

**ILLINOIS STATE TOLL HIGHWAY AUTHORITY**

**TELECOMMUNICATIONS FACILITY LEASING**

**PROGRAM**



TELECOMMUNICATIONS FACILITY LEASING

MARCH 2011

Administered by:

Illinois State Toll Highway Authority  
I.T. Department  
2700 Ogden Avenue  
Downers Grove, Illinois 60515-1703

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Note: The information contained within this guidebook is revised on an annual basis, and may also be modified from time to time within the year. To obtain the most recent copy of this publication, or to confirm this as the latest edition (consult date listed on the cover of this publication) please contact the Illinois Tollway's I.T. Office of Business Development.

# INTRODUCTION

## ILLINOIS TOLLWAY MISSION STATEMENT

The Illinois State Toll Highway Authority is dedicated to providing and promoting a safe and efficient system of toll supported highways while ensuring the highest possible level of service to our customers.

## TELECOMMUNICATIONS FACILITY LEASING

Providing customer service to Illinois Tollway patrons and surrounding communities is the concept behind telecommunications facility leasing. Whether entering into co-location agreements with cellular, PCS or broadband wireless internet carriers, the utilization of Illinois Tollway facilities promotes the public good.

Patrons on the Illinois Tollway are direct beneficiaries of these co-location agreements. Each time a driver utilizes their cell phone throughout Northern Illinois they may be assured that the Illinois Tollway is doing its part to ensure coverage. Since 1997 the Illinois Tollway has offered fair, equitable opportunities for cellular companies to co-locate on tower sites.

In 2003 broadband wireless internet carriers began serving communities surrounding the Illinois Tollway. This is not the first "off-road" utilization of facilities. Roadside tower sites have hosted city, county, state and federal entities since the 1970s, offering fair use of the Illinois Tollway's infrastructure to the advantage of public safety.

## FACILITY AVAILABILITY

Most Illinois Tollway tower sites are potentially available for co-location. There are certain restrictions to ensure the continued viability of these tower sites for Illinois Tollway usage. Tower sites with a structural load greater than 85% (.85) are only available after recommended reinforcement is implemented. The majority of Illinois Tollway towers are currently loaded less than 85%. There are also height restrictions. As standard policy, the top 20 feet of each tower is reserved for the future use of the Illinois Tollway. One last availability restriction is applicable, only in instances of broadband wireless internet carriers. Each tower site has limited availability within certain unlicensed spread spectrum frequency blocks. These spectrums are reserved on a first come, first serve basis, upon the satisfactory completion of Illinois Tollway issued site application forms (for further information please consult the Illinois Tollway's "Spectrum Management Framework.")

The Illinois Tollway will entertain proposals to replace small, existing towers with larger lattice or monopole structures, on a case by case basis. In all instances the towers, though erected by third parties, become the property of the Illinois Tollway.

# **POLICY FOR THE CO-LOCATION OF PRIVATE TELECOMMUNICATIONS FACILITIES ON AUTHORITY RIGHT-OF-WAY**

## **SUMMARY**

As a result of the Telecommunications Act of 1996 (the “Act”), the Illinois State Toll Highway Authority has found it necessary and appropriate to develop a Policy for the Co-Location of Private Telecommunications Facilities on Authority Right-of-Way (the “Policy”) to allow orderly compliance with the Act as well as to promote the public good.

This Policy is predicated on the following considerations:

1. Minimize proliferation of towers and obstructions.
2. Minimize negative impacts on Authority operations.
  - a. Recognize impact on future Authority capacity needs.
  - b. Recognize impact on future Authority space needs.
3. Minimize impact on Authority neighbors.
4. Be fairly compensated for use of Authority property and physical plant.
  - a. Use of Authority right-of-way.
  - b. Use of Authority building space.
  - c. Use of Authority tower space.
  - d. Spectrum Management Framework
  - e. Application fee (non-refundable).
5. Recognition of prior contractual obligations.
6. Sound engineering practices.
  - a. Authority review of plans, drawings, designs, etc..
  - b. Re-location for Authority purposes.
  - c. Adherence to existing permit requirements and procedures.

