Proposal

INTERNET NEEDS FOR ECONOMIC DEVELOPMENT
FUTURE LINK IT



Internet Needs for Economic Development

As a community grows the needs of the community change; one such change being internet needs. Currently the internet options in Maple Park are limited to DSL and Cable Internet. Both of the current providers for these options are maxed out at the bandwidth to Maple Park and will not be able to handle additional residential roof tops nor any other cost effective business service.

Business Needs

For the majority of businesses today, internet is a critical necessity. From a small retail or service business that relies on it primarily to run credit cards, to an office that depends on internet for all of their daily functions including transferring files, email, phones and more. Maple Park's current providers do not have enough bandwidth remaining to meet the needs of businesses that Maple Park hopes to attract.

Residential Needs

Residential internet is continually changing. There has been a decrease in paying for digital TV (cable and satellite) as many residents have moved to streaming services like Netflix, Amazon, Hulu and many more. This transition requires more bandwidth for residential service which is taxing the internet infrastructure in Maple Park even more. In addition to the increased demand for bandwidth, often with cable or DSL there are other required services like a phone line or Cable TV service.

In addition to traditional residential internet service there is a need for quality residential service to allow for residents to work from home. Many residents have had issues with the speed and inconsistency of their internet which makes it difficult to work from home. This may include a small business, like an independent graphics artist or web designer that transfers a lot of data, or just the average commuter that needs to be able to occasionally work from home due to their children or scheduling.

Needs for Growth

In order for Maple Park to continue to grow they will require multiple reliable internet service options. DSL and Cable are broadband "best effort" services, which means that you may pay for a 50Mb service and on average only be able to get 5Mb due to over subscribing. With this occurring, residents and businesses need alternative choices for better service options.

In order to bring in a tech dependent business such as a professional office, distribution warehouse, IT company or accounting firm with 20 or more employees many of these businesses will require fiber. Currently there is Fiber just south of Rt. 88. In order for a business to bring it to Maple Park, however, it would cost between \$60,000 to \$100,000 in construction and installation fees.

Future Link IT has been looking for a redundant fiber location at the western edge of our network. If there were enough subscribers in the Maple Park, Kaneland and Elburn area to support it, the Maple Park Tower would be a prime location to bring fiber to the town. With the vast amount of bandwidth Future Link IT uses and the number of fiber connections we have available for customers we are often able to drastically reduce construction costs for either fiber for our own use or for future commercial businesses. This year alone we have installed five fiber connections for customers and our average install and construction costs were about \$5,000; as compared to ATT or Comcast fiber installs which were quoted at \$27,000-\$75,000.



Future Link IT Internet Proposal

Future Link IT would like the opportunity to provide a reliable internet option to Maple Park businesses and residents. We will be able to provide both residential and business broadband as well as dedicated internet connections to meet the needs of the Village of Maple Park. As a small Local Internet Service Provider (ISP) Future Link IT is positioned to be a High Quality and competitively priced service.

Future Link IT service is a Point to Multi Point, Line of Site service. This means that each customer will need an unobstructed view of the Access Point to be capable of receiving service. In order to cover the area under the water tower we will deploy a 2nd tower location.

Pros of Point to Multipoint

- One major advantage of this service for a rural community is that we are capable of providing large amounts of bandwidth to the rural locations because we do not require buried cables to bring service to an address, which reduces infrastructure costs.
- It does not require Cable TV or Phone line to provide service.
- It is not dependent on deteriorating buried copper in old parts of town which is causing slower service.

Biggest limitation

The biggest limitation to the service is the line of site. In order to span distances the signal must have an unobstructed view, which usually comes in the form of trees. This is typically the case in established neighborhoods where the trees are often taller than the houses and businesses which makes it difficult to provide service. Also, due to the equipment being mounted on the water tower the buildings under the tower without a view of the top of the tank will be unable to receive service.

In order to remedy these limitations Future Link IT is willing to build out a 2nd tower location that we can deploy similar technology, allowing us to mount the equipment lower to the ground while not requiring an unobstructed view. This equipment would not be able to get the distance of the Line of site equipment but would be able to cover the old part of town in addition to the downtown business district.

