

▶ **FILE #:** 6-I-09-UR **AGENDA ITEM #:** 44

POSTPONEMENT(S): 6/11/2009 **AGENDA DATE:** 7/9/2009

▶ **APPLICANT:** U. S. CELLULAR CORPORATION

OWNER(S): JOHN U. S. CELLULAR CORPORATION LOCASCIO

TAX ID NUMBER: 52 052

JURISDICTION: County Commission District 8

▶ **LOCATION:** East side of Graves Rd., north of Ruggles Ferry Pike.

▶ **APPX. SIZE OF TRACT:** 91 acres

SECTOR PLAN: East County

GROWTH POLICY PLAN: Planned Growth Area

ACCESSIBILITY: Access is via Graves Rd., a local street with a 17' pavement width within a 40' right-of-way.

UTILITIES: Water Source: Knoxville Utilities Board

Sewer Source: Knoxville Utilities Board

WATERSHED: Holston and French Broad

▶ **ZONING:** A (Agricultural)

▶ **EXISTING LAND USE:** Vacant land

▶ **PROPOSED USE:** 195' monopole telecommunications tower

HISTORY OF ZONING: None noted

SURROUNDING LAND USE AND ZONING: North: Vacant land / A (Agricultural)

South: Vacant land / A (Agricultural)

East: Vacant land / A (Agricultural)

West: Vacant land and residences / A (Agricultural)

NEIGHBORHOOD CONTEXT: The site is located in an area of rural residential and agricultural land uses

**STAFF RECOMMENDATION:**

▶ **APPROVE the development plan for a 195 foot monopole telecommunications tower in an A (Agricultural) zoning district subject to 6 conditions:**

1. Meeting all applicable requirements of the Knox County Zoning Ordinance.
2. Revising the access drive to a minimum width of at least 18' with any driveway grades over 8% being paved to a standard to be determined by the Knox County Department of Engineering and Public Works. A turnaround area shall also be provided at the end of the driveway subject to approval by the Knox County Department of Engineering and Public Works.
3. Meeting all applicable requirements of the Knox County Department of Engineering and Public Works.
4. Since the FAA does not require any lighting for this facility, there shall be no lighting on the tower.
5. Installing the proposed landscaping as shown on the landscape plan within six months of the tower becoming operational.
6. 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 above conditions, this request meets all requirements for approval of a use on review in the A zone.

**COMMENTS:**

UPDATE: This item was postponed at the Planning Commission's June 11, 2009 meeting to allow time to address the concern of the impact of the proposed telecommunications tower on a bald eagle nest that is located in the area. The applicant has contacted the U. S. Fish & Wildlife Service and has requested an official response from them on this issue.

This is a request for a new 195' monopole telecommunications tower to be located within a 10,000 square foot lease area located on a 91 acre tract. The property includes a mix of pasture land and wooded areas. The subject property is zoned A (Agricultural) and telecommunication towers are considered as a use on review in this district.

The proposed tower site will have access to Graves Rd. by a 30' wide access easement. Grades for the access drive to the tower site will not exceed 15%. A condition has been recommended that the access drive to the site have a minimum width of 18' and any grades over 8 % will require a paved driveway meeting the requirements of the Knox County Department of Engineering and Public Works.

The proposed tower is required to be located 214.5' (110% of the tower height) from the nearest residence. The tower site is located 215 feet from the closest property line and is over 1000 feet to the nearest residence.

The visual impact on nearby residences will be minimal due to the tree coverage on this site and adjoining properties. The applicant will be installing a 6' high security fence surrounding the tower and equipment area. A landscape screen is also being provided around the site.

The tower is designed so it will collapse upon itself in case of a natural disaster or other failure. FAA does not require any lighting for the tower. The tower will support up to 4 telecommunication carrier antenna arrays. U. S. Cellular Corporation will be the principal client for the tower. A letter has been submitted stating that U. S. Cellular Corporation agrees to make this facility available to other wireless providers for co-location. There are no other towers within one mile of the proposed tower that could provide the coverage needed by the applicant.

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 195' 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 utilities are available to serve this site.
2. The tower, being located within a low density residential area, is required to be screened. A landscaped screen will be provided around the tower site, the impact on nearby residences will be minimal.

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

1. The proposed commercial telecommunications tower at this location meets the standards required in the A 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 and East County Sector Plan. The use is in harmony with the general purpose and intent of the Zoning Ordinance. Since this is a heavily wooded area, 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**

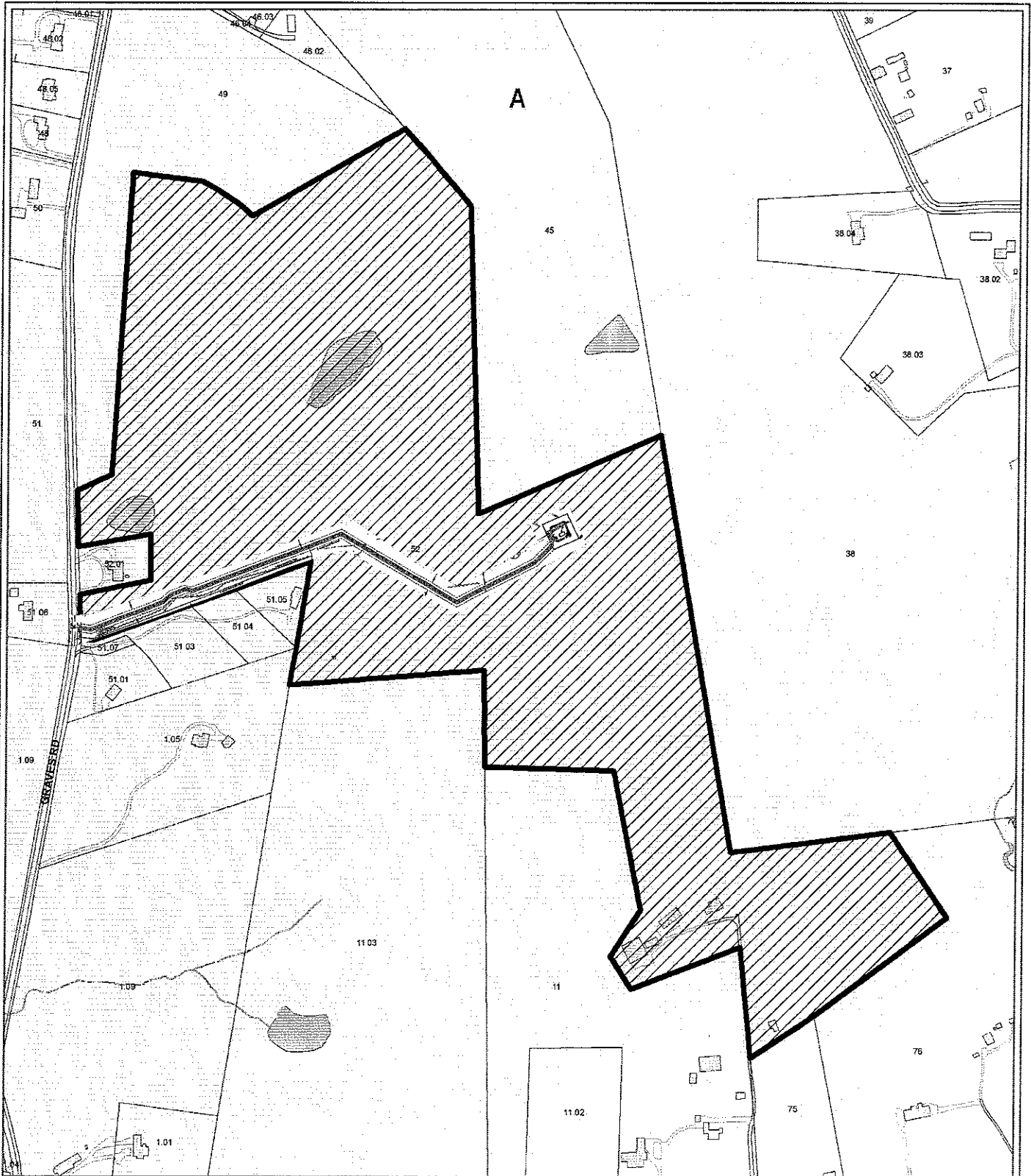
1. The East County Sector Plan proposes low density residential uses for this area. The proposed development is consistent with this land designation.
2. The Wireless Communications Facility Plan identifies the proposed 195' monopole as a "tall" monopole.