## **POLICY FOR THE CO-LOCATION OF PRIVATE TELECOMMUNICATIONS FACILITIES ON AUTHORITY RIGHT-OF-WAY**

The Telecommunications Act of 1996 (the “Act”) provides that no State or local statute, regulation or other legal requirement may prohibit or have the effect of prohibiting the ability of any entity to provide any interstate or intrastate telecommunications service. The practical result of this provision is that entities such as the Authority are now in a position of having to consider requests from private entities to co-locate on their facilities. Although the Act, for all intents and purposes, opens the Authority’s right-of-way for use by providers of telecommunications services, it does not do so without limitation.

The Act provides that the Authority retains its power to manage its right-of-way and to require fair and reasonable compensation from telecommunications providers, on a competitively neutral and non-discriminatory basis, for use of public right-of-way on a non-discriminatory basis.

As a result of the Act, the Authority has found it necessary and appropriate to develop a Policy for the Co-Location of Private Telecommunications Facilities on Authority Right-of-Way (the “Policy”) to allow orderly compliance with the Act as well as to promote the public good.

While the Authority’s intentions, concerns and positions with respect to co-locations are more fully set forth below and made a part of this Policy, the Policy may be summarized as follows:

1. Requests for co-location shall be considered on a first come, first serve basis.
2. Entities desiring to co-locate on Authority right-of-way shall be required to submit an application, along with the appropriate, non-refundable application fee. This application shall, among other things, contain a precise description of the location at which the co-location is desired, a precise description of the nature and scope of the desired co-location (including all designs, drawing, etc.. that may be available at that time).
3. Authority Engineering and Telecommunications staff shall review the submitted application for the purpose of determining whether the desired co-location is practical. In making this determination, staff will consider, among other things, the load capacity of the structure upon which the co-location is desired and future Authority needs. It shall be understood by all entities desiring to co-locate that the Authority reserves the right to request any and all documents it deems necessary in making its determination as to the practicality of the desired co-location.
4. Assuming that the Authority determines that the desired co-location is practical, the requesting party shall be so notified. However, prior to the commencement of any co-location related activities, the requesting party shall be required to enter into a co-location agreement with the Authority. This agreement will be in general conformity

- with the draft agreement attached hereto as Exhibit “A” and will set forth the terms and conditions of the co-location, including the price therefore.
5. Upon execution of the necessary co-location agreement, co-location activities may commence, subject to the terms and conditions contained therein.
  6. If, after completing its review of the co-location application, the Authority determines that the desired co-location is not practical, the Authority shall so notify the requesting party. Said notice by the Authority shall state the reasons why the desired co-location was determined to be impractical.
  7. Notwithstanding that the Authority may determine that a desired co-location is practical, it shall be understood by all parties that no action of the Authority releases a requesting party from compliance with the provisions of any existing statutes or local regulations relating to the construction of such co-location.

#### **Minimize proliferation of towers and obstructions**

It is the Authority’s desire to keep the number of obstructions along its right-of-way to a minimum. The sharing of facilities either between private entities and the Authority, or among several private entities, is highly encouraged. This includes consolidation of facilities at singular sites, construction of common infrastructure and sharing of towers.

#### **Minimize negative impacts on Authority operations**

In all cases it is necessary to recognize that Authority capital has been used to build a communication system necessary for the operation of the Authority. Sufficient capacity will be prudently reserved to meet the reasonable future needs of the Authority. Where capacity exists in excess of that prudently reserved to meet the reasonable future needs of the Authority, that capacity will be considered available for lease to private entities so that the Authority can realize a partial return on its capital investment.

