

▶ **FILE #:** 8-G-12-UR **AGENDA ITEM #:** 39  
 POSTPONEMENT(S): 8/9/2012 **AGENDA DATE:** 9/13/2012

▶ **APPLICANT:** U. S. CELLULAR CORPORATION  
 OWNER(S): John Locascio

TAX ID NUMBER: 59 K C 009 & 010

JURISDICTION: City Council District 4

▶ **LOCATION:** South side of South Mall Rd., east side of Washington Pike.

▶ **APPX. SIZE OF TRACT:** 0.64 acres

SECTOR PLAN: East City

GROWTH POLICY PLAN: Urban Growth Area (Inside City Limits)

ACCESSIBILITY: Access is via Washington Pike, a minor arterial street with a four lane street section just south of the exit off of I-640 and north of the transition to a two lane section.

UTILITIES: Water Source: Knoxville Utilities Board  
 Sewer Source: Knoxville Utilities Board

WATERSHED: Love Creek

▶ **ZONING:** C-1 (Neighborhood Commercial) & C-6 (General Commercial Park)

▶ **EXISTING LAND USE:** Vacant commercial property

▶ **PROPOSED USE:** 150' Monopole Telecommunications Tower

HISTORY OF ZONING: None noted

SURROUNDING LAND USE AND ZONING: North: I-640 exit / C-1 (Neighborhood Commercial)  
 South: Mixed commercial / C-6 (General Commercial Park)  
 East: I-640 exit / C-6 (General Commercial Park)  
 West: I-640 exit and mixed office / C-1 (Neighborhood Commercial) & O-1 (Office, Medical and Related Services)

NEIGHBORHOOD CONTEXT: The site is located within a commercial corridor along I-640 between the Washington Pike and Millertown Rd. exits.

**STAFF RECOMMENDATION:**

- ▶ **APPROVE the request for a 150' monopole telecommunications tower in the C-1 zoning district, subject to 5 conditions.**
1. Modifying the monopole tower design to utilize close mount antenna arrays.
  2. Meeting all applicable requirements of the Knoxville Zoning Ordinance.
  3. Meeting all applicable requirements of the Knoxville Department of Engineering.
  4. Since the FAA does not require any lighting for this facility, there shall be no lighting on the tower.
  5. At the time of the request for a building permit, posting a bond or other approved financial surety that would ensure the removal of the tower if it is abandoned.

With the conditions noted above, this request meets all criteria for a use-on-review in the C-1 zoning district.

#### **COMMENTS:**

This is a request for a new 150 foot monopole telecommunications tower to be located within a 2,116 square foot lease area on the northeast side of a commercially zoned property that was previously the site of a convenience store. The building is presently vacant. The subject property is zoned C-1 (Neighborhood Commercial) and telecommunication towers are considered as a use on review in this district. The proposed tower site will have access to Washington Pike through the parking lot for the commercial site.

The proposed tower is required to be located 165 feet (110% of the tower height) from the nearest residential zoned property. The proposed tower meets all required setbacks. The nearest residence is over 800' from the proposed tower. The applicant is proposing a 6' high security fence topped with three strands of barbed wire around the tower and equipment area. Due to the height of the tower, FAA does not require lighting for the tower.

The applicant states that there are no existing structures in the area that can be used for antenna placement to obtain the required coverage. The tower will support up to 3 telecommunication carrier antenna arrays. U. S. Cellular Corporation will be the principal user for the tower. An agreement has been submitted stating that U. S. Cellular Corporation agrees to make all of its facilities available to other wireless providers.

Attached to the staff report are several support documents, including a report from MPC's tower consultant, Mr. Larry E. Perry. Mr. Perry's report describes the proposal and highlights his findings. Mr. Perry concludes that the proposed tower is technically justified by the materials submitted by the applicant (see attached report)

#### **EFFECT OF THE PROPOSAL ON THE SUBJECT PROPERTY, SURROUNDING PROPERTY AND THE COMMUNITY AS A WHOLE**

1. The proposed development will have minimal impact on local services since the required utilities are available to serve this site.
2. The proposed tower will not negatively impact surrounding properties since it is located within a commercial corridor area.

#### **CONFORMITY OF THE PROPOSAL TO CRITERIA ESTABLISHED BY THE KNOXVILLE ZONING ORDINANCE**

1. With the recommended conditions, the proposed commercial telecommunications tower at this location meets the standards required in the C-1 (Neighborhood Commercial) zoning district.
2. The proposed tower is consistent with the general standards for uses permitted on review: The proposed development is consistent with the adopted plans and policies of the General Plan, East City Sector Plan and Wireless Communications Facility Plan. The use is in harmony with the general purpose and intent of the Zoning Ordinance. Since this site is in a commercial corridor, the use will not significantly injure the value of adjacent property. The use will not draw additional traffic through residential areas.

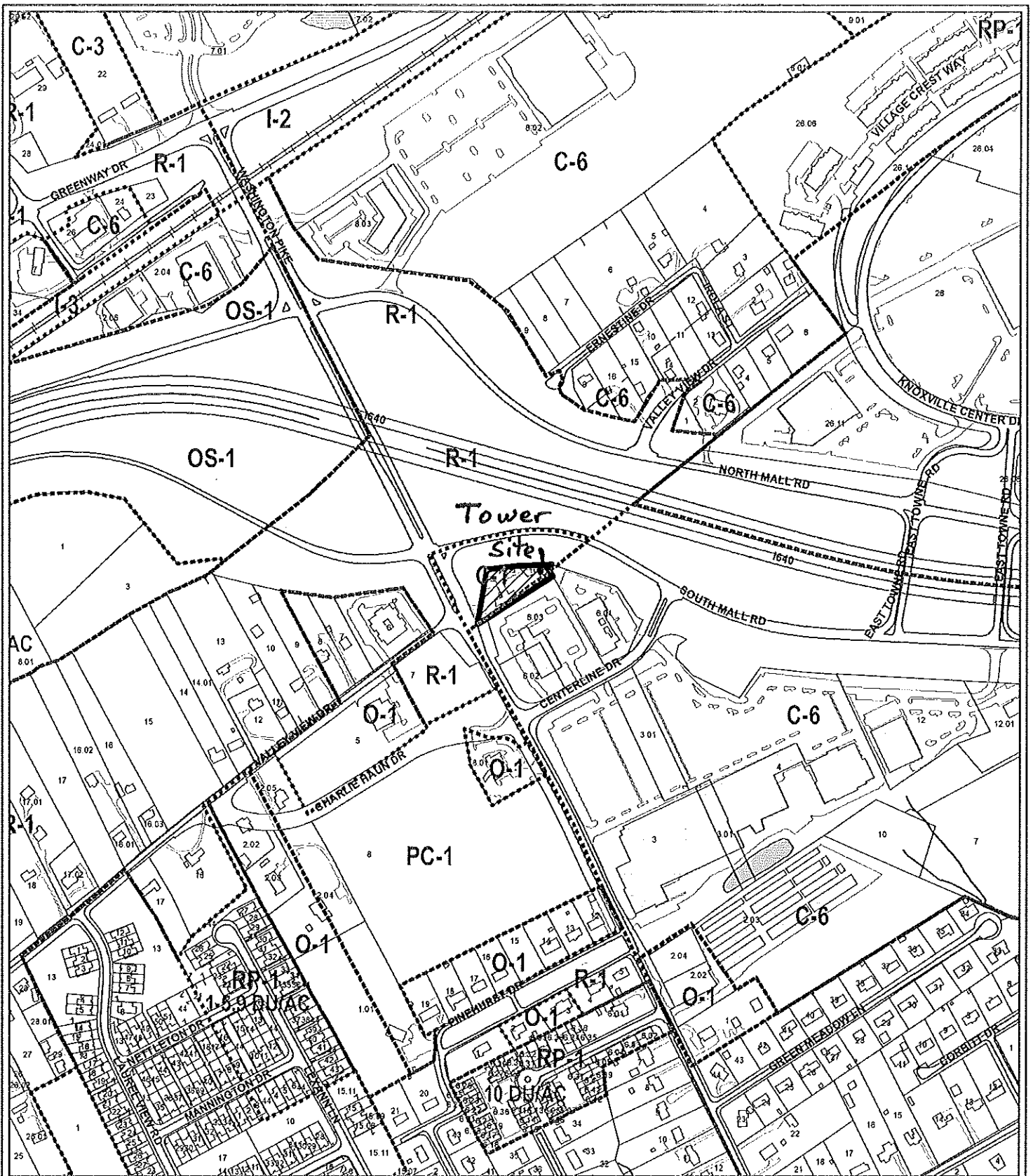
#### **CONFORMITY OF THE PROPOSAL TO ADOPTED PLANS**

1. The East City Sector Plan proposes commercial uses on this property. With the minimal site alteration required for the proposed tower adjacent to a commercial parking lot, the proposed development is consistent with this land use designation.
2. Under the guidelines for tower placement in the Wireless Communications Facility Plan, this proposed tower would be considered a moderate monopole. The tower falls within the "Opportunity Area" of the Land Use/Wireless Facilities Matrix since the proposed tower site is located along an "urban expressway corridor" and an "office/commercial corridor". The Plan encourages moderate monopoles located in an "urban expressway corridor". The Plan takes a neutral position on moderate monopoles located in an "office/commercial corridor".
3. The site is located within the Urban Area on the Knoxville-Knox County-Farragut Growth Policy Plan map.

ESTIMATED TRAFFIC IMPACT: Not calculated.

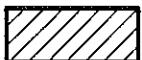
ESTIMATED STUDENT YIELD: Not applicable.

MPC's approval or denial of this request is final, unless the action is appealed to the Knoxville City Council. The date of the Knoxville City Council hearing will depend on when the appeal application is filed. Appellants have 15 days to appeal an MPC decision in the City.