Under the guidelines for Tower Placement section of the Facility Plan, the proposed tower falls within the "Opportunity Area" category which takes a neutral position on tall monopoles located in pasture areas and rural/heavily wooded areas. This site is in an area that has a mix of pasture and heavily wooded areas.  
3. The site is located within the Planned Growth 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 Knox County Board of Zoning Appeals. The date of the Knox County Board of Zoning Appeals hearing will depend on when the appeal application is filed. Appellants have 30 days to appeal an MPC decision in the County.



**6-I-09-UR  
USE ON REVIEW**

Petitioner: U. S. Cellular Corporation



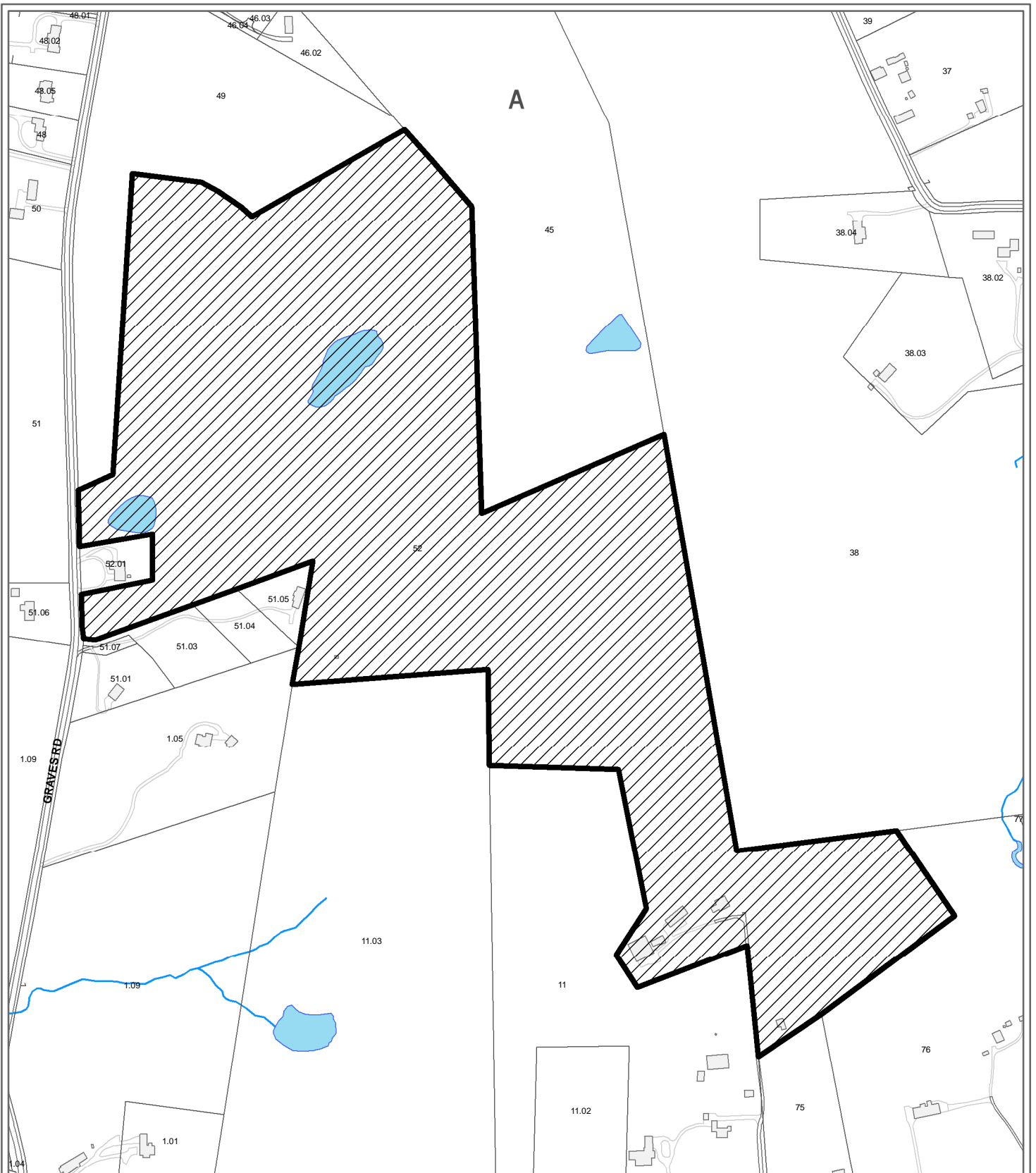
195' monopole telecommunications tower in A (Agricultural)

Map No: 52

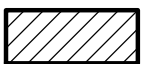
Jurisdiction: County

Original Print Date: 5/20/2009 Revised:  
Metropolitan Planning Commission \* City / County Building \* Knoxville, TN 37902





**6-I-09-UR  
USE ON REVIEW**



195' monopole telecommunications tower in A (Agricultural)