#### **Minimize negative impacts on Authority neighbors**

When at all possible, the Authority will take appropriate steps to ensure that negative impacts to its neighbors is minimized. These steps should include coordination of construction activities and the requirement that any private entities obtain applicable local permits prior to co-location on Authority facilities.

#### **The Authority should be fairly compensated for use of its property and physical plant**

The Act allows the Authority to be fairly compensated for the use of its property and physical plant. Consistent with past practices and current market conditions, the Authority shall always be fairly compensated for the use of its property and physical plant.

### **Construction of new towers**

When it is not practical for a private entity to lease space on an existing Authority tower or building, permission may be granted for the construction of a new tower. In such cases the private entity shall be required to build the tower at its own cost (subject to the review, inspection and acceptance by the Authority), transfer title in the tower to the Authority upon acceptance of the tower by the Authority, and allow the Authority to lease available space on the tower to other private entities.

In situations where tower space is leased to other private entities, the Authority shall require, pursuant to some mutually agreed upon formula, that the future private entities reimburse the building entity for some portion of its construction costs.

In situations where a private entity desires to construct a new tower, and that tower will not also be utilized by the Authority, the private entity must demonstrate that it has complied with all applicable ordinances and obtained all necessary permits prior to receiving permission to commence construction. Commencement of construction activity prior to obtaining any necessary permits will be done at the sole risk of the private entity.

### **Spectrum Management Framework**

In instances where a Broadband Wireless Internet carrier is issued a site application, and submits said application, a spread spectrum band is allocated exclusively for their use at a given tower site. This framework ensures that broadband carriers are equitably allowed to co-locate on Authority towers with minimal concerns of interference.

Any spectrums reserved within this framework will be held for a maximum of three (3) months prior to executing a lease. After that time, if a lease agreement has not been executed, then the application fee is forfeited and the spectrums become available.

The Spectrum Management Framework may be modified from time to time by the Authority.

### **Application Fees**

An application fee shall be required at the time of formal application by a private entity for co-location. This fee shall be non-refundable and will be considered to cover the administrative and engineering costs incurred by the Authority in the review of the application. The application fee is a separate charge and shall not be applied against future fees that may become due and payable from the private entity to the Authority. The following is an application fee schedule that may be modified from time to time by the Authority:

- Broadband Wireless Internet carrier with feed installed on existing Authority tower and equipment in an outdoor cabinet. Two spectrums per application. (\$500.00)
- Wireless Microwave Backhaul carrier with feed installed on existing Authority tower and equipment in an outdoor cabinet. (\$500.00)

- Simple stick antenna with feed installed on existing Authority tower and equipment in an existing structure. (\$1,200.00)
- Simple stick antenna with feed installed on existing Authority tower and equipment in a new structure. (\$1,500.00)
- PCS antenna array with feeds installed on existing Authority tower and equipment in an existing structure. (\$2,000.00)
- PCS antenna array with feeds installed on existing Authority tower and equipment in a new structure. (\$2,500.00)
- Construction of a new tower and structure on Authority right-of-way. (\$3,000.00)

### **Sound engineering practices**

It shall be understood by all entities wishing to co-locate on Authority facilities that the Authority reserves the right to review and inspect all plans, design, drawing, etc.. in connection with desired co-locations to ensure that nothing will interfere with the Authority's construction, maintenance, operation and/or regulation of the toll highway system.

It shall also be understood by all entities wishing to co-locate on Authority facilities that the Authority reserves the right to require re-location, at no cost to the Authority, if it is determined that such re-location is necessary for the Authority to fulfill its obligations with respect to the construction, maintenance, operation and/or regulation of the toll highway system.

It shall finally be understood by all entities wishing to co-locate on Authority facilities that the Authority reserves the right to enforce all of its existing requirements and procedures with respect to the Authority permit process. These requirements include, but are not limited to, bonding and insurance.