**8-G-12-UR  
USE ON REVIEW**

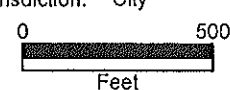
Petitioner: U. S. Cellular Corporation



150' Monopole Telecommunications Tower in C-1 (Neighborhood Commercial) & C-6 (General Commercial Park)

Map No: 59  
Jurisdiction: City

Original Print Date: 7/17/2012      Revised:  
Metropolitan Planning Commission \* City / County Building \* Knoxville, TN 37902



**US CELLULAR CORPORATION**

**Telecommunications Tower Site Review**

**8-G-12-UR**

**CONSULTANT'S SUMMARY**

**MILLERTOWN PIKE SITE**

**East Knoxville City**

**Location:** 5020 Washington Pike, Knoxville City

**Proposed Tower Height:** 150 foot Monopole

**Address:** 5020 Washington Pike  
Knoxville, Tennessee 37917

**District:** East Knoxville City #4 **Map Book:** 059KC **Parcels:** 009 and 101

**Use:** Telecommunications antenna structure

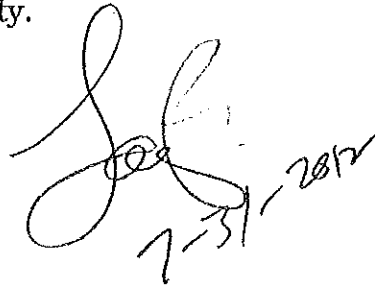
**Zoning:** C1 (Commercial)

**Variances and waivers:** None required or requested

**Need:** The applicant is US Cellular Corporation a licensed PCS carrier by the Federal Communications Commission and possibly other users.

**Instant Proposal:** Construct a 150 foot monopole tower type support structure.

**Consultant's Recommendation:** The site and application meets the requirements of the Ordinance and the spirit of the Facilities Plan. The applicant has proven a need for the site to comply with its FCC mandated coverage requirements for the new 4G technology. The 4 G technology is primarily used by hand held devices and the coverage area is fairly limited due to the high data stream and speed that it is transmitted, thus the need for the additional facility.



Handwritten signature and date: 7-31-2012

**REPORT TO  
METROPOLITAN PLANNING COMMISSION**

for

Proposed Telecommunications Tower Site  
Located at 5020 Washington Pike  
Knoxville, TN known as

**Millertown Pike**

**US CELLULAR**

**UOR 8-G-12-UR**

**COMPLIANCE WITH**

**THE MPC TELECOMMUNICATIONS FACILITY ORDINANCE**

7/30/2012

The proposed site for the applicant is a 150 foot monopole to be located at 5020 Washington Pike, Knoxville in East Knoxville City. The supporting material from applicant has been reviewed for technical and Federal/State legal compliance as well as with the Knoxville City Wireless Communication Facilities Plan from 2002. This is a new telecommunications site. The site is a capacity and fill site. This means that there is coverage at the site at the present, but the capacity of the existing coverage does not provide sufficient signal levels for the new 4G (4th Generation) technology.

**REQUESTED**

1. **Location.** The location is within the **City** of Knoxville in the **East City District** and in the Knox County Register of Deeds Office in **Tax Map: 059KC** at **Parcels: 009** and **010**.

2. **Zoning. C1** (Commercial)

3. **Tower height.** The requested height is 150 feet above ground level will support up to 3 additional telecommunications carrier antennas for a total of 3 users. Lighting will not be required on this structure.

4. **Variiances.** The set back requirements in Article 5 Section 20 B(2) of the Ordinance for Knoxville City for "C" sites requires that the structure be set back a minimum distance of 110% of the structure height or in this case 165 feet from the nearest dwelling unit. The proposed site is greater than 165 feet from the nearest residential unit,

thus a variance will not be required.

5. **Site.** This application is for the construction of a new monopole to be located at the edge of a parking lot on the parcel and is just off I 640 on Washington Pike.

6. **Use.** This antenna support structure will be used for telecommunications with the present state of the art communications technology using PCS and cellular communication sources. The applicant is US Cellular Corporation and there are 2 possible future additional users for the facility.

7. **Setbacks.** The setback requirements are that the facility must be 110% height of the tower from any dwelling unit. A variance will not be required as the site is located more than 165 feet from the nearest dwelling unit.

8. **Height.** The proposed structure is for 150 feet.

#### **EVALUATION**

The following is a list of items reviewed:

Zoning Ordinance for Knoxville Tennessee by Metropolitan Planning Commission---Telecommunication Facilities Section (as amended thru June 28, 2012)

Knoxville City Wireless Communications Facilities Plan dated 2002.

Check for other existing towers capable of supporting the load and elevation clearance requested by the applicant herein and within 1 mile radius of site.

Check for Antenna Support Structure stress analysis for co-location users' equipment support

Review support structure drawings and specifications with applicant

Review FAA lighting and marking requirements and proposals

Review FCC requirements regarding signal coverage, towers and lighting

Review applicant's justification for site in compliance with the FCC's requirements for telecommunication company providers compliance with required coverage for the use of the general public.

Review Site plan by applicant

Check Zoning

Check setbacks for building and antenna support structure

Check for compliance with Wireless Communication Facility Plan

Check proximity to other structures and district boundaries

Check nature of surrounding land uses

Check surrounding foliage and tree coverage

Check design of tower for esthetic changes

Check height requirements necessary for coverage

Check separation from other towers

Check frequencies proposed for possible interference to TV and radio reception in the immediate vicinity of the structure.

## **DISCUSSION**

I visited the proposed tower site that is a part of this review and discussed the area with the applicant.

The site elevation at this location is about 1034 feet AMSL. It is located on the east end of a parking lot just off Mall Road South on Washington Pike off I 640.

The request is for a 150 foot self supported monopole tower of which US Cellular will use the top 15 feet and the additional usable next area is for other carriers' expansion.

The site is a good elevation location and by the addition of a cell site here, it would probably eliminate the need for other sites nearby.

The proposed structure should not affect adjacent property as it is on a parcel of land that is zoned C1 (Commercial) and is in a commercial area. The site is just across from the Center Mall on the other side of I 640.

There are no variances required as the landowner owns all the property on all sides for more than 165 feet from the tower base. The tower will not require lighting.

There are other similar towers located to the northeast, east and southwest of the proposed location, but most are more than 1 mile away, thus the height required. There is one structure that is closer than 1 mile but it is already nearly overloaded and cannot handle any additional antennas and feedlines.

The site is a capacity and fill site. This means that there is coverage at the site at the present, but the capacity of the existing coverage does not provide sufficient signal levels for the new 4G (4th Generation)



technology. This technology uses a higher data rate and its coverage area is somewhat reduced by the higher rate.

There are no problems with access to the site as it is proposed on a level parcel adjacent to a paved parking lot.

#### **DISCUSSION RE FACILITIES PLAN**

*The Facilities plan is a guideline adopted by the MPC in 2002 for the placement and appearance of wireless communications facilities.*

*The following discussion is based on this application and how it relates to the Plan. The plan is an advisory plan and not a legal requirement.*

(1) **View Protection**--The structure, 150 foot monopole tower, is to be located at the edge of a parking lot in a commercial area. The local view protection will be provided by landscaping by the applicant that conforms to the MPC recommendations.

(2) **Land Use Compatibility**---The proposed site is on flat area used for a parking lot. The structure and associated building/facilities would be compatible with the local land use. The site will be unmanned and will have no impact on noise, traffic or air pollution.

(3) **Design Compatibility**---The proposed landscaping and facility design would blend in with surrounding agricultural land usage and design. The new structure will be a monopole type structure which is the least obtrusive type antenna support structures.

(A) **Opportunity Areas**---This proposed site is in an area zoned Commercial (C1).

(B) **Sensitive Area**---This site is not in a sensitive area as it is in a commercial parking lot and there are very few residences in the area and none in the immediate area.

(C) **Avoidance Areas**---This location is not in an avoidance area.

Under the matrix it would be considered a NEUTRAL OPPORTUNITY Site.

#### **SUMMARY**

(1) The proposed antenna support structure is a 150 foot monopole including antennas. There are no lighting requirements for this structure required by the FAA.

(2) A review of the structure stress analysis on the proposed

structure and specifications support the use of the monopole by possible 2 other potential users in the future.

(3) The structure design meets or exceeds FCC and EIA requirements.

(4) The area surrounding the site is commercial and flat. There are no residences within 350 feet of the tower.

(5) There is no general use technology (such as satellite communications) that is available at the present time nor in the immediate future that would negate the need for the structure. However, should such a technology become available and the structure of no further use, the Ordinance at Article 5 Section 20 B(2)(e) requires it to be removed.

(6) The proposed equipment housing facility is an outdoor cabinet and will have no impact on the aesthetics of the adjacent land uses. The landscape plan indicates that the fenced area will be surrounded by new landscaping by the applicant.

(7) The applicant has received authorization from the various governmental agencies, including the Federal Communications Commission, and the Federal Aviation Administration to provide communication service to the citizens of Knoxville, Tennessee.

(8) The requested site will have little impact on the community involved when compared with the benefits to be derived from the advanced service offered by the applicant.

(9) There are no other antenna support structures within 1 mile of the proposed site that are usable for the coverage required.

(10) There are no waivers requested or required.

(11) The proposed site and structure will have no environmental impact within the federal guidelines.

(12) The nature of the development in the surrounding area is not such as to pose a potential hazard to the proposed tower or to create an undesirable environment for the proposed structure.