Original Print Date: 5/20/2009  
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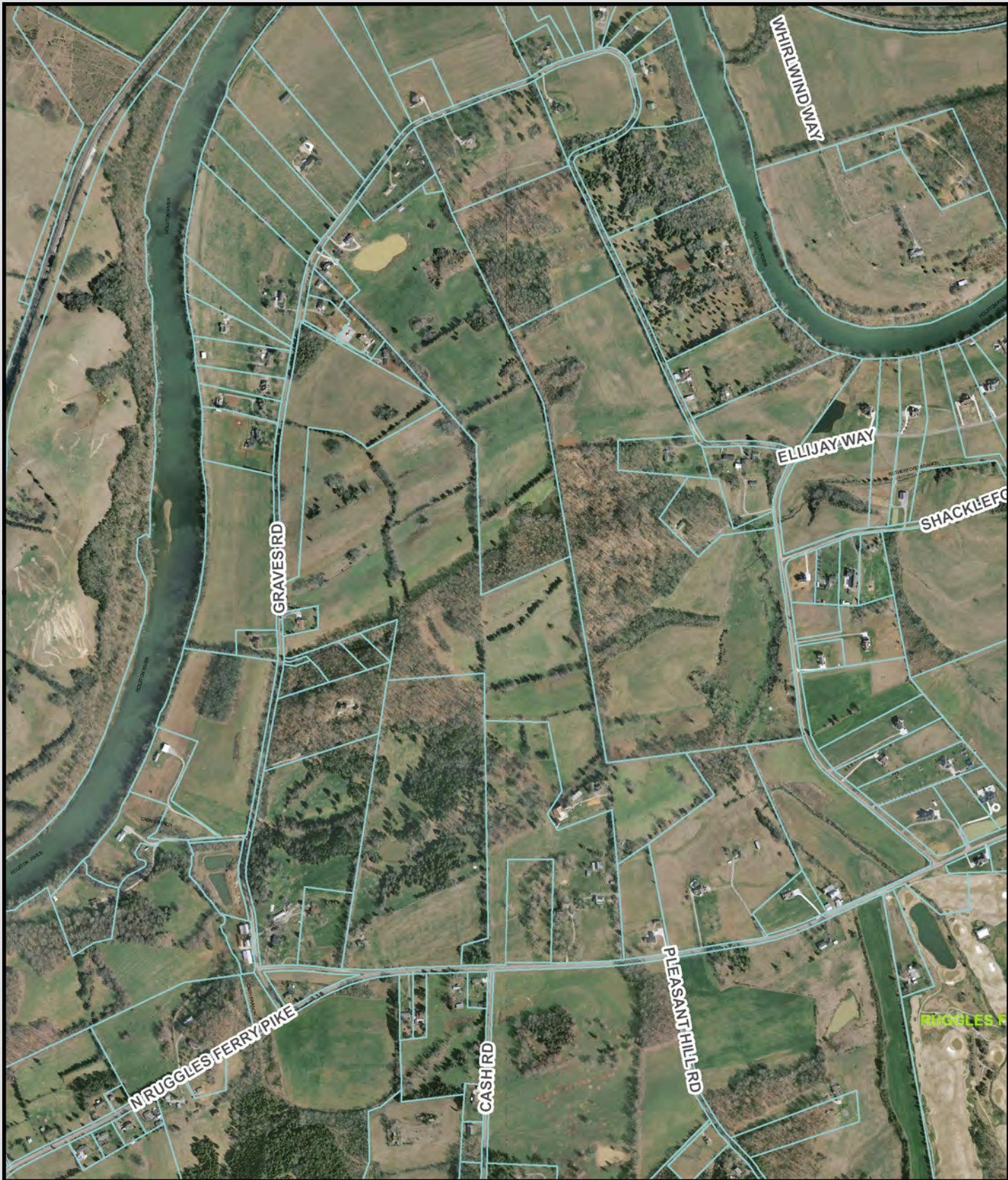
Revised:

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6-1-09-UR

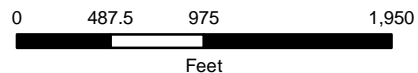
Aerial Photo 2008

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**Knoxville - Knox County - KUB Geographic Information System**



Printed: June 8, 2009



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**US CELLULAR**

**Telecommunications Tower Site Review**

**USE ON REVIEW APPLICATION # 6-I-09-UR**

**CONSULTANT'S SUMMARY**

**4 Way Inn Site**

**Knoxville City**

**Location:** 880 Graves Road (East Knox County near Ruggles Ferry Road)

**Proposed Tower Height:** 195 foot Monopole

**Address:** 880 Graves Road  
Knoxville, Tennessee

**District:** # 8 County **Map Number:** 052 **Parcel** 052

**Use:** Telecommunications antenna support structure

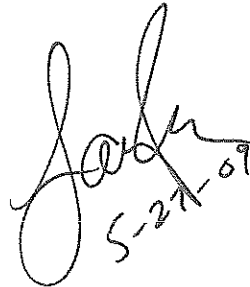
**Zoning:** A (Agricultural)

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

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

**Instant Proposal:** Construct a 195 foot monopole type support structure.

**Consultant's Recommendation:** The site and application meets the requirements of the Ordinance and the spirit of the Facilities Plan. However, before issuing a building permit, I would recommend that the Knox County Engineering Department assess the access easement width of 30 feet. A Satellite Photo of the site is attached.



John  
5-27-09

**REPORT TO  
METROPOLITAN PLANNING COMMISSION**

for

Proposed Telecommunications Tower Site  
Located at 880 Graves Road  
Knoxville, TN known as

**4 WAY INN SITE**

**US CELLULAR**

**UOR 6-I-09-UR**

**COMPLIANCE WITH**

**THE MPC TELECOMMUNICATIONS FACILITY ORDINANCE**

5/27/2009

The proposed site for the applicant is a 195 foot monopole antenna support structure (including antennas and lightning rod) to be located just north of Ruggles Ferry Road in East Knoxville. 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. This site is known as a fill site (explained in the report).

**REQUESTED**

1. **Location.** The location is within the **County** of Knox in **District 8** and is located on **Tax Map Number 052 Parcel 052**

2. **Zoning.** A (Agricultural)

3. **Tower height.** The requested height is 195 feet above ground level will support up to 3 additional telecommunications carrier antennas for a total of 4 users. Lighting will not be required on this structure.

4. **Variiances.** The set back requirements in Article 4.92 of the Ordinance for Knox County for "A" sites requires that the structure be set back a minimum distance of 110% of the structure height or in this case 215 feet from the nearest property line. The proposed site meets that requirement and no variances are required.



5. **Site.** This application is for the construction of a new monopole type antenna support structure to be located in a partially wooded parcel and is on a ridgetop overlooking Graves Road.

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 is 3 possible additional telecommunications users for the facility.

7. **Setbacks.** The setback requirements are that the facility must be 110% height of the tower from any dwelling unit/property line. The applicant meets that requirement and no variances are required.

8. **Height.** The proposed structure is for 195 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 October 1, 2004)

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 968 feet. It is located in a field surrounded on three sides by heavily wooded timberland.

The request is for a 195 foot monopole of which US Cellular will use the top 15 feet and the additional usable lower 55 feet is for other carriers' expansion.

This a "fill" site. By that is meant that the coverage is inadequate in the area at the present from present facilities in the area and that the site is to be used as primary signal coverage to "fill in" a hole in the present coverage.

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 agricultural and is near heavy woods. The site would be screened from any area roads by the woods.

It is located in an A zoned area.

I have a concern about the access easement into the site in that it is proposed to be 30 feet wide, I assume for the use of buried utilities that are to run along side the 12 foot gravel roadway. I recommend the Knox County Engineering Department review the access easement for compliance with their planning projections. The grade rise of the proposed road is from 884 feet to 968 feet , or about 80 feet rise, over an approximate 1600 foot length.

## **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 (195 feet) coupled with no lighting requirements and located near wooded land and in an agricultural field pretty much away from any residences or other structures. This structure should have no or minimal impact on the view in the area.

(2) **Land Use Compatibility**---The proposed site is on a ridge in a wooded field. The structure and associated building/facilities would be compatible with the local land use and the surrounding area is wooded to the south, north and west. 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 Agricultural (A). It is unlikely to become a blighting influence on the surrounding area due to the remote location. The site is in an opportunity Area in that it is in an Agricultural pasture surrounded by woods.

(B) **Sensitive Areas**---This site is not in a sensitive area as it is isolated and surrounded by woods and not near any residential homes.

(C) **Avoidance Areas**---This location is not in an avoidance area although on a slight ridgetop but the surround area is rolling hills.

## **SUMMARY**

(1) The proposed antenna support structure is a 195 foot monopole including antennas. There are no lighting requests for this structure nor are any 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 three other potential users in the future.