Packages

Pricing and packages are always changing based on market demands and bandwidth pricing. Because this would be a new tower and new equipment, it is likely that faster speeds will be available.

Residential Package

Packages range from 10Mb to 50Mb and start as low as \$50 per month

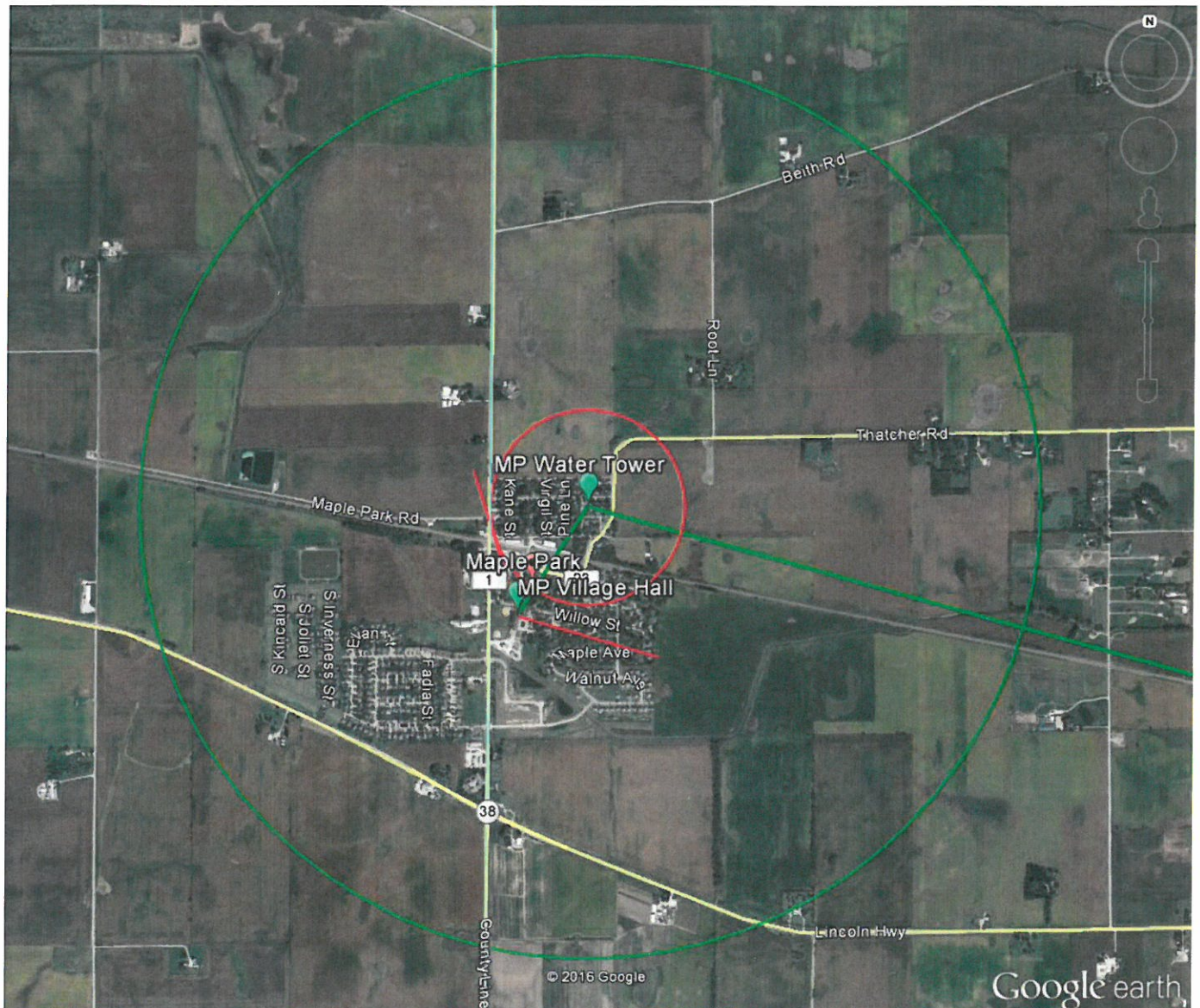
Business

Packages range from 10Mb to 50Mb and start as low as \$70 per month

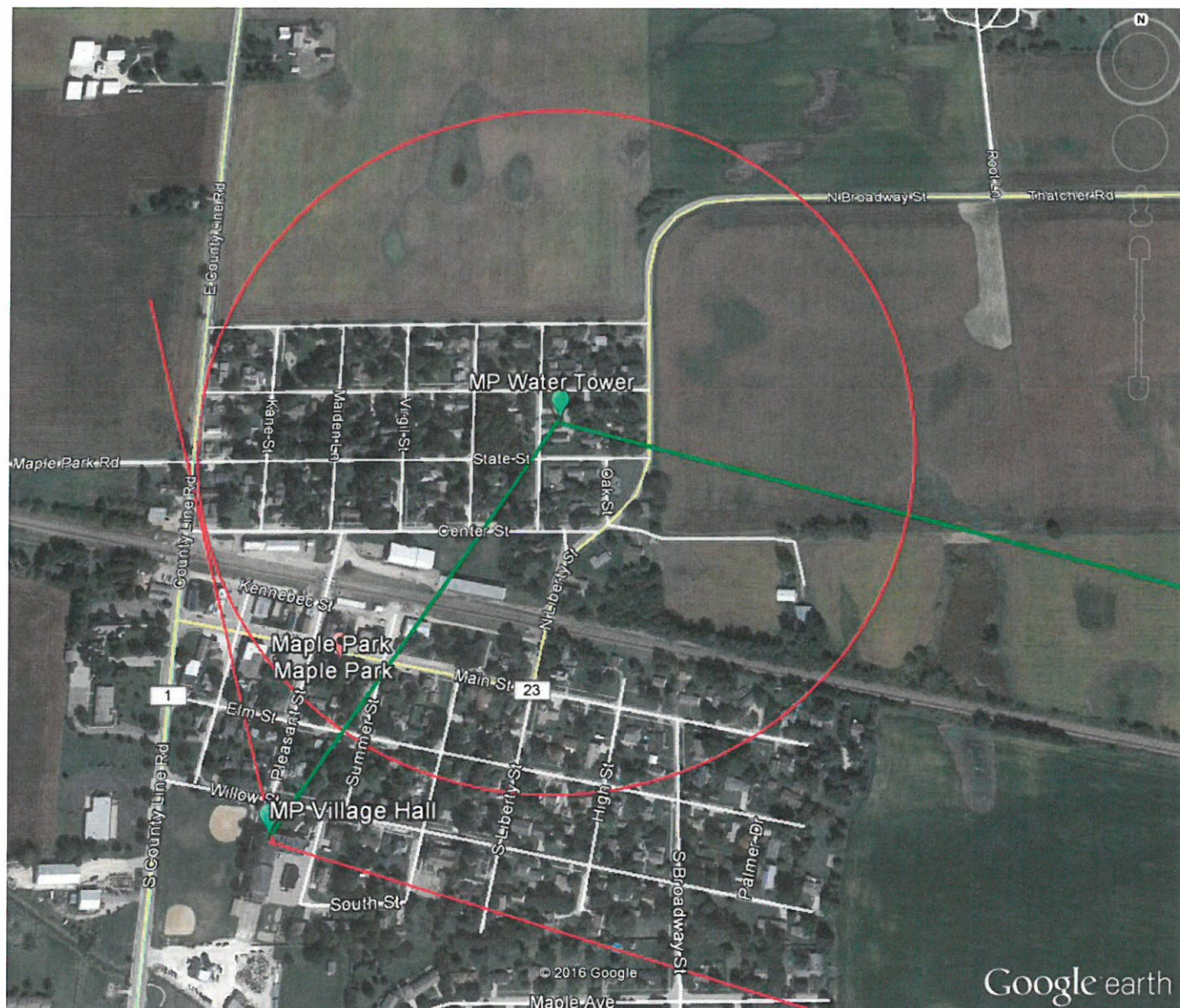
Dedicated Business

Packages will range from 5Mb to 250Mb or more and start at \$250 per month

Estimated Coverage Area



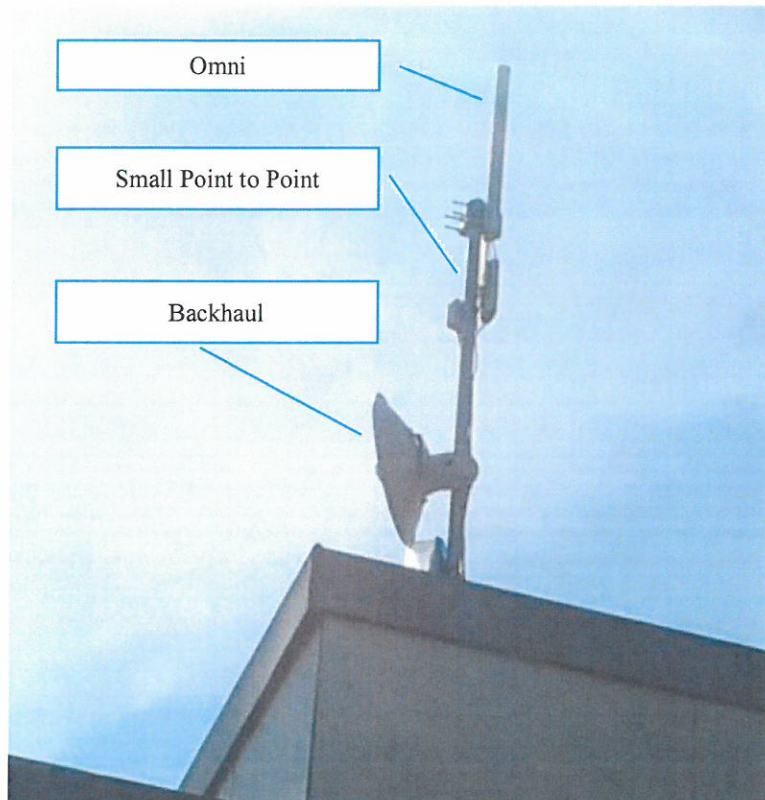