# **FACILITY LEASING PROCESS**

## **1. INITIAL CONTACT**

Wireless carriers or their representatives initiate contact with the Illinois Tollway's I.T. Department (or are directed to the I.T. Department by another department within the Authority) regarding a site that will be of value to their system. This level of contact is casual and need not be in writing. The proposed site location will be discussed and a general determination will be made by the Illinois Tollway as to whether a wireless carrier should proceed with plans. At this time the I.T. Department documents the contact and, if applicable, opens a new project file.

If the wireless carrier does not already have copies, both the "Policy for the Co-Location of Private Telecommunications Facilities on Authority Right-of-Way" and the Telecommunications Tower Report will be made available to them.

The wireless carrier is informed/reminded of the Illinois Tollway's reservation of the top 20' of each tower, the Tower Technology analysis/database addition requirement and, if applicable, the spread spectrum usage policy.

## **2. OPTIONAL SITE WALK**

After initial contact is made with the Illinois Tollway a site walk is recommended between I.T. personnel and representatives of the wireless carrier, to further explore project feasibility.

## **3. LEASE NEGOTIATIONS**

After confirming their interest the wireless carrier is referred to the Illinois Tollway's Legal Department. Ideally, lease discussions should take place concurrently with Step 4.

## **4. SITE APPLICATION FORM ISSUED**

The Illinois Tollway's I.T Department issues a copy of the Site Application Form. Only forms logged as being issued by I.T. will be entertained - unsolicited Site Application Forms will not be accepted.

## **5. ANTENNA HEIGHT ASSIGNMENT**

At this time, concurrently with the issuance of the Site Application Form, a mutually agreeable tower height and azimuth (if applicable) is agreed upon. As per Illinois Tollway policy, the top 20' of each tower is reserved for in-house future use. Additionally, there must be a 10' separation between the proposed wireless carrier's antenna(s) and any other antenna on the tower. These requirements may be waived at the discretion of the Illinois Tollway.

## **6. TOWER STRUCTURAL REVIEW**

Immediately after receiving antenna height assignment the wireless carrier should submit all tower (antenna and line) details to Tower Technology, Inc. (TTI) for structural review.

Tower Technology, Inc.  
P.O. Box 11538  
Kansas City, Missouri 64138  
(816) 358-0003  
www.towertechnologyinc.com

This step must take place after antenna height assignment, as to avoid multiple tower analysis requests by the wireless carrier. The decision as to whether antenna information is submitted to TTI simply for inclusion into their database or for the purpose of complete tower analysis is left to the discretion of the Illinois Tollway's I.T. Department. If the TTI report indicates that the total structural load of the tower, inclusive of the wireless carrier's proposed loading, exceeds 85% of the tower structural capacity, then there are two options. First, the wireless carrier may perform the TTI recommended reinforcements, to bring the tower down to below 85%. Alternately, they may opt to re-submit their request to TTI at a lower height (discussed and agreed upon with the Illinois Tollway.) In the later instance there would be a second analysis report required of TTI. Analysis/database fees are payable to Tower Technology, Inc. by the wireless carrier, not the Illinois Tollway.

## **7. SITE APPLICATION FORM SUBMITTED**

The wireless carrier submits the completed Site Application Form, along with the appropriate application fee. The paperwork is date stamped and the check is hand-walked to the appropriate Illinois Tollway personnel, who must sign a receipt accepting the check. Full engineering plans (as detailed in Step #9) are not necessary at this time.

(Only applicable for broadband wireless internet carriers: Once the site application is received the desired, pre-discussed spectrums will be reserved for that specific wireless carrier at that site, if still available. This is subject to the constraints put forward within the Illinois Tollway's Co-Location Policy)

## **8. UTILITY LOCATE REQUEST & INSURANCE SUBMITTED**

In preparation for the design of their engineering plans, which need to be submitted for review to the Authority, the wireless carrier must submit a utility locate form (A-36) to the Authority's Engineering Department.