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

(4) The area surrounding the site is slightly wooded and zoned Agricultural. There are no residences within 500 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 4.92 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 wooded vegetation that is presently existing. Should additional landscaping be required, the applicant is agreeable to providing same.

(7) The applicant has received authorization from the various governmental agencies, including the Federal Communications Commission, 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.

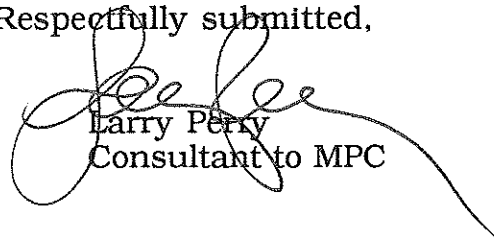
(14) There is a need for the structure in this area to provide for the wide spectrum wireless internet service and for other wireless voice and data services to be provided under government regulation by the various proposed carriers who plan to use the site.

(15) **Access road concern.** I have a concern about the width proposed access easement of 30 feet. There is no problem for the present, but the County Engineering Department should look at the plan to be sure it will not impact future expansion in the area.

#### **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 County of Knox. However, before issuing a building permit, I would **HIGHLY** Recommend that the Knox Engineering Department assess the requested access easement.

Respectfully submitted,



Larry Perry  
Consultant to MPC

**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

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

**U.S. CELLULAR**  
**RAW LAND**  
**4 WAY INN**  
**223484**  
 195' MONOPOLE TOWER  
 TELECOMMUNICATIONS TOWER  
 WITH MULTIPLE CARRIERS

**SITE NAME**  
 4 WAY INN

**SITE NUMBER**  
 223484

**SITE ADDRESS**  
 880 GRAVES ROAD  
 STRAWBERRY PLAINS, TN 37871

**SITE OWNER**  
 U.S. CELLULAR CORPORATION  
 9731 COGDILL ROAD, SUITE 200  
 KNOXVILLE, TN 37932

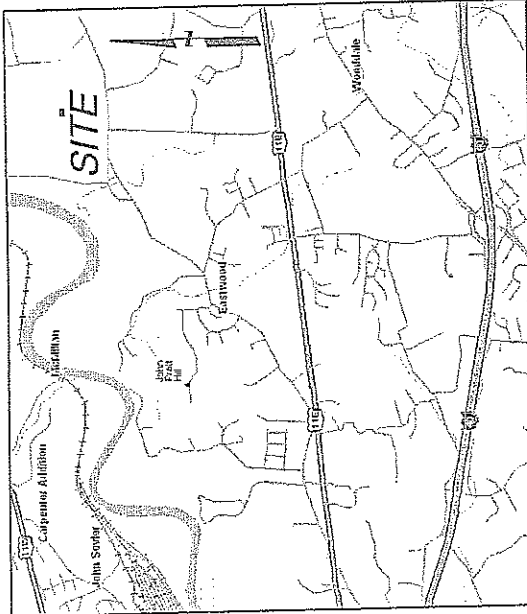
**APPLICANT**  
 U.S. CELLULAR CORPORATION  
 9731 COGDILL ROAD, SUITE 200  
 KNOXVILLE, TN 37932 M (865) 216-8278  
 O (865) 777-7039  
 F (865) 777-7012

**ZONING**  
 A AREA OF LEASE  
 12,000 SQ. FT.

**PARCEL NUMBER(S)**  
 TAX MAP 052, PARCEL 052  
 DB 1543, PG 770 - 771 (KNOX COUNTY)

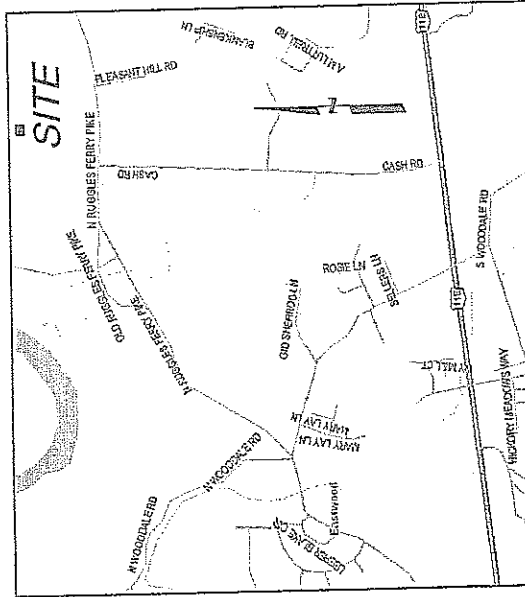
**U.S. Cellular**  
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 KNOXVILLE, TN 37932  
 (865) 777-7039

**BW.S.C.**  
 BARGE  
 WAGGONER  
 SUMNER  
 &  
 GANNON  
 ARCHITECTS AND SURVEYORS  
 LANDSCAPE ARCHITECTS AND PLANNERS  
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REGIONAL MAP  
 ©2004 DELORME STREET ATLAS USA

SCALE: NTS



VICINITY MAP  
 ©2004 DELORME STREET ATLAS USA

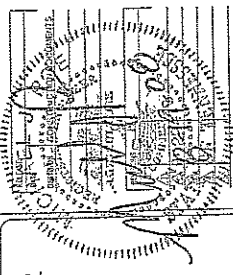
SCALE: NTS

**DIRECTIONS TO SITE**  
 FROM I-40 INTERSECTION WITH PELLISSIER PARKWAY IN WEST KNOXVILLE,  
 TRAVEL 1.40 MILES EAST AND TRAVEL 0.3 MILES AND EXIT RIGHT ONTO I-640 EAST.  
 TRAVEL 10.8 MILES TO EXIT LEFT ONTO 1-40 EAST AND TRAVEL 1.0 MILE AND  
 EXIT 2394 TO LEFT TURN ONTO ASHVILLE HWY/US-11 E/US-25 W/US-70 E/TN-9 N.  
 TRAVEL 2.8 MILES TO LEFT TURN AND AN IMMEDIATE RIGHT TURN ONTO  
 RUGGLES FERRY PIKE. TRAVEL 1.1 MILES TO CONTINUE STRAIGHT ONTO N.  
 RUGGLES FERRY PIKE. TRAVEL 0.9 MILES TO LEFT TURN ONTO GRAVES ROAD.  
 TRAVEL 0.7 MILES TO THE SITE AT 908 GRAVES ROAD.