Downtown Coverage



Because equipment will be mounted on the top of the water tower there is a dark spot under the water tower that will not receive coverage. In order to provide service to the downtown business district and residential areas north of the village hall we will provide an additional link to the Village Hall. From there, we will be able to provide internet to the Village Hall and the Police Department and re-broadcast with an access point that does not require a clear line of site.

Tower Equipment

On the water tower, we will mount a standoff which all of the equipment will be mounted to. Since the water tower does not have a rail, either a magnet mount or clamp mount will be mounted to the flange of the hatch. Based on the above plan, there will likely be a 2ft dish on the top of the tower for the backhaul from Elburn, Omni to connect subscribers to and a small point to point to bring service to Village Hall.



Inside Tower

There will be a small cabinet mounted in the tower. We will need a single 15 or 20-amp circuit.



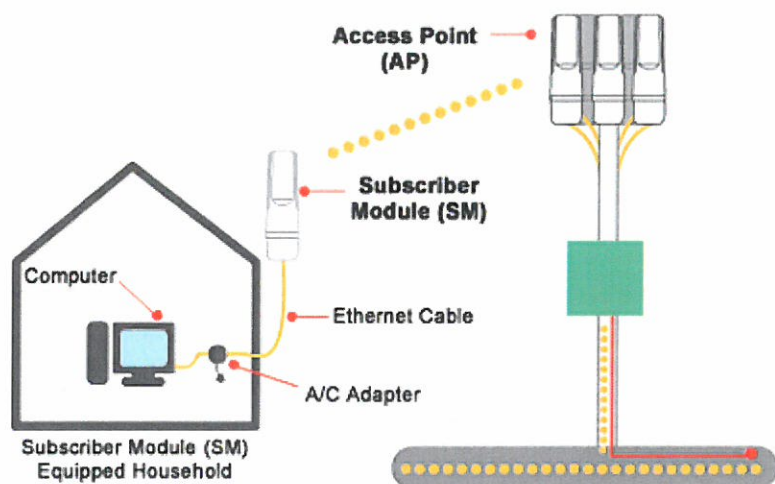


Typical Subscriber Install

A Typical home or business install will include a small bracket that is mounted to the roof or side of the building.