At this same time proof of insurance, as designated by the Authority, must be furnished for those contracted and sub-contracted to perform the proposed site work.

## **9. ENGINEERING PLAN SUBMITTED & REVIEWED**

The Wireless Carrier's 90% engineering plans are submitted, along with the completed Tower Technology, Inc. analysis (or verification from TTI that the information has been added to their database, if that option is chosen by the Authority). This process allows for a 15-day business day review period.

## **10. COMMENTS RETURNED TO WIRELESS CARRIER**

Written comments are returned to the wireless carrier and a re-draft of the 90% plans is requested. If there were no comments on the submitted plans, then proceed to Step #12. Above and beyond expected comments on the engineering plans, if there is a broad determination that the proposed site is not suitable for licensing, then a written notice of objection, explaining all bases for such objections, will be issued by the Illinois Tollway. The wireless carrier will have the opportunity to address the written notice of objection and re-apply for consideration.

## **11. RE-DRAFT OF ENGINEERING PLAN SUBMITTED**

The revised plans are examined to determine whether the previously issued Illinois Tollway comments have been addressed. If so, then proceed to Step #12. If not, then return to Step #10.

## **12. APPROVAL OF ENGINEERING PLANS**

With a complete, approved engineering plan, the Illinois Tollway's I.T. Department notifies the wireless carrier that all issues have been adequately addressed.

## **13. LEASE NEGOTIATIONS ARE COMPLETED**

The Illinois Tollway's Legal Department notifies the I.T. Department that lease details have been finalized.

#### **14. CHIEF OF I.T. APPROVAL**

With the exception of tower co-location transactions that involve the construction of a new tower at locations where a current tower does not exist an electronic (.pdf formatted) packet of all relevant details, including the approved engineering plans and lease, is prepared by staff of the Illinois Tollway's I.T. Department and submitted to the Chief of I.T. for approval. If the Chief of I.T. approves of the transaction, final documents may be prepared for signature. Once all signatures have been obtained and submittal of all necessary documentation has been verified a Notice to Proceed may be issued.

#### **15. OPERATIONS MEETING & BOARD PROPOSAL PACKET**

With respect to those tower co-location transactions involving the construction of a new tower at locations where a current tower does not exist an electronic (.pdf formatted) packet of all relevant details, including the approved engineering plans and lease, is prepared by the Illinois Tollway's I.T. Department. The packet is transmitted to the Chief of I.T. via his Secretary for consideration at the monthly Operations Meeting. If the proposal is accepted at the Operations Meeting, then proceed to Step #16; if not, then either return to Step #10 to address comments or issue Written Notice of Objection (as detailed in Step #10.)

#### **16. BOARD MEETING**

The wireless carrier's proposal is put before the Illinois Tollway's Board of Directors. If approved, then proceed to Step #17. If the proposal is denied, then either return to Step #10 or issue a Written Notice of Denial (as detailed in Step #10.)

Once a copy of the Board approval is provided to I.T., then Step #16 may commence.

#### **17. NOTICE TO PROCEED (NTP) ISSUED**

The I.T. Department issues the formal approval to commence construction. There should not be any pending lease (Step #13) or insurance (Step #8) details. If there are, then the NTP will be delayed until their completion.

#### **18. SECONDARY UTILITY LOCATE**

Utility locates must be "refreshed" and recent, just prior to the beginning of any site construction. Therefore, a second utility locate request must be requested at this time by the wireless carrier, under the same guidelines stated in Step #8

#### **18. SITE WORK**

Installation crews begin site work, which is coordinated with the Illinois Tollway's I.T. staff.

The Illinois Tollway maintains that each third party user is entitled to perform their site work within their own guidelines and needs. Nevertheless, if there are any broad scoped site installation issues that impact the Illinois Tollway or other third parties on-site (safety, aesthetics...) then these must be reasonably addressed.