FILE NO. 33477-69  
 DATE: AUGUST 18, 2008  
 10133 SHERILL BLVD., SUITE 200  
 KNOXVILLE, TENNESSEE 37932  
 PH: (865) 637-2810

**BARGE  
 WAGGONER  
 SUMNER &  
 GANNON, INC.**  
 ENGINEERS ARCHITECTS PLANNERS  
 LANDSCAPE ARCHITECTS AND SURVEYORS

**BW.S.C.**  
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DESIGNED BY: DAS  
 CHECKED BY: MJP  
 PREPARED BY: MJP

**SHEET NAME**  
 U.S. CELLULAR  
 4 WAY INN

**SHEET NUMBER**  
 223484

**SITE ADDRESS**  
 GRAVES ROAD  
 STRAWBERRY PLAINS,  
 TENNESSEE 37871

**SHEET TITLE**  
 SITE SHEET

**SITE INFORMATION**  
 PROJECT # 33477-69  
 SHEET NUMBER

**SHEET NUMBER**  
 030.01

**PAGE SCALE:**  
 1:1

**SITE SUMMARY**

**SHEET NUMBER** 030.01

**DESCRIPTION** SITE INFORMATION

**SITE NOTES**

030.02 GENERAL NOTES  
 030.03 SITE WORK NOTES

**SURVEY PLANS**

1 OF 3 SITE SURVEY  
 2 OF 3 SITE SURVEY  
 3 OF 3 LEGAL DESCRIPTIONS

**SITE PLANS**

02.00 ACCESS PLAN  
 02.01 DETAILED SITE PLAN  
 02.02 TOWER ELEVATION &  
 PLATFORM DETAIL  
 03.01 GRADING PLAN  
 07.01 SITE WORK DETAILS  
 07.02 SITE WORK DETAILS  
 07.03 SITE WORK DETAILS

**ELECTRICAL PLANS**

E1.01 UTILITIES PLAN  
 E1.10 ELECTRIC SPECIFICATIONS  
 E2.01 GROUNDING PLAN  
 E2.10 GROUNDING NOTES  
 E7.01 ELECTRICAL DETAILS  
 E7.02 ELECTRICAL NOTES  
 E7.03 ELECTRICAL DETAILS  
 E7.04 ELECTRICAL DETAILS

**SHEET INDEX**

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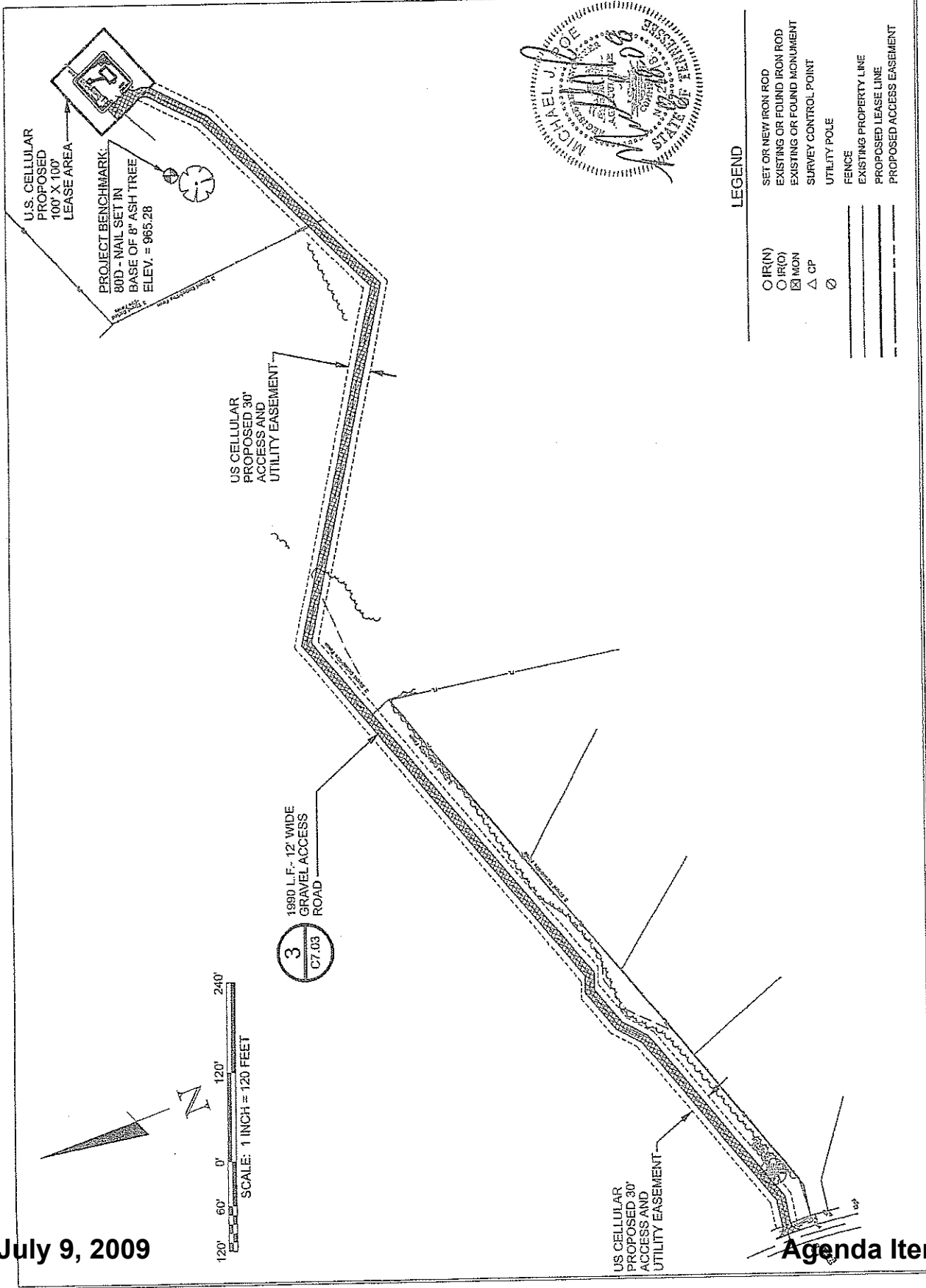
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DATE	DESCRIPTION

NO.	DATE	DESCRIPTION

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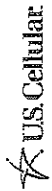
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 CHECKED BY: MJP  
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 4 WAY INN  
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 SITE ADDRESS: GRAVES ROAD  
 STRAWBERRY PLAINS,  
 TENNESSEE 37871  
 SHEET TITLE: ACCESS PLAN  
 PROJECT #: 39477-69  
 SHEET NUMBER: C0.10  
 PLOT SCALE: 1" = 1'



MPC July 9, 2009

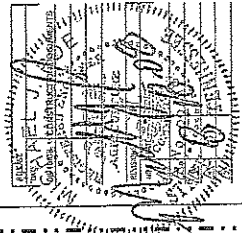
Agenda Item # 44





9731 COGRILL ROAD  
KNOXVILLE, TN 37932  
(605) 777-0389

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BARGE WAGNER  
DUNN &  
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LANDSCAPE ARCHITECTS AND PLANNERS  
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PROJ. NO.: NJP