(13) Assuming that there are 3 carriers operating cellular or PCS transmitters/receivers at this site and all are operating at the same time, the radiation produced by the combination of all the users at the same time using the standards and protocols proposed and

used by the carriers today, will be considerably below that established by the Federal Communications Commission and the EPA as creating any danger to humans or animals.

(14) There is a need for the structure in this area to provide for the wide spectrum wireless internet service and for the new 4G data services to be provided under government regulation by the various proposed carriers who plan to use the site. While there is coverage at the site at the present, the applicant proposes to reduce the present capacity by "cell splitting" and adding new antennas for the increased spectrum demand used by hand held devices. The addition of this site will relieve the heavy usage of 3 other sites nearby.

(15) The applicant has proven a need for the site and coverage to be provided by this location.

#### **RECOMMENDATION**

In light of the analysis and review of documents, it is my professional opinion that the applicant meets all requirements of the Ordinance and the spirit of the Facilities Plan as discussed above and is required for the applicant to meet their coverage requirements for the City of Knoxville.

Respectfully submitted,



Larry Perry  
Consultant to MPC

7-31-2012

# MEMO TO MPC MEMBERS RE TOWERS

*Larry Perry, Consultant to Knoxville MPC*

As MPC members and City/County administrators, you are going to see more applications for new structures (towers) from several cellular carriers over the next several months. I think you need to know what this is all about and why they are needed. Let me see if I can explain it in a non technical way for you.

Cellular technologies have always been confusing, but we didn't always have to worry about which technology our cell phone or our cellular provider employed. When cell phones were only used for voice transmissions, we got whatever technology was available and we were pretty happy with it. Of course, times have changed and things have become a bit more complicated.

Now many of us not only talk on a cell phone, we use our cell phones to check email, surf the Web, text our friends, play games, and do many other things with applications called "apps". This means that we transfer both voice and data over the cellular connections. To accommodate our growing need for increased transmissions, cellular technologies have changed considerably. You have probably heard the terms 2G, 3G, and 4G. These are generations that represent the advancements in cellular technology. Although these various technologies are quite complex, I'll give you a brief history, hopefully, without any techno-babble.

Let's start at the beginning when the only cellular technology was 1G, that is first generation. This was actually the equivalent of telephone technology. It was a narrow band (think two lane highway), analog service that only accommodated voice transmissions.

The next generation was 2G. This was the first digital cell service, so it was more efficient. It provided voice transmissions with limited data transmissions.

The big step forward, however, was 3G. This is a digital broadband service that uses packet data transmission. You don't need to understand all the underlying technology. All you need to know is that this makes for much higher data speeds allowing you to surf the Web and get email on your cell phone quickly and easily.

Although 3G was good, the up-and-coming 4G technology is even better. Cellular transmission speeds have a lot of variables like the underlying technology, the carrier, the location of the cell tower, and the amount of congestion on the network, so it is difficult to tell you exactly how speedy 4G will be. You can, however, expect full 4G to be about 10 times faster than 3G, and in the future, it has the possibility of being even faster. At their current speeds, this new technology

has transmission speeds similar to those you get on your PC with a cable or DSL connection. With 4G, unlike 3G, voice and data will be transmitted over the same connection. Also, delays will go down dramatically, so there will be a much faster response time.

In order to accomplish this faster speed, the transmission systems have to be upgraded with a wider bandwidth (think 12 lane highway compared to a 2 lane highway). The faster the data is sent to your hand held device, the wider the road (bandwidth) has to be. But the wider the bandwidth the shorter the coverage area for the most part. Remember in the early 1G voice only cellular days, there was roughly one tower about every two miles. Then along came 2 G (digital telephone) and the towers were about every mile. When 3 G (data and voice) came along, the towers moved even closer because the coverage area was reduced because of the speed with which the information (voice and data) was being sent. Now along comes 4G where you can do about anything with your had held device and the speed has increased many many times over the original 1 G Voice only network and the coverage area is reduced significantly, thus the need for more towers. Many schools are doing away with printed books and going to hand held devices for learning (and texting). So the demand for more and faster service is growing exponentially.

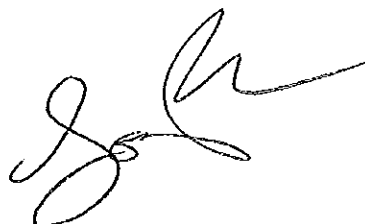
All of the national carriers are working hard to get their 4G networks in place. As a matter of fact, 4G is coming faster than ever expected it. Many large cities already have 4G including parts of Knoxville. You can check out the carrier's websites for details about where each has enabled 4G.

The 4G technology will actually reduce the cost per megabyte for the cellular networks. However, because US Cellular, AT&T, Verizon, and Sprint will all be trying to recoup the investment costs for implementing this new technology, you can expect cellular providers, at least initially, to charge a premium for 4G.

4G phones will be backwardly compatible with the 3G network of the cellular provider that you use. So if you are in an area where 4G is not available, your 4G cell phone will be able to automatically jump on the 3G network.

For those of you who use your cell phone only for voice calls, the upgrade to 4G, won't mean much, but those of you who use a smartphone will see a big change in the near future.

Hopefully this will help you understand the current need for additional towers by the various cellular carriers (incidentally there are now 13 different licensed carriers in the US...not all are in Knoxville yet!!!!)

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**EXHIBIT 7.  
LAND USE/WIRELESS FACILITIES MATRIX**

	Co-Location	Stealth Structure	Low Monopole Below 90'	Moderate Monopole 90'-150'	Tall Monopole 150'-199'	Lattice Tower	Guyed Tower
<b>Opportunity Areas</b>	Industrial/Business Park						
	Industrial Use						
	Pre-approved Government-owned Property						
	Urban Expressway Corridor			*			
	Rural/Heavily Wooded						
	Pasture						
	Central Business District						
	Office/Commercial Corridor				*		
	Shopping Center						

<b>Sensitive Areas</b>	Within 500' of a residence						
	Rural Residential						
	Non-residential Properties in a Residential Area (church, cemetery, library, etc.)						
	Multi-family Residential						
	On Hill Below Ridgeline						

<b>Avoidance Areas</b>	Conservation Open Space						
	Scenic Highway						
	Public Park						
	Ridge Top/Ridge Line						
	Scenic Vista						
	Historic District/Site						
	Single-family Residential						
	Vacant Residential Lot						

Encouraged     
  Neutral     
  Discouraged

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R.R. KRAMER (1888-1966)  
CARTER B. WALL (1915-1968)  
ANDREW JOHNSON (1918-1985)  
JACKSON C. KRAMER (1921-1993)  
R. ARNOLD KRAMER (1918-1993)

July 2, 2012

Metropolitan Planning Commission  
City-County Building, Suite 403  
400 Main Avenue  
Knoxville, Tennessee 37902

**Re: U.S. Cellular Corporation / Millertown Pike Site  
Application for Tower Site Use-On-Review**

Dear Sir or Madam:

Please be advised that the undersigned represents U.S. Cellular Corporation ("USCC"). USCC hereby files the enclosed Use-On-Review Application and requests that it be placed on the agenda for the August 9, 2012 Metropolitan Planning Commission meeting. Such Use-On-Review Application requests approval for a proposed cellular communications monopole to be located on property owned by Edward D. and Jo Ann King, at 5020 Washington Pike in the City of Knoxville, Tennessee. Accordingly, enclosed herewith please find the following items:

1. Completed Application Form as signed by an authorized representative of USCC and as signed by Edward D. King and Jo Ann King, the property owners.
2. Information Summary and Table of Contents.
3. Ten (10) copies of the Development Plan with Exhibits 1 through 15 attached.
4. Our Firm's check in the amount of Four Thousand Five Hundred Dollars (\$4,500.00), made payable to the Metropolitan Planning Commission. This check represents payment of (i) \$3,000.00, which amount is double the usual \$1,500.00 fee for filing a Use-On-Review Application for a site in a commercial zone, and

(ii) \$1,500.00 for the escrow deposit relative to the Professional Engineering Consultant's fee.

As noted, USCC is proposing that a cellular communications monopole be placed on a parcel consisting of approximately two thousand three hundred fifty-four (2,354) square feet. The leasehold compound will be located on two (2) adjacent parcels at 5020 Washington Pike in the City of Knoxville, Knox County, Tennessee. Both of such parcels are owned by Edward D. and Jo Ann King, and USCC has entered into a lease with the property owners for the proposed site. Such site is commercially zoned and formerly housed a convenience market, now closed.

USCC recognizes that pursuant to Article 5.20(B)(1)(f) of the City of Knoxville Zoning Ordinance, a professional engineering consultant qualified in the design and installation of wireless communications facilities may be employed to review its application. Accordingly, the One Thousand Five Hundred Dollar (\$1,500.00) escrow fee specified in the Zoning Ordinance is enclosed. USCC further understands that such fee shall not exceed One Thousand Five Hundred Dollars (\$1,500.00) in total.

USCC proposes to construct a 150 foot monopole. Since the proposed monopole will be less than 200 feet in height, FAA regulations will not require the monopole to be lighted. In addition, as required by Article 5.20(B)(1)(a) of the City of Knoxville Zoning Ordinance, the monopole will be constructed to support at least two (2) antenna arrays for co-location purposes. USCC's letter of intent setting forth its commitment to permit co-location on the proposed monopole is included with the Application as Exhibit 5.

The monopole is proposed for this area in order for USCC to provide additional spectrum capacity for its network. The explosive growth in usage of hand-held devices (*i.e.*, smart phones) requires that USCC significantly increase the capacity of its network to transmit data. New technology known as "4G LTE" supports data transmission and provides the necessary additional capacity. Installation of 4G LTE technology requires that USCC split its current spectrum between its existing CDMA/EVDO network and 4G LTE technology, which necessitates additional antennae. Thus, this tower will provide additional capacity and relieve spectrum usage at USCC's existing East Towne, Greenway and Love's Creek sites.