Upon completion of site work, the Illinois Tollway's I.T. Department will document the project and close any project files created in Step #1.

## **19. FINAL AS-BUILTS**

The engineering plans submitted in Step #9 should be amended as needed during construction. Once work has been completed, any changes should be addressed in final record drawings, which are forwarded to the I.T. Department for permanent filing.

**TELECOMMUNICATIONS SITE APPLICATION FORM**

Site Name: \_\_\_\_\_ Tollway Route: \_\_\_\_\_

Mile Marker: \_\_\_\_\_ Municipality: \_\_\_\_\_

**Licensor:** The Illinois State Toll Highway Authority  
2700 W. Ogden Avenue  
Downers Grove, Illinois 60515

*Attention:* Thomas A. Cameron, I.T. Department  
*Phone:* (630) 241-6800 ext. 3411  
*Fax:* (630) 241-6107

**Licensee:** \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

*Attention:* \_\_\_\_\_  
*Phone:* \_\_\_\_\_  
*Fax:* \_\_\_\_\_

\_\_\_\_\_ requests approval on this \_\_\_\_\_ day of \_\_\_\_\_,  
20 \_\_\_\_ to license a portion of Licensor's Towers and Lands together with obtaining a right of access to install associated  
utilities within the portion of the Licensor's Towers and Licensor's Lands actually defined above. Attached with this  
application form please find the pre-determined site application fee, payable to "The Illinois State Toll Highway Authority,"  
of:

\$ \_\_\_\_\_

**Submitted by:**

\_\_\_\_\_

a \_\_\_\_\_

by: \_\_\_\_\_

Title: \_\_\_\_\_

Attest: \_\_\_\_\_

**SAMPLE FORM**

**- DO NOT SUBMIT -**

**TECHNICAL INFORMATION**

TOWER HEIGHT \_\_\_\_\_

REQUESTED ANTENNA HEIGHT (TO TIP OR CENTERLINE) \_\_\_\_\_

REQUESTED TOWER SIDE(S) \_\_\_\_\_

ANTENNA MANUFACTURER \_\_\_\_\_ MODEL \_\_\_\_\_ SIZE \_\_\_\_\_

TRANSMISSION LINE TYPE & SIZE \_\_\_\_\_

ANTENNA AZIMUTH TO OTHER SITE \_\_\_\_\_

TRANSMIT FREQUENCY (MHZ) \_\_\_\_\_

RECEIVE FREQUENCY (MHZ) \_\_\_\_\_

TRANSMIT POWER (WATTS) \_\_\_\_\_

TRANSMIT EIRP (WATTS) \_\_\_\_\_

TRANSMIT INPUT POWER TO ANTENNA LINE (WATTS) \_\_\_\_\_

AC POWER REQUIREMENTS \_\_\_\_\_

EQUIPMENT HOUSING TYPE & SIZE (H, W, D) \_\_\_\_\_

EQUIPMENT QUANTITY \_\_\_\_\_

TELEPHONE REQUIREMENTS \_\_\_\_\_

EQUIPMENT MANUFACTURER & MODEL \_\_\_\_\_

UNIQUE REQUIREMENTS (EXPLAIN) \_\_\_\_\_

**SAMPLE FORM**  
**- DO NOT SUBMIT -**

**NOTE:** In addition to this form, a complete set of certified engineering plans for the proposed site also need to be submitted for review. Plans must include general specifications, a site plan incorporating both the proposed equipment and the existing ISTHA facilities, tower/site elevations, antenna details, shelter plans (including foundations and/or caissons), utilities and a grounding plan. While this site application form may be submitted in advance of the engineering plans, a technical review and final approval require the aforementioned plans.