SITE NAME:  
U.S. CELLULAR  
4 WAY INN

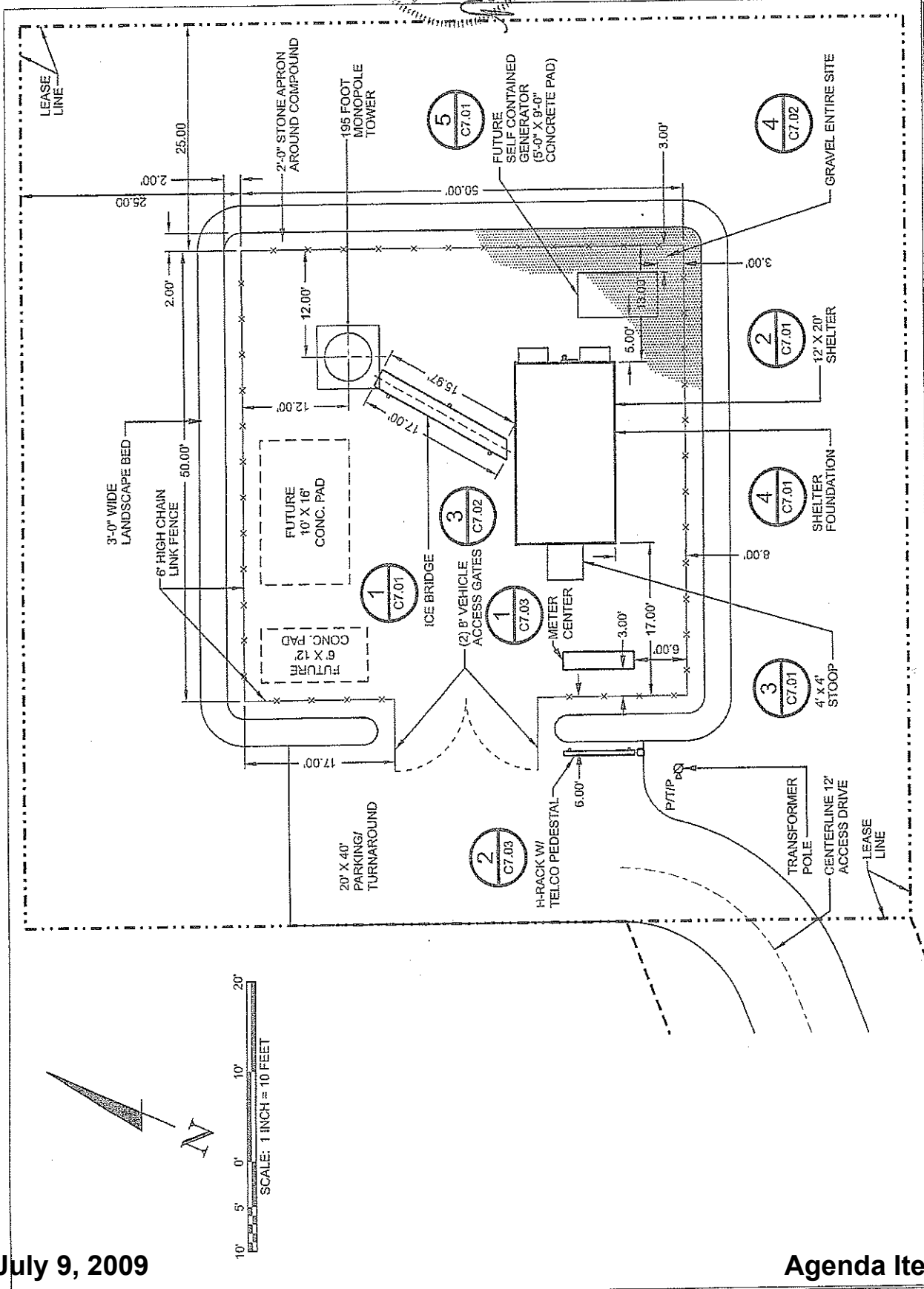
SHEET NUMBER:  
223484

SITE ADDRESS:  
GRAVES ROAD  
STRAWBERRY PLAINS,  
TENNESSEE 37871

SHEET TITLE:  
SITE PLAN

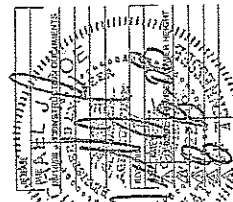
PROJECT #: 39477-69  
SHEET NUMBER:  
C1.01

PLOT SCALE:  
1" = 1'

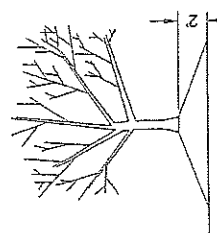
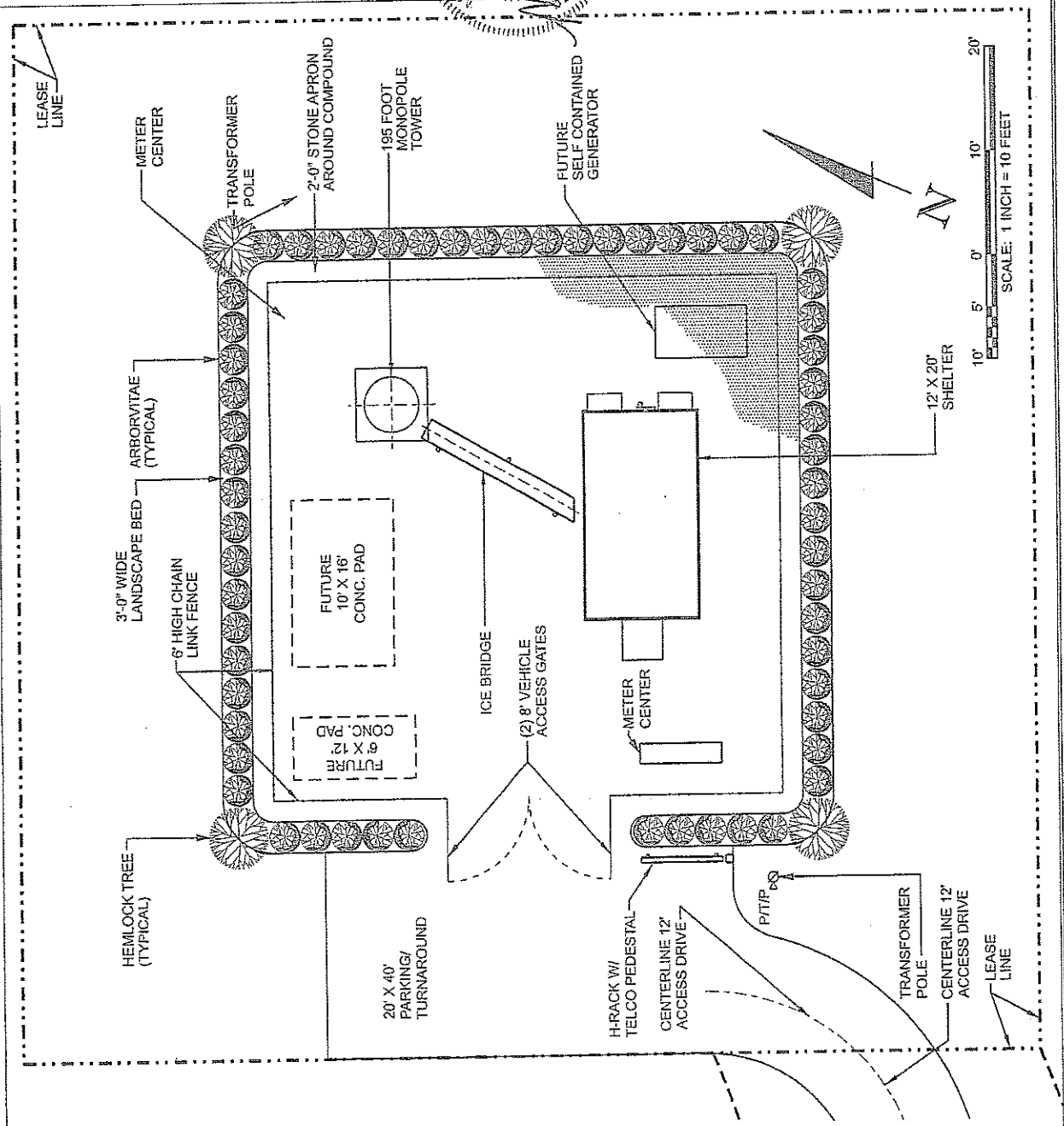