Radio frequency coverage maps showing coverage with and without the proposed monopole are attached to the Application as Exhibits 8 and 9.

In an effort to address tower proliferation concerns, USCC performed a search in the proposed coverage area for other existing towers on which co-location might be possible. As noted on Exhibit 3, one existing tower owned by Crown Castle Communications is located within the one-mile search ring. However, such tower is fully loaded and there is no available space for additional antennae. Further, such tower is terrain blocked from the existing U.S. Cellular sites for which spectrum relief is needed.



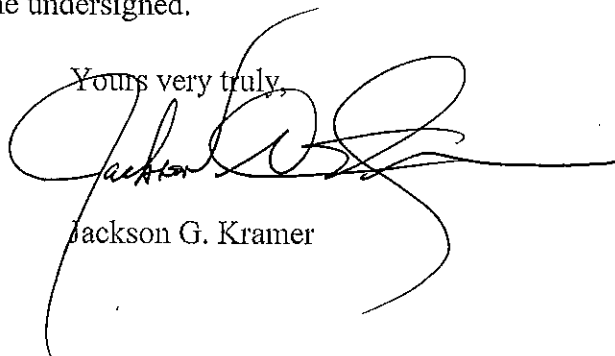
USCC also searched for other existing structures within the area of the proposed site on which co-location might be feasible. No other suitable existing structures are present in this area.

This proposed monopole is also consistent with the Goals, Objectives and Policies of the Wireless Communications Facilities Plan ("Plan") adopted by the Metropolitan Planning Commission in September, 2002. The proposed site is located on a commercially-zoned parcel adjacent to the I-640 Interstate Corridor and at one hundred fifty (150) feet, the proposed monopole is considered moderate in height.

In addition, the proposed monopole meets the Plan's objective of being separated from any nearby residents by a distance of more than five hundred (500) feet, and also meets the Zoning Ordinance requirement of being separated from neighboring residentially-zoned property by a distance of at least one hundred ten percent (110%) of the tower height (in this instance, one hundred sixty-five (165) feet). As shown by the Zoning Setback Drawing attached as Exhibit 2 to the Application, no residential structures are located within one hundred sixty-five (165) feet of the proposed site.

Thank you very much for your assistance in this matter. Should you need any additional information, please do not hesitate to contact the undersigned.

Yours very truly,

A handwritten signature in black ink, appearing to read "Jackson G. Kramer", written over a horizontal line.

Jackson G. Kramer

JGK/tsg  
Enclosures

**KRAMER RAYSON LLP**  
ATTORNEYS AT LAW

E. H. RAYSON  
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WARREN L. GOOCH  
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ROBERT A. CRAWFORD  
JOHN E. WINTERS  
ROBERT L. BOWMAN  
STEVEN E. KRAMER  
SHANNON COLEMAN EGLE  
KATE E. TUCKER  
BETSY J. BECK  
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J. MATTHEW BROTHERTON  
ADAM G. RUSSELL

SPECIAL COUNSEL  
GEORGE R. ARRANTS, JR.

POST OFFICE BOX 629  
KNOXVILLE, TENNESSEE 37901-0629

OF COUNSEL  
DONELSON M. LEAKE  
HUGH W. MORGAN  
G. WILSON HORDE

OFFICES  
FIRST TENNESSEE PLAZA, SUITE 2500  
800 SOUTH GAY STREET  
KNOXVILLE, TENNESSEE 37929  
TELEPHONE 865 525-5134  
TELECOPIER 865 522-5723

105 DONNER DRIVE, SUITE A  
OAK RIDGE, TENNESSEE 37830  
TELEPHONE 865 220-5134  
TELECOPIER 865 220-5132

R.R. KRAMER (1888-1966)  
CARTER B. WALL (1916-1968)  
ANDREW JOHNSON (1918-1985)  
JACKSON C. KRAMER (1921-1993)  
R. ARNOLD KRAMER (1918-1993)

July 30, 2012

**VIA HAND-DELIVERY**

Mr. Tom Brechko  
Metropolitan Planning Commission  
City-County Building, Suite 403  
400 Main Avenue  
Knoxville, TN 37902

**Re: U.S. Cellular Corporation  
Use-On-Review Application No. 8-G-12-UR  
Millertown Pike – Site No. 223529**

Dear Mr. Brechko:

In accordance with our conversations at our recent meeting on July 16, 2012, U.S. Cellular Corporation hereby submits five (5) copies of certain revised Construction Drawings as set forth below relative to its pending Use-On-Review Application No. 8-G-12-UR, which is scheduled to be heard on Thursday, August 9, 2012. Such Use-On-Review Application requests approval of a cellular communications monopole at 5020 Washington Pike, Knoxville, Tennessee 37917, in the City of Knoxville, Tennessee.

Specifically, please note the following changes to the construction documents:

1. You requested that the drawings show the square footage of the existing vacant building on the site (formerly a convenience store) in order to check for compliance with the parking regulations for the C-1 Zoning District under the City of Knoxville Zoning Ordinance ("Zoning Ordinance"). I enclose herewith five (5) copies of revised Sheet C3.00 of the Site Development Plan, and I call your attention to the notation stating that the existing building structure contains 2,345 square feet. Pursuant to the

Mr. Tom Brechko  
Metropolitan Planning Commission  
July 30, 2012  
Page 2

table of parking spaces set forth in Article V, Section 7(A)(3)(a) of the Zoning Ordinance, a retail sale establishment and shopping center with not more than 15,000 square feet of gross leasable area must have at least five (5) parking spaces per 1,000 square feet of gross leasable area. Thus, the minimum number of parking spaces required based upon a 2,345 square foot building would be 11.725. As you will note from revised Sheet C3.00, the site contains at least eighteen (18) parking spaces.

2. You had also requested that the type of trees utilized in the Landscape Plan attached as Sheet L1.00 be changed from Inkberry Holly trees to Leyland Cypress trees. Enclosed please find five (5) copies of revised Exhibit 10, Sheet Nos. L1.00 and L2.00, showing that the required plantings will consist of fifty-three (53) Leyland Cypress trees.
3. Further, it is my understanding that the City Engineering Department requests that a photosim be provided for each cellular communications monopole application. Accordingly, I enclose herewith five (5) copies of a photosimulation for this site.

Thank you for your assistance in this matter. Please do not hesitate to contact me if you have any questions.

With kind regards, I am

Yours very truly,

  
Jackson G. Kramer

JGK/tsg

Enclosures

cc: Mr. John Locascio  
Mr. Charles Burton

INFORMATION SUMMARY AND TABLE OF CONTENTS

USE ON REVIEW APPLICATION FOR

U. S. CELLULAR'S MILLERTOWN PIKE SITE NUMBER 223529

1. Site Plan – Construction Drawings, attached as Exhibit 1
2. Zoning Setback Drawing attached as Exhibit 2
3. No towers registered with the FCC as telecommunications towers were found on the FCC Data Base within a one-mile search ring (See Exhibit 3).
4. & 5. Application is made directly by the carrier -

U. S. Cellular Corporation  
9731 Cogdill Road, Suite 200  
Knoxville, Tennessee 37932

Contact: John Locascio, Senior Project Manager  
Telephone: (865) 777-7039  
Facsimile: (865) 777-7012

6. Basic Tower Information:
  - (a) U. S. Cellular Corporation ("USCC") proposes a monopole one hundred fifty (150) feet in height. The leasehold compound will be located on two (2) adjacent parcels (CLT Nos. 059KC009 and 059KC010), both owned by Edward D. King and Jo Ann King at 5020 Washington Pike, in the City of Knoxville, Knox County, Tennessee. The equipment compound and the base of the pole will be enclosed within a chain link fence six (6) feet in height.
  - (b) The monopole will be one hundred fifty (150) feet in height.
  - (c) Since the monopole will be less than 200 feet in height, no FAA lighting will be necessary.
  - (d) The specifications for an almost identical, although taller, monopole are provided in Exhibit 4. The monopole is designed and will be constructed to permit co-location for at least one (1) additional carrier.
  - (e) The leasehold area totals approximately two thousand three hundred fifty-four (2,354) square feet. The majority of the leasehold area will be enclosed by a chain link fence six (6) feet in height and topped with three (3) strands of barbed wire. See Construction Drawings, p. C3.10. The

monopole and all ancillary equipment will be located within this fenced compound.

7. USCC's Letter of Intent committing itself to allow shared use of the proposed monopole is attached as Exhibit 5. Other likely candidates for co-location:

AT&T  
Verizon  
Sprint/Nextel  
T-Mobile  
Cricket (Leap Wireless)

8. Zoning Map:

Proposed site is zoned C-1. Site zoning for both parcels and zoning of adjacent parcels are shown on Collective Exhibit 6. Map of larger area within one mile of proposed site to be provided by the Metropolitan Planning Commission. General map of area attached as Exhibit 7.

9. Coverage Map without proposed site - Exhibit 8

10. Coverage Map with proposed site - Exhibit 9

11. Proposed landscaping – Pursuant to Section 5.20(B)(4) of the City of Knoxville, Tennessee Zoning Ordinance, a landscape plan for the proposed site is attached as Exhibit 10.

12. Technical Justifications Narrative - Exhibit 11

13. Variances or Waivers from Ordinance - Exhibit 12

14. Photographs of proposed site – Collective Exhibit 13

15. Google Earth photographs showing approximate locations from which the photographs in Collective Exhibit 13 were taken – Collective Exhibit 14

16. Safety Statements - Exhibit 15

**TECHNICAL JUSTIFICATION FOR PROPOSED NEW TOWER  
U.S. CELLULAR SITE NAME: MILLERTOWN PIKE  
U.S. CELLULAR SITE: 223529**

**Prepared by: Isaac Ndiaye  
Sr. RF Engineer  
U.S. Cellular®**

**Proposal:** Install CDMA Spectrum Relief Antennae on a new monopole to be constructed on a site located at 5020 Washington Pike, Knoxville, Tennessee on a two thousand three hundred fifty-four (2,354) square foot parcel, more or less, leased from the property owners, Edward and Jo Ann King.