## SPECTRUM MANAGEMENT FRAMEWORK

Wireless Carriers implementing broadband wireless internet within unlicensed ISM (Industrial, Scientific & Medical) radio frequency bands shall follow the Illinois Tollway's spectrum management framework as follows:

Wireless Carriers are limited to a maximum of two spread spectrum bands per site license. Some bands are reserved for the exclusive use of the Illinois Tollway and are not available. Available bands include (but are not limited to in the future) the following:

- 5.2/5.4/5.8GHz (5.225GHz-5.850GHz) [assigned as one all encompassing band]
- 24 GHz
- 60 GHz
- 70 GHz

All spectrum management issues are determined and final assignment is designated by the Illinois Tollway. The Illinois Tollway is not attempting to license unlicensed spectrum, but rather allocate spectrums at tower sites to eliminate potential co-located interference issues.

Wireless Carriers that require more than two spread spectrum bands at any given tower site must enter into a separate co-location agreement for each subsequent instance. As with the first site license, a maximum of two spread spectrum bands will be allowed with each subsequent site license.

Wireless Carriers shall abide by all FCC power and bandwidth regulations, including but not limited to UNII/ISM and IC LELAN ERP Limits.

At the Illinois Tollway's discretion, depending on the proposed tower equipment load, a full tower analysis as per Paragraph 34 of the Master Lease Agreement may not be necessary. In some instances, as determined by the Illinois Tollway, Wireless Carriers shall be required to submit proposed equipment ("cut sheets") to Tower Technology, Inc. for inclusion into the Illinois Tollway's tower database, at the sole expense of the Wireless Carrier.



## NOTES FOR A&E

- 1) On plan set cover sheets, list:

Landlord:

Illinois Tollway  
2700 W. Ogden Ave.  
Downers Grove, IL 60544

Contact:

Thomas Cameron  
I.T. Business Development  
(630) 241-6800 x3411

- 2) Barbed wire is not allowed on any fencing along the Illinois Tollway system. Furthermore, any lease area fencing needs to “match existing,” with existing referring to Illinois Tollway tower fencing.
- 3) The Illinois Tollway does not grant property rights to third parties. There needs to be clarification to this fact within the site plans, indicating that the terms of the Co-location Lease define any property matters.
- 4) The following verbiage needs to be included on all pages citing buried utilities or services:

*“Prior to the commencement of any underground work, please contact the Illinois Tollway’s Engineering Utility Permit Division. Please note that J.U.L.I.E. location of buried utilities does not include ISTHA buried facilities and that the Engineering Utility Permit division needs to be contacted a minimum of four business days prior to underground work to obtain and submit an online ISTHA A-36 form, at: [www.illinoisvirtualtollway.com/utilitylocates](http://www.illinoisvirtualtollway.com/utilitylocates).”*

- 5) Any new walkways providing access to lease areas need to be concrete, not asphalt.
- 6) The placement of gravel or stone within any lease area needs to also include a Windsor Block solution, for retention. Natural concrete colored blocks are uniformly implemented at all co-location sites.
- 7) Site plans that have underground work within 10 feet of any septic or sewer line need to include the following verbiage:

*“HAND DIG ONLY in this area. Any damage to septic or sewer lines needs to be repaired within four hours. During that time three portable toilets must be brought to the site within one hour, to accommodate building personnel – at the contractor’s expense. Any damage must be reported to the Illinois Tollway I.T. Department immediately.”*