**U.S. Cellular**  
 0781 COGDILL ROAD  
 KNOXVILLE, TN 37932  
 (865)777-7030

**BW.S.C.**  
 BARGE  
 WARDNER  
 DUNNEN & P  
 LANDSCAPE ARCHITECTS AND SURVEYORS  
 10133 SHERILL BLVD., SUITE 200  
 KNOXVILLE, TENNESSEE 37932



OWNED BY: DAS  
 CHECKED BY: NLP  
 PREP. BY: NLP  
 DATE: 08/04/09  
 U.S. CELLULAR  
 4 WAY INN  
 223484  
 SITE ADDRESS:  
 GRAVES ROAD  
 STRAWBERRY PLAINS,  
 TENNESSEE 37871  
 SHEET TITLE:  
 LANDSCAPE  
 PLAN  
 PROJECT # 33477-69  
 SCALE: 1/4" = 10'-0"  
 1.1  
 1.1



**ELEVATION OF TREE BLEM**  
 NO SCALE

- NOTES:**
1. THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO PROTECT EXISTING VEGETATION.
  2. IF SELECTED TRIMMING OF THE EXISTING TREES IS NECESSARY A "CERTIFIED TREE SURGEON" SHALL BE USED TO TRIM EXISTING FOLIAGE.
  3. INSTALL STAKES FOR TREE SUPPORT (3 EACH).
  4. INSTALL A 10 FOOT WIDE BY 2 FOOT HIGH LANDSCAPE BED GATE. PLACE PINE BARK MULCH ON LANDSCAPE BED. MULCH SHALL BE 4" THICK.
  5. CONTRACTOR IS RESPONSIBLE FOR PROVIDING A 12 MONTH WARRANTY.
  6. TREES OR SHRUBS MUST BE CAPABLE OF FORMING A CONTINUOUS HEDGE AT LEAST FIVE FEET IN HEIGHT AND SCREENING THE BASE OF THE TOWER FROM PUBLIC VIEW WITHIN TWO YEARS OF PLANTING AND SHALL BE PLANTED AND MAINTAINED IN HEALTHY CONDITION.
  7. U.S. CELLULAR IS RESPONSIBLE FOR LONG TERM MAINTENANCE OF THE LANDSCAPING.

LANDSCAPE PLANTS		
SPECIES	SIZE	NUMBER
ARBORVITAE	5 GALLON	NINETY FOUR
HEMLOCK TREE	5 FEET TALL	FOUR

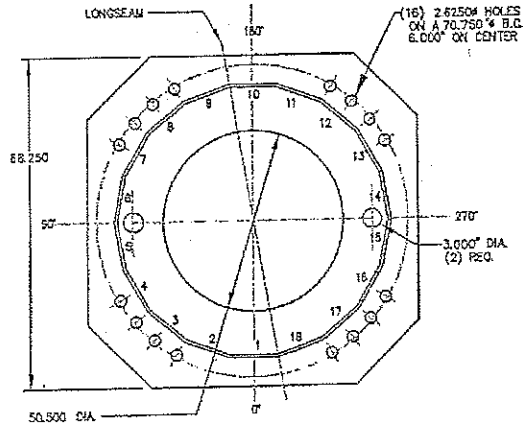
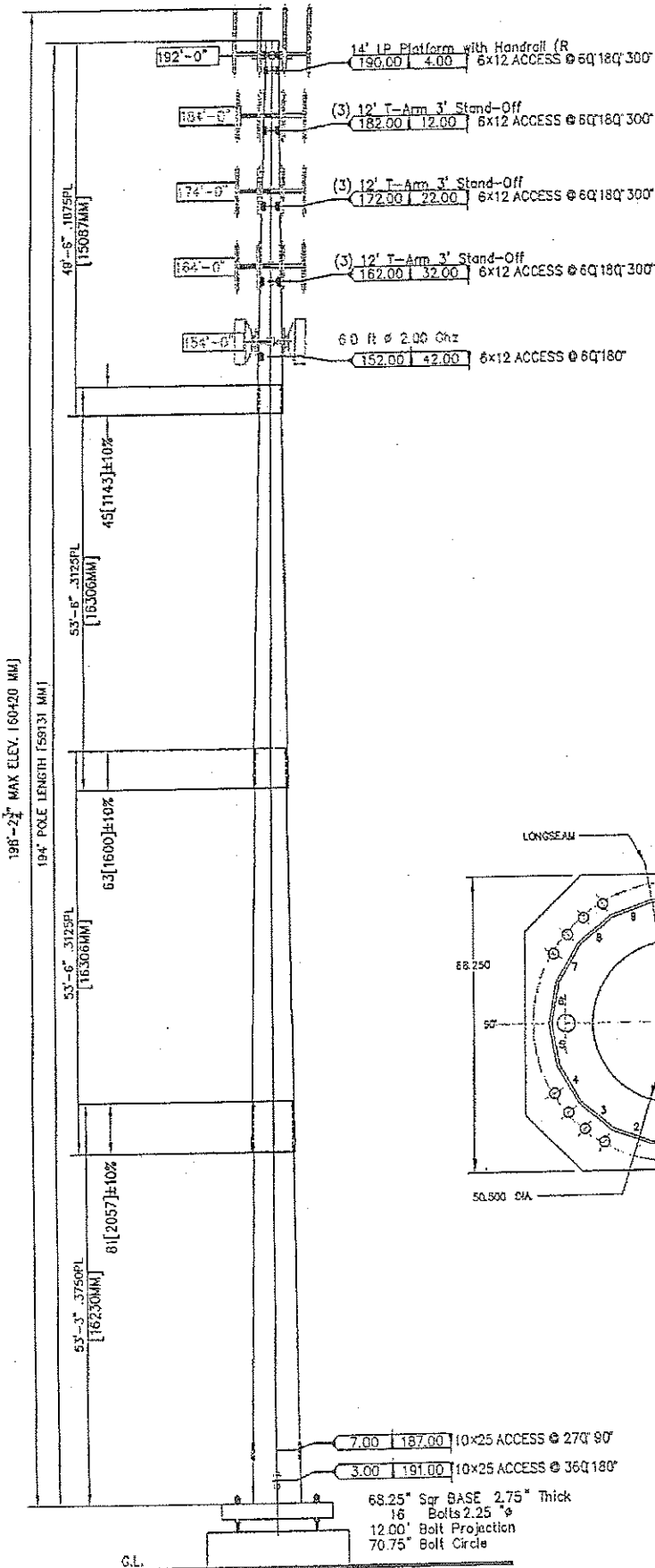
POLE SPECIFICATIONS	
POLE HEIGHT	194.00 FEET
TAPER	2500 IN/FT
POLE SHAPE	18 SIDED POLYGON
ORIENTATION	FLAT-FLAT

Lev	Qty	Elev	Future	DESCRIPTION
1	1	192.00		14' LP Platform with Handrail (R)
12	1	194.00		AP15-850/090
2	3	184.00	F	12' T-Arm 3' Stand-Off
12	3	184.00	F	6' X 1' X 3"
3	3	174.00	F	12' T-Arm 3' Stand-Off
12	3	174.00	F	6' X 1' X 3"
4	3	164.00	F	12' T-Arm 3' Stand-Off
12	3	164.00	F	6' X 1' X 3"
5	2	154.00	F	Pipe Mount (up to 6' Dish)
2	154.00	F		HP 6' MICROWAVE 2.00 Ghz