**Tower:** U.S. Cellular Corporation ("USCC") proposes to construct a 150 ft. above ground level monopole. The height of 150 ft. is necessary in order for signals to carry over the surrounding terrain and connect with USCC's existing network. Because the height of the monopole is less than 200 feet above ground level, FAA regulations do not require any lighting.

**RF Justification:** USCC proposes to build this facility in this area to provide additional capacity to its existing customers. With the explosive growth in usage of handheld devices (i.e., smart phones), the need for increased capacity to transmit data has grown tremendously. The newest technology which supports data transmission and provides the requisite capacity is known as "4G LTE" technology. To facilitate the rollout of 4G LTE in USCC's local network, USCC is splitting its current spectrum between the existing network (CDMA/EVDO) and the future 4G LTE network. Such "spectrum splitting" requires additional antennae to address the increased demand for spectrum usage. Specifically, this proposed monopole will relieve spectrum usage on adjacent USCC antennae at USCC's East Towne, Greenway and Love's Creek sites, thus providing sufficient spectrum to install LTE 4G technology. This necessary spectrum relief, as shown by USCC's coverage maps, can be efficiently corrected by a full cell site at this proposed location.

**Co-location:** The alternatives of co-locating USCC's equipment and antennae on existing structures in the surrounding area were considered. In accordance with the Knox County Zoning Ordinance, a search was performed to identify any existing registered structures within one mile of the proposed site. The only existing tower located within one mile of the proposed site is owned by Crown Castle Communications, but such tower is fully loaded and there is no available space for additional antennae.



Metropolitan Planning Commission  
of Knoxville/Knox County  
4th Floor, City-County Building  
400 Main Street  
Knoxville, Tennessee 37902

June 26, 2012

**Re: U.S. Cellular Corporation  
Proposed Millertown Pike Site**

Dear Sir or Madam:

This letter is written to confirm U.S. Cellular Corporation's ("USCC") commitment to shared use of its proposed cellular communications monopole site at 5020 Washington Pike in the City of Knoxville, Tennessee.

As you are aware, City of Knoxville Zoning Ordinance Article 5.20(B)(1)(a) requires that any proposed communications tower 130 feet in height or greater be built to accommodate at least three antenna arrays for co-location purposes. USCC is proposing that the monopole on Washington Pike be 150 feet in height. USCC hereby states that it will construct the monopole to accommodate the required three antenna arrays.

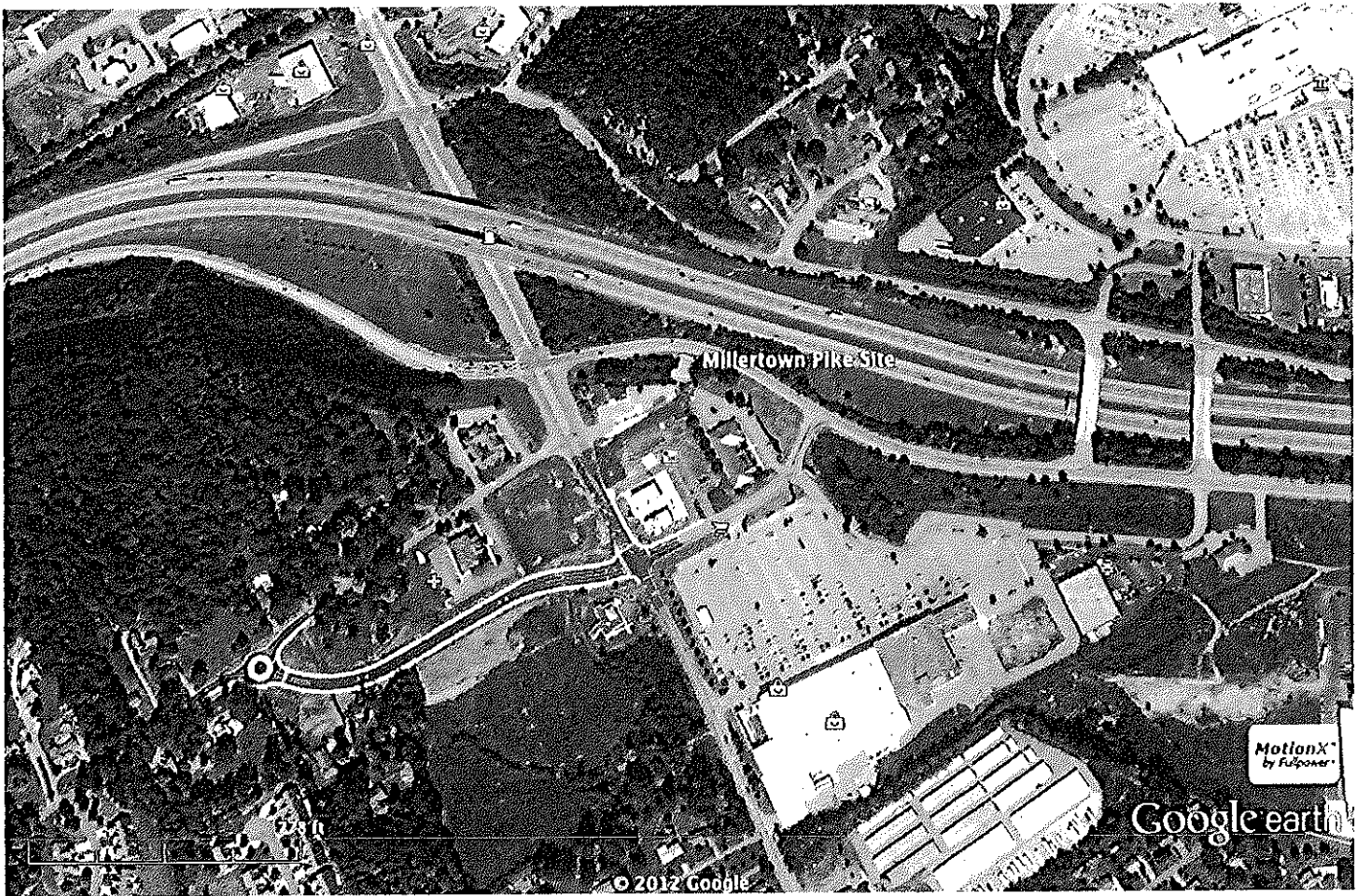
Furthermore, please accept this letter as confirmation that pursuant to City of Knoxville Zoning Ordinance Article 5.20(B)(1)(b), USCC and its successors are committed to allowing shared use of the monopole at rental rates commensurate to those being charged in similar situations, so long as any additional user agrees in writing to meet reasonable terms and conditions concerning use of USCC=s monopole and so long as space on such monopole remains available.

I trust that this letter is sufficient to address the inquiries posed concerning shared use. However, should you need additional information, please do not hesitate to contact either the undersigned at (865) 777-7039 or USCC=s attorney, Jackson G. Kramer, at (865) 525-5134.

Yours very truly,

A handwritten signature in cursive script that reads "John Locascio".