- 7) All telephone and electrical connections for co-location sites must be accessed outside of Illinois Tollway buildings. If telco connections are necessary, the local phone company needs to erect an outdoor pedestal and any electrical connections need to be metered separately outside, on their own feed from the power company. Under no circumstances will third parties be allowed access within Illinois Tollway structures for the purpose of tying in utilities.
- 8) Any co-location agreements with tower extensions need to contact the Illinois Tollway I.T. Department for painting, steel, electrical and lightening rod details.
- 9) All underground electrical conduit needs to be UL listed PVC coated rigid galvanized.
- 10) Lease areas need to have a minimum buffer of 5' from any roadway or parking lot area, on all sides, to avoid damage from snow plowing. There should also be a note stating that the Illinois Tollway is not responsible for snow shoveling on any side walk or access route constructed by co-locators.
- 11) Signage needs to be mounted within the lease area stating the specific site identification number (as assigned by the third party) and also an emergency 24-hour contact number.
- 12) Existing vertical waveguide ladders may not be utilized to mount new coaxial cable or waveguide. A new VWGL needs to be mounted, along a leg agreed upon by the Illinois Tollway (the edge of the vertical ladder should be no closer than one foot from the adjacent edge of the tower leg). The VWGL shall be attached to the tower without drilling, utilizing "J-Hooks" or "J-Plates." Category 5 cable (in instances of wireless broadband leasing) may be run along the side of the VWGL, as directed by the Illinois Tollway I.T. Department.
- 13) The antenna height shown needs to be "center line," not the top or bottom of the array. This height is set by the Illinois Tollway I.T. Department at initial site meetings and may not be adjusted at any time without written permission from said department.
- 14) No field drilling of tower legs, cross bracing or any other structural members is allowed on Tollway towers. Make a large note on all tower related sheets.
- 15) Ice bridge support poles shall be alternated from side to side or staggered, to provide adequate support.
- 16) Waveguide shall be shown, on Tower Elevation sheet, to run upward on VWGL to either a tower cross-member directly diagonal to the planned antennas and/or (in instances with sector antennas) also leaving the vertical ladder and running along an X Brace upward to antennas on other tower sides. An example is included below:

**WAVEGUIDE LADDER DETAIL**

SCALE: N.T.S.

EXISTING SELF SUPPORT TOWER

EXISTING DISH ANTENNA • 175' AGL

EXISTING DISH ANTENNA • 170' AGL

EXISTING DISH ANTENNA • 150' AGL

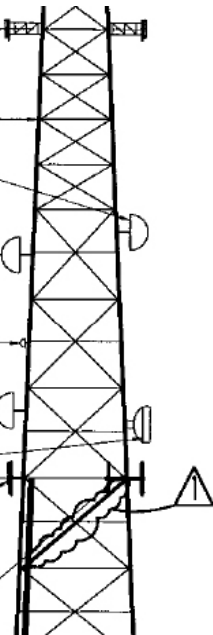
EXISTING DISH ANTENNA • 135' AGL

EXISTING DISH ANTENNA • 132' AGL

(3) NEW ANTENNAS (1 PER SECTOR)  
FURNISHED BY CONTRACTOR  
SEE DWG. C-4 FOR ANTENNA TYPE & SCHEDULE

(3) NEW SECTOR FRAME  
w/ (2) 2 1/2" O.D. x 96"H MOUNTING PIPES  
(ANDREW PART#)

170' AGL



**NOTE:**

CONTRACTOR TO RUN WAVEGUIDE DIAGONALLY ALONG STRUCTURAL MEMBERS UPWARD TO ANTENNA SECTORS, WHEN POSSIBLE

**NOTE:**

NO FIELD DRILLING OF ILLINOIS TOLLWAY TOWER IS ALLOWED

**ANTENNA NOTES:**

- 1- THE SIZE, WEIGHT, AND DIRECTION OF THE ANTENNA SHALL BE ADJUSTED TO MEET SYSTEM REQUIREMENTS ONLY WHEN APPROVED BY THE ILLINOIS TOLLWAY AND AS DOCUMENTED BY TOWER TECHNOLOGIES, INC.
- 2- CONTRACTOR SHALL VERIFY HEIGHT OF ANTENNA WITH REPRESENTATIVE.
- 3- ALL ANTENNA AZIMUTH TO BE FROM TRUE NORTH.

**STRUCTURAL NOTES:**

- 1- STRUCTURAL CALCULATION PREPARED BY TOWER TECHNOLOGIES, INC.  
CONTRACTOR TO COORDINATE WITH