An outdoor Network Cable is run from inside the home or business to the radio at the roof.

Inside the home or business, the cable is run to an AC adapter that powers the antenna to your existing router. The rest of your network remains the same.





FAQ

Will the tower mount require any welding on the tower?

No. The mount will NOT in any way be welded or drilled to the water tank itself. All mounts on the top of the tower will clamp or be magnet mounts.

Is there any risk to the tower?

No. It is common for people to think that the addition of the equipment can cause a risk to the tower. When designing and building our guide line radio towers, radio equipment is calculated based on height and wind load due to the effect of wind on the tower. However, with the immense load a water tower holds, it is built to sustain the minimal additional wind load can have on the structure. The Maple Park water tower holds over 200,000 gallons of water, which is over 1,600,000 lbs. The total weight of the equipment that will be mounted on the tower is typically less than 100 lbs.

Do you need power at the top of the tower?

No. All of the equipment mounted on the top of the tower will be POE (Power Over Ethernet). This is a low voltage (less than 12v) that is run through the Cat5e or Cat6 cable. It does not require a conduit to be run to the top of the tower and as it is typically attached to the ladder port holes or knockouts inside the water tower.

Will the equipment on the top of the tower increase the chances of the tower being struck by lightning?

No. A water tower is essentially a large lightning rod. Between the steel tank filled with water and the well casing that runs hundreds of feet deep, it is VERY rare a water tower ever gets struck directly. A lightning rod does not dissipate the strike but grounds the structure, neutralizing the electric field which eliminates the charge that would attract lightning. It is much more likely that lightning would strike a much shorter structure or tree near a tower. The Radio equipment is also grounded and does not add any significant risk of being struck by lightning.

Will you need to get into the tower?

Occasionally there will be times when we need to get into a tower. Future Link IT staff have keys to many of our tower locations to minimize Village staff time.

Are you Insured?

Yes. Future Link is fully insured and can readily provide proof of insurance and list the equipment addresses and the village as a 3rd party insured. All of our staff are insured for climbing towers and installing the equipment.



Is your service effected by rain or snow like satellite?

No. Although the technology is similar to satellite it works differently. In order to get the signal to travel the 25,000+ miles to get to the satellite the dish narrows the beam to 2-degrees. The equipment we use has a 60-degree field of view; meaning that the antenna would have to move 10-15 degrees to lose signal. As far as the distance traveled, the equipment we use is rated to go over 20 miles. We, however, rarely install past 5-10 miles to insure quality signal and service.

Are you on any other water towers in the area?

Yes. Future Link has over 18 tower locations and most of which are on municipal water towers. Our locations include: Kaneland High School, St. Charles Campton Water Tower, Thornwood Water Tower, South Elgin Water Tower, and two in Elburn.

Will your equipment limit or restrict additional equipment for public safety use?

No. Many of the towers we are located on have public safety equipment on them. The public safety equipment uses dedicated frequencies and bands that are exclusive to public safety. They will not cause any interference with their equipment.

Does your agreement restrict any other provider from putting equipment on the tower?

No. Our agreement is a non-exclusive agreement. However, the FCC does regulate the use of the public frequencies and any other provider will be required to make sure they do not interfere with equipment that is existing on the tower. It is basically a first come first serve rule but we have built great relationships with many other providers to insure there is no interference.



Village Proposal

Future Link IT will pay tower rent of \$100 total per month. Rent is for water tower and rooftop access with an automatic annual increase*.

Future Link IT will provide any municipal building internet service including: Village Hall, Police Department and Water Treatment Facility. **

In order to minimize any overhead costs to the village Future Link IT will provide a copy of the Elburn water tower rental agreement as a starting point.

* See Elburn agreement for details.

** See agreement for details