John Locascio  
Senior Project Manager

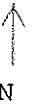


Google earth



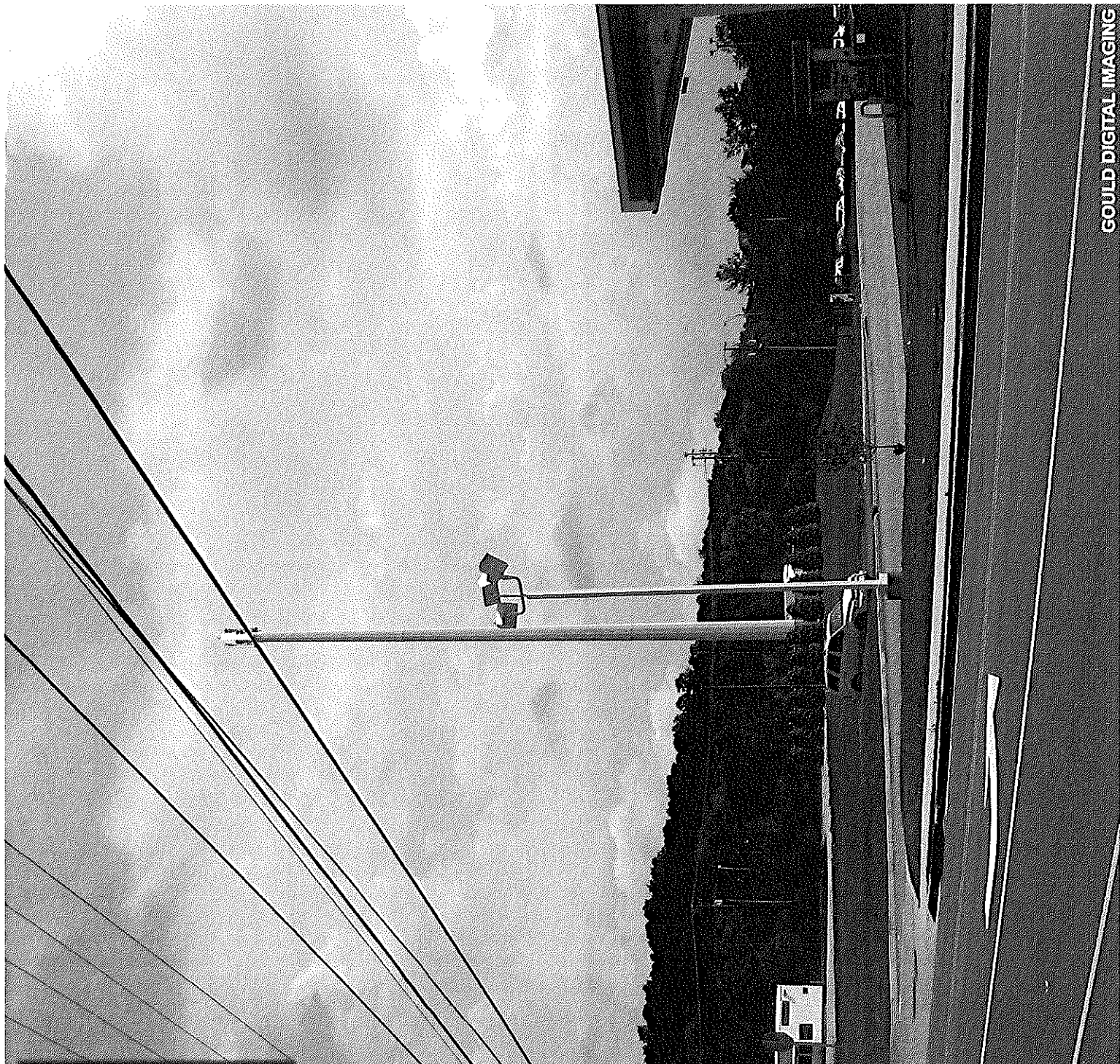


MILLERTOWN PIKE: PHOTO PERSPECTIVE



Google earth





Existing View

EMPC Section 13, 2012

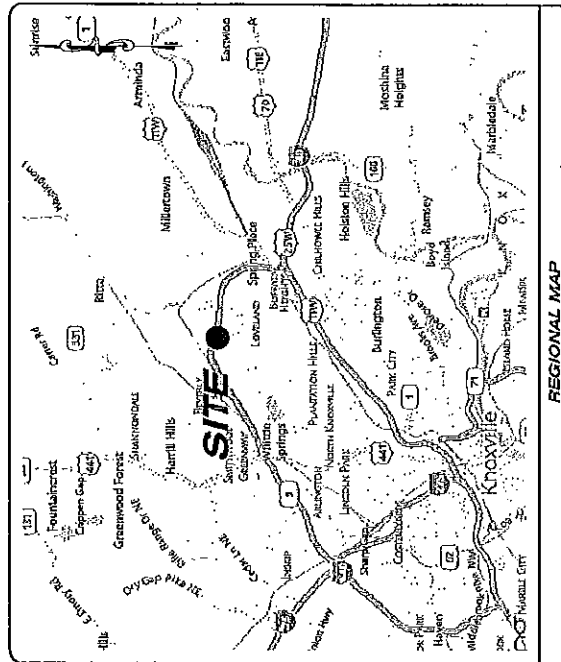
**U.S. Cellular**  
 Millertown Pike 223529  
 Washington Pike, Knoxville, Tennessee  
**150F<sup>7</sup> monopole**  
**Site Location**  
 View from Washington Pike  
 approximately 460ft. southwest of site

Agenda Item # 39



**9731 COGDILL ROAD,  
SUITE 200  
KNOXVILLE, TN 37932  
(865) 777-7039**

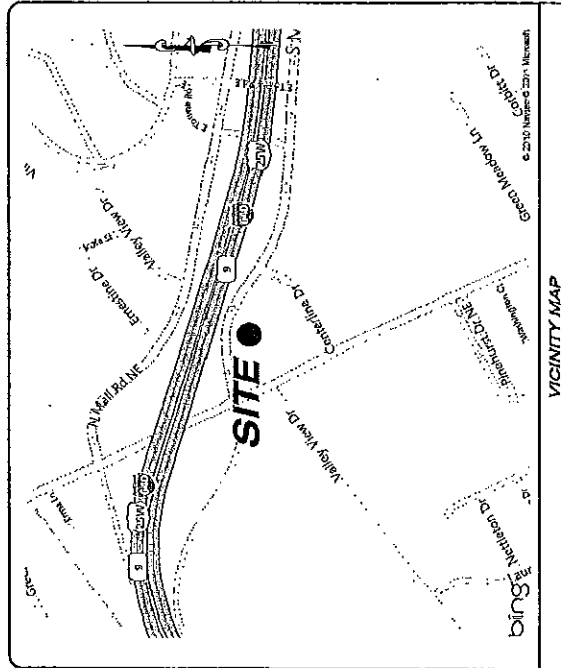
**U.S. CELLULAR  
RAW LAND  
MILLERTOWN PIKE  
223529  
150' MONOPOLE  
TELECOMMUNICATIONS TOWER  
WITH MULTIPLE CARRIERS**



REGIONAL MAP

**FROM PELLISSIPPI PARKWAY & I-40 IN WEST KNOXVILLE:  
DRIVING DIRECTIONS FROM CLIENT MARKET OFFICE (I 40/75 AND PELLISSIPPI  
PARKWAY): TAKE I-40/75 EAST TO I-640 EAST, FROM I-640 EAST TAKE EXIT 9,  
TURN RIGHT AT LIGHT ONTO WASHINGTON PIKE, TAKE FIRST LEFT ONTO  
PROPERTY AT INTERSECTION OF VALLEY VIEW DR. SITE IS LOCATED ON EAST END  
OF PROPERTY FROM WASHINGTON PIKE.**

DIRECTIONS TO SITE



VICINITY MAP

**POINT TO POINT LAND SURVEYORS  
810 JACKSON GROVE,  
GEORGIA 30248  
(P) 578.555.4440**

**B&T ENGINEERING  
1717 S. BOULDER, SUITE 300  
TULSA, OK 74119  
(P) 918.587.4630**

8-G-12-UR

CONSULTANTS

**SITE NAME:**  
MILLERTOWN PIKE  
**SITE NUMBER:**  
223529  
**SITE ADDRESS:**  
5020 WASHINGTON PIKE  
KNOXVILLE, TN 37917  
**SITE OWNER:**  
EDWARD D. & JO ANN KING  
4312 HARRIS RD.  
KNOXVILLE, TN 37918  
**APPLICANT:**  
U.S. CELLULAR CORPORATION  
9731 COGDILL ROAD, SUITE 200  
KNOXVILLE, TN 37932  
**ZONING - JURISDICTION:**  
CITY OF KNOXVILLE  
**ZONING:**  
C-1  
**AREA OF LEASE:**  
0.054 ACRES  
2,354 SQ. FT.  
**PARCEL NUMBER(S):**  
059KC009 & 059KC010

**SITE SUMMARY**

SHEET NO.	TITLE SHEET/SITE INFORMATION
T1.00	TITLE SHEET/SITE INFORMATION
C1.00	GENERAL NOTES
C2.00	SITE WORK NOTES
E1.00	SITE SURVEY
E2.00	CONTOUR
E3.00	CONTOUR
E4.00	CONTOUR
E5.00	CONTOUR
E6.00	CONTOUR
E7.00	CONTOUR
E8.00	CONTOUR
E9.00	CONTOUR
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E99.00	CONTOUR
E100.00	CONTOUR

SHEET INDEX

U.S. Cellular  
574 CELLAR ROAD  
KNOXVILLE, TN 37922  
(865) 777-7039

WIRELESS VISION  
Site Development Services  
1100 N. CENTRAL AVENUE  
SUITE 200  
KNOXVILLE, TN 37917  
(865) 777-7039

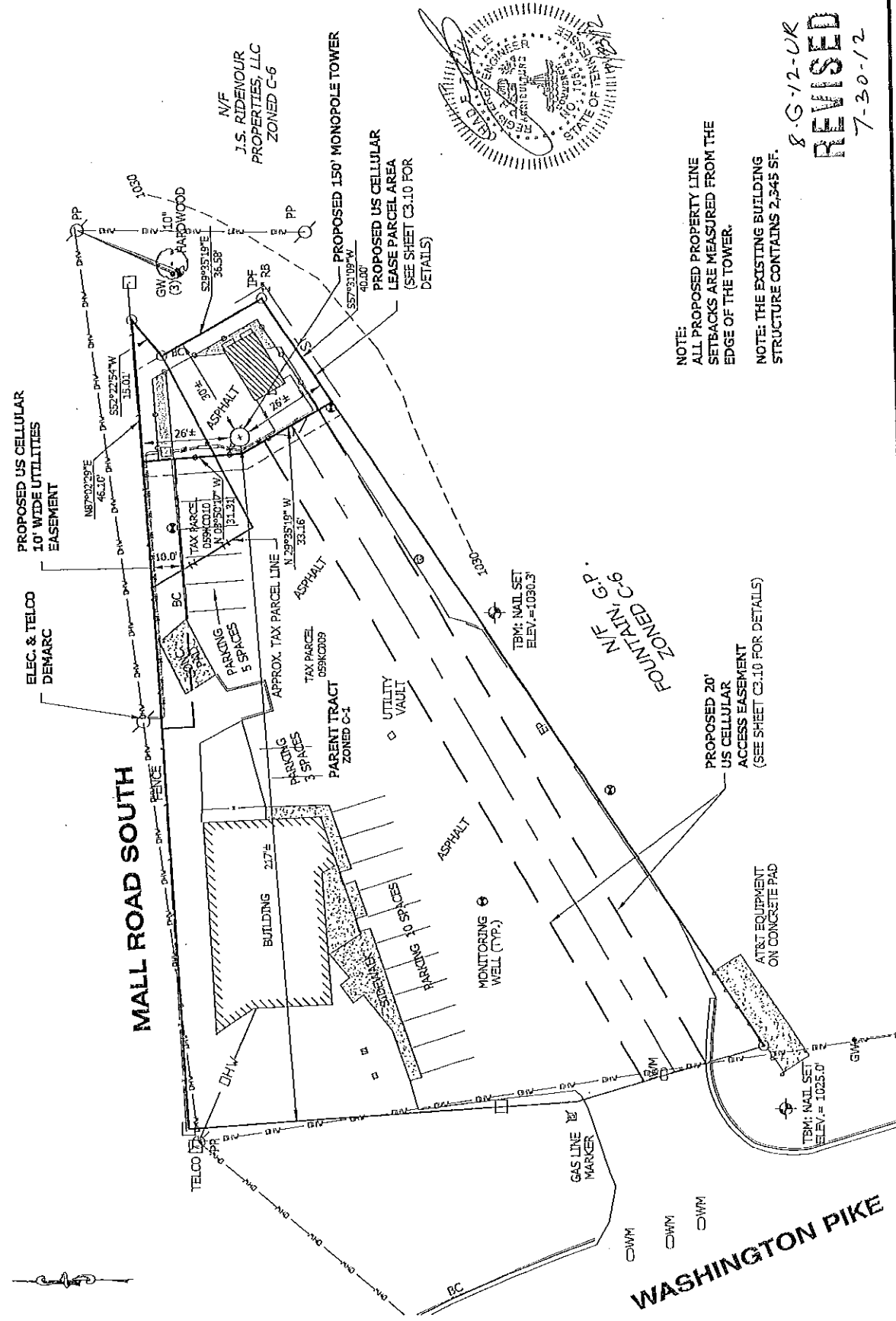
SCALE: N.T.S.  
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B&T ENGINEERING  
1717 S. BOULDER, SUITE 300  
TULSA, OK 74119  
(918) 587-4630

Professional Engineer  
State of Tennessee  
No. 10000  
Exp. 12/31/2012

US CELLULAR  
MILLERTOWN PIKE  
SITE NUMBER:  
223529  
CITY ADDRESS:  
5020 WASHINGTON PIKE  
KNOXVILLE, TN 37917  
PROJECT TITLE:  
MILLERTOWN PIKE  
SITE INFORMATION:  
SHEET NUMBER:  
**T1.00**

<p>US Cellular 875 COLUMBIA ROAD KNOXVILLE, TN 37922 (615) 774-7422</p>	<p>WIRELESS VISION LLC Site Development Services</p>	<p>0 EQUAL ADJUSTMENT BUT IS NOT ON THE ORIGINAL DRAWING. IF NOT ONE INCH ON THE ORIGINAL DRAWING, IT IS NOT TO BE ACCOMMODATED.</p>	<p>SCALE: 1"=30'</p> <p>THIS DRAWING AND ANY INSTRUMENTS ATTACHED HERETO SHALL BE VOID WITHOUT THE SIGNATURE OF THE ENGINEER.</p>	<table border="1"> <tr><td>DATE</td><td>02/10/12</td></tr> <tr><td>BY</td><td>W. J. BROWN</td></tr> <tr><td>CHECKED</td><td>W. J. BROWN</td></tr> <tr><td>DATE</td><td>02/10/12</td></tr> <tr><td>BY</td><td>W. J. BROWN</td></tr> <tr><td>CHECKED</td><td>W. J. BROWN</td></tr> </table>	DATE	02/10/12	BY	W. J. BROWN	CHECKED	W. J. BROWN	DATE	02/10/12	BY	W. J. BROWN	CHECKED	W. J. BROWN	<p>DESIGNED BY: JAC DRAWN BY: JAC CHECKED BY: JAC DATE: 02/10/12 JOB NUMBER: 223327-00</p>	<p>B&amp;T ENGINEERING 277 S. BOLDER SUITE 300 TULLOCH, TN 37169 PH: (615) 299-6629</p>	<p>CHAD TUTTLE PROFESSIONAL ENGINEER REGISTRATION NO. 20254</p>	<p>US CELLULAR MILLERTOWN PIKE 2233279 SITE ADDRESS 2233 WASHINGTON PIKE KNOXVILLE, TN 37927</p>	<p>SHEETS MASTER SITE PLAN SHEET NUMBER</p>	<p>C3.00</p>
DATE	02/10/12																					
BY	W. J. BROWN																					
CHECKED	W. J. BROWN																					
DATE	02/10/12																					
BY	W. J. BROWN																					
CHECKED	W. J. BROWN																					



NOTE:  
ALL PROPOSED PROPERTY LINE SETBACKS ARE MEASURED FROM THE EDGE OF THE TOWER.

NOTE: THE EXISTING BUILDING STRUCTURE CONTAINS 2,345 SF.

8-6-12-UK  
**REVISED**  
7-30-12



<p>U.S. Cellular 1721 COWLEY ROAD KNOXVILLE, TN 37922 PH: (615) 777-7000</p>	<p>WIRELESS I.L.L.C. Site Development Services</p>	<p>SCALE: 1" = 10'</p> <p>THIS DRAWING WAS NOT REPRODUCED OR REPRODUCED WITH THE EXPRESS WRITTEN CONSENT OF THE ENGINEER OR ARCHITECT.</p>	<p>DESIGNED: JME</p> <p>DRAWN: JME</p> <p>CHECKED: BAK</p> <p>DATE: 3-18-12</p> <p>200 NUMBER 227-0100</p>	<p>B&amp;T ENGINEERING 307 S. HIGHLAND SUITE 1100 KNOXVILLE, TN 37919 PH: (615) 524-4630</p>	<p>CHAD TUTTLE PROJECT ENGINEER REGISTRATION NO. 32484</p>	<p>US CELLULAR MILLERTOWN PIKE SITE NUMBER 225529</p>	<p>SITE ADDRESS 5028 WASHINGTON PIKE KNOXVILLE, TN 37917</p>	<p>SHEET TITLE <b>SITE PLAN &amp; GRADING PLAN</b></p>	<p>SHEET NUMBER <b>C3.10</b></p>
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**NOTES:**  
1. NEW UTILITY EQUIPMENT PAD PER UTILITY COMPANY SPECIFICATIONS

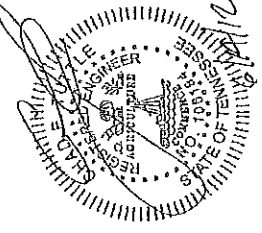
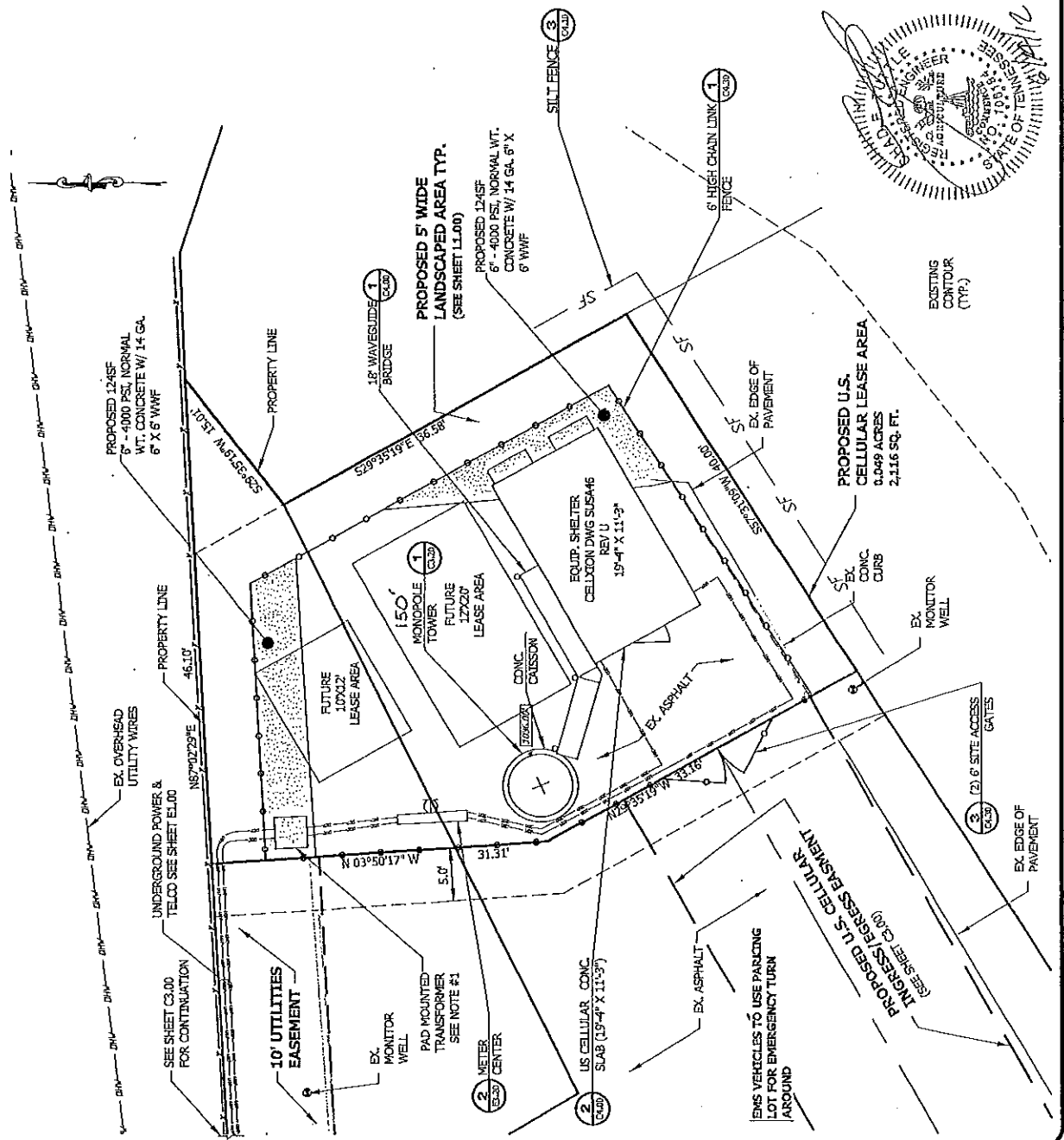
2. CONTRACTOR TO COORDINATE UTILITY CONNECTIONS WITH LOCAL SERVICE PROVIDER PRIOR TO BIDDING PROJECT.

**LEGEND:**  
A. [Symbol] PROPOSED FINISHED GRADE

**CONTRACTOR'S NOTE:**  
DRAINAGE TO BE MAINTAINED AS CLOSELY AS POSSIBLE TO PRE CONSTRUCTION CONDITIONS.

**GRADING NOTES:**

1. TYPICAL FINISH GRADES ARE TOP OF STONE.
2. PROVIDE VEGETATION CONTROL FOR SUBGRADE PRIOR TO PLACEMENT OF STONE.
3. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING POSITIVE DRAINAGE ON SITE AT ALL TIMES. SILT AND EROSION CONTROL MEASURES SHALL BE MAINTAINED ON THE DOWNSLOPE SIDE OF THE SITE AT ALL TIMES. ANY DAMAGE TO ADJACENT PROPERTIES WILL BE CORRECTED AT THE CONTRACTOR'S EXPENSE.
4. SEEDING AND MULCHING OF THE SITE WILL BE ACCOMPLISHED AS SOON AS POSSIBLE AFTER COMPLETION OF THE SITE DEVELOPMENT. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING AND MAINTAINING AN ADEQUATE COVER OF VEGETATION OVER THE SITE FOR A ONE YEAR PERIOD. ALL SEEDING AND MULCHING SHALL BE PER T.D.O.T. SPECIFICATIONS.
5. PLACE SOG ON ALL SLOPES GREATER THAN 4:1. PIN SOG ON ALL SLOPES GREATER THAN 3:1. PLACE EROSION CONTROL BLANKET ON ALL SLOPES GREATER THAN 2:1. ALL VEGETATIVE CONTROL MEASURES SHALL BE PER T.D.O.T.
6. TREES INTERFERING WITH CONSTRUCTION SHALL BE REMOVED FROM THE SITE. NO VEGETATION OR DEBRIS SHALL BE ALLOWED TO FALL OVER SLOPE.
7. PERMISSION FOR GRADING OUTSIDE THE LEASE AREA IS PROVIDED BY U.S. CELLULAR AGREEMENT WITH OWNER.
8. CONTRACTOR TO MINIMIZE CLEARING AND GRUBBING LIMITS TO MAINTAIN VEGETATION IN NATURAL STATE AS MUCH AS POSSIBLE.
9. ALL DISTURBED AREAS SHALL BE TREATED WITH PERMANENT EROSION CONTROL MEASURES.
10. VERTICAL DATUM: NAVD83; SEE SITE SURVEY, SHEET 1 OF 1 FOR BENCHMARK INFORMATION.



U.S. Cellular  
1771 CELLULAR ROAD  
MILLERSVILLE, TN 37352  
1-800-391-4500

WIRELESS VISION LLC  
Site Development Services

SCALE: 1" = 10'  
THIS IS A MECHANICAL DRAWING.  
IF ANY DIMENSIONS ON THIS SHEET, ALWAYS FOLLOW THE DIMENSIONS ON THE DRAWING.

SCALE: N.T.S.  
THIS DRAWING MAY NOT BE COPIED OR REPRODUCED WITHOUT THE EXPRESS WRITTEN CONSENT OF WIRELESS VISION LLC.

DATE: 3-28-12  
JOB NUMBER: 223529

B&T ENGINEERING  
1771 CELLULAR ROAD  
SUITE 300 TULLA, TN 37169  
PH: (615) 597-4000

CHAD TUTTLE  
PROFESSIONAL ENGINEER  
REGISTRATION NO. J10394

SHEET NAME:  
US CELLULAR  
MILLERTOWN PIKE  
SITE NUMBER:  
223529  
SITE ADDRESS:  
3820 WASHINGTON PIKE  
KNOXVILLE, TN 37917  
SHEET TITLE:  
ELEVATION AND  
PLATFORM  
DETAIL

SHEET NUMBER:  
**C3.20**

**2 ANTENNA SECTION**  
N.T.S.

STIFF ARM MOUNTS  
ANTENNA  
ANTENNA MOUNTING PIPE  
VARIES SEE ANTENNA SPECIFICATIONS

**3 ANTENNA PLATFORM ASSIGNMENT**  
N.T.S.

SECTOR	COLOR	# OF STRIPES	TX	RX1	RX2
ALPHA X	RED	1	2	3	
BETA Y	WHITE	1	2	3	
GAMMA Z	BLUE	1	2	3	

COAX COLOR CODE

REV 'G' INFORMATION  
STRUCTURE CLASS II  
EXPOSURE CATEGORY B  
TOPOGRAPHIC CATEGORY 3 (HILL TOP)

**1 TOWER ELEVATION**  
N.T.S.

5' LIGHTNING ROD  
PROPOSED 150' MONOPOLE TOWER  
FUTURE CARRIER ANTENNA ARRAY  
FUTURE CARRIER ANTENNA ARRAY  
U.S. CELLULAR ANTENNA ARRAY AT A RAD CENTER OF 150'

PD S #	ANTENNA #	ANTENNA MODEL	GAIN	ANT. ERP	PA SETTING	MECH DT	ELEC DT	ANT. HEIGHT	AZIMUT H	CABLE LENGTH	CABLE SIZE
1											
2											
3											
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NO RF PROVIDED TO ENGINEER

**4 ANTENNA SCHEDULE**  
N.T.S.

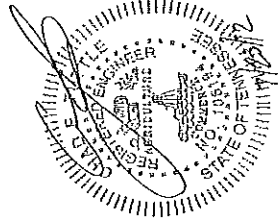
<p>U.S. Cellular 4750 CENTRAL ROAD COLUMBIANA, AL 35956 (865) 777-7282</p>	<p>WIRELESS VISION LLC Site Development Services</p>	<p>SCALE: NOTATION 0 1" = 1'</p> <p>BASE IS THE BLOCK ON ORIGINAL DRAWING. IF NOT ONE, INDICATE ON THIS SHEET. ADD TO SCALE ACCORDINGLY.</p>	<p>SCALE 1" = 10'</p> <p>THIS DRAWING MAY NOT BE COPIED OR REPRODUCED WITHOUT THE WRITTEN PERMISSION OF WIRELESS VISION LLC.</p>	<table border="1"> <tr><td>DESIGNED BY</td><td>JAC</td></tr> <tr><td>DRAWN BY</td><td>JAC</td></tr> <tr><td>CHECKED BY</td><td>GAN</td></tr> <tr><td>DATE</td><td>3-30-12</td></tr> <tr><td>JOB NUMBER</td><td>20-02-06</td></tr> </table>	DESIGNED BY	JAC	DRAWN BY	JAC	CHECKED BY	GAN	DATE	3-30-12	JOB NUMBER	20-02-06	<p>B&amp;T ENGINEERING 1713 S. CLOVER SUITE 301 TULSA, OK 74119 PH: (918) 307-4380</p>	<p>CHAD TUTTLE PROFESSIONAL ENGINEER REGISTRATION NO. 100204</p>	<p>SITE NAME US CELLULAR MILLERTOWN PIKE</p>	<p>SITE NUMBER 2233529</p>	<p>SITE ADDRESS 5020 WASHINGTON PIKE KINGSVILLE, TN 37047</p>	<p>SHEET TITLE LANDSCAPE PLAN</p>	<p>SHEET NUMBER L1.00</p>
DESIGNED BY	JAC																				
DRAWN BY	JAC																				
CHECKED BY	GAN																				
DATE	3-30-12																				
JOB NUMBER	20-02-06																				

**NOTES:**

1. TREES TO BE PROTECTED DURING AND AFTER CONSTRUCTION.
2. SEE SHEET L2M FOR PLANNING DETAILS.
3. THE CONTRACTOR SHALL PROVIDE A WATERING PROGRAM FOR UP TO 180 DAYS AFTER PLANTING TO ENSURE THE HEALTHY VITALITY OF ALL PLANT MATERIAL.

**LANDSCAPE NOTES:**

1. THE FOLLOWING PLANT MATERIAL STANDARDS SHALL BE CONSIDERED THE MINIMUM REQUIREMENTS FOR COMPETING WITH THE LANDSCAPE RESIDENTIAL.
1. SHRUB MATERIAL IS TO BE PLANTED AT THE REQUIRED MINIMUM HEIGHT; COMPANIES SIZE DOES NOT QUALIFY FOR TYPICAL ACCEPTANCE.
2. BALLED AND BURLAPPED STRAPPING WIRE AND ANY SYNTHETIC MATERIAL SHALL BE REMOVED PRIOR TO FINAL INSPECTION. WIRE BUCKETS SHOULD BE CUT 6" BELOW THE TOP OF THE ROOTBALL.
3. MULCH SHALL BE PROVIDED A MINIMUM OF FOUR (4) INCHES IN DEPTH AROUND ALL NEWLY PLANTED LANDSCAPE.
4. THE GENERAL CONTRACTOR AND/OR LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE TO MAKE ANY AND ALL NECESSARY REPAIRS TO DAMAGE CAUSED BY HIS WORK AT NO ADDITIONAL COST TO THE OWNER OR LANDSCAPE ARCHITECT.



8-G-12-UR  
**REVISED**  
7-30-12