Load Case	DESCRIPTION	Wind (mph)	OLF	Red. Vert	Ice	Factors Gust	Wind Cf	Wind (psf)
1)	Max Wind	70.0	1.00			1.69	65	21.2
2)	Max Wind Load x.75	60.6	1.00		50	1.69	65	15.9
3)	Everyday Operating	50.0	1.00			1.69	65	10.8

Load Case	DESCRIPTION	Res Axial (kips)	Base Shear (kips)	React Mom (ft-k)	Disp DEFL (ft)	@Top SWAY (deg)
1)	Max Wind	46.9	25.8	3780	13.8	8.81
2)	Max Wind Load x.75	55.0	20.7	3126	11.6	7.47
3)	Everyday Operating	46.4	13.2	1937	7.1	4.52

- 1) FULL HEIGHT STEP BOLTS
- 2) ANTENNA FEED LINES RUN INSIDE POLE
- 3) THE MONOPOLE WAS DESIGNED IN ACCORDANCE WITH EIA/TIA-222-F



ESTIMATED STRUCTURE WEIGHT= 36.6 Kips

**US CELLULAR**

Hardin Valley, TN  
223437

195 00 MONOPOLE

**Sabre**  
Communications Corporation

CONFIDENTIAL  
Information contained herein is the sole property of Sabre Communications Corporation, constitutes a trade secret, as defined by Iowa Code Ch. 542 and shall not be reproduced, copied or used in whole or in part for any purpose whatsoever without prior written consent of Sabre Communications Corporation.

00-00000

DATE 30oct07

DRAWN BY -

CHECKED BY TRC

SIZE A

REFERENCE DRAWING

DRAWING NO. 08-4005-PE

SCALE N.T.S.

REV -

PAGE 1

**KRAMER RAYSON LLP**  
ATTORNEYS AT LAW

POST OFFICE BOX 629  
KNOXVILLE, TENNESSEE 37901-0629

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KNOXVILLE, TENNESSEE 37929  
TELEPHONE 865 525-5134  
TELECOPIER 865 522-5723

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

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

May 4, 2009

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

6-I-09-UR  
5-4-09

Re: U.S. Cellular Corporation  
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 June 11, 2009 Metropolitan Planning Commission meeting. Such Use-On-Review Application requests approval for a proposed cellular communications monopole to be located on property owned by Lloyd D. Randolph, Jr. and wife, Shirley Ann Randolph, at 908 Graves Road in Knox County, 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 the property owners, Lloyd D. Randolph, Jr. and Shirley Ann Randolph.
2. Information Summary and Table of Contents.
3. Ten (10) copies of the Development Plan with Exhibits 1 through 14 attached.
4. USCC's check in the amount of Three Thousand One Hundred Dollars (\$3,100.00), made payable to the Metropolitan Planning Commission. This check represents payment of (i) \$1,600.00, which amount is double the usual \$800.00 fee for filing a Use-on-Review Application for a site in an agricultural zone that is larger than one (1) acre, 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 property owned by Lloyd D. Randolph, Jr. and Shirley Ann Randolph at 908 Graves Road in Knox County, Tennessee. USCC has entered into a lease with the property owner for the proposed site.

USCC recognizes that pursuant to Article 4.92.02(1)(f) of the Knox County 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 195 foot monopole structure. 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 4.92.02(1)(a) of the Knox County Zoning Ordinance, the monopole will be constructed to support at least three (3) 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 to fill a radio frequency coverage gap experienced by USCC along Asheville Highway, Andrew Johnson Highway, Rutledge Pike, Ruggles Ferry Pike, Pleasant Hill Road, Graves Road and other areas in the vicinity, and to address capacity issues on existing USCC sites. Moreover, signal hand-offs between USCC's existing sites surrounding this area are impeded because of terrain blocking and because of capacity constraints.

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 2, no existing towers or other suitable structures are located within a one-mile search ring.

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

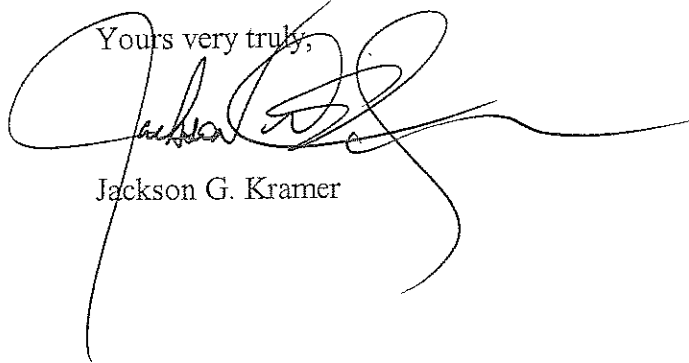
This proposed monopole is also consistent with the Goals, Objectives and Policies of the Wireless Communications Facilities Plan ("Plan") adopted by the Metropolitan Planning Commission in September, 2002. The proposed site is agriculturally zoned and is located a significant distance away from Graves Road. The Plan states that "one of the most effective screening techniques involves locating towers among stands of mature trees so that the base and a large part of the tower will be hidden from view." As shown by the photographs of the proposed site attached as Collective Exhibit 12, a wooded area is located between Graves Road and the

proposed site, and the base of the tower will not be visible from Graves Road, thereby screening a significant part of the monopole from passersby. The proposed monopole will be located below the ridge line. As identified on Exhibit 7 to the Plan (see Land Use/Wireless Facilities Matrix), the proposed monopole is in an area that is identified on such Matrix as "neutral" because the site is located in a rural/wooded area with adjacent pasture land, and is located below the ridge line.

In addition, the proposed monopole meets the Plan's objective of being separated from any nearby residents by a distance of at least one hundred ten percent (110%) of the tower height (in this instance, two hundred fourteen and one-half (214.5) feet). As shown by Sheet 3 of the Survey attached as part of Exhibit 1 to the Application, no residential structures are located within two hundred fourteen and one-half (214.5) feet of the proposed site. The closest residence to this site is located approximately one thousand (1,000) feet from the proposed site and is located within a heavily wooded area. Thus, such residence is shielded from the proposed site by an existing stand of trees that will remain in place.

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. The signature is stylized and cursive.

Jackson G. Kramer

JGK/tsg  
Enclosures

INFORMATION SUMMARY AND TABLE OF CONTENTS

USE ON REVIEW APPLICATION FOR

U. S. CELLULAR'S FOUR WAY INN SITE NUMBER 223484

1. Site Plan - Construction Drawings, attached as Exhibit 1
2. No Towers Registered with the FCC as Telecommunications Towers were found on the FCC data base within a one-mile search ring (See Exhibit 2). FCC Data Base results of search ring are attached as Exhibit 3.
3. & 4. 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

5. Basic Tower Information:
  - (a) U. S. Cellular Corporation ("USCC") proposes a monopole to be manufactured by Sabre Communications Corporation. The pole will be located on property owned by Lloyd D. Randolph, Jr. and wife, Shirley Ann Randolph, at 908 Graves Road in 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 ninety-five (195) feet in height.
  - (c) Since the monopole will be less than 200 feet in height, no FAA lighting will be necessary.
  - (d) The Sabre Communications Corporation specifications for an almost identical monopole are provided in Exhibit 4. The monopole is designed and will be constructed to permit co-location for at least three additional carriers.
  - (e) The leasehold area is one hundred (100) feet by one hundred (100) feet. An area fifty (50) feet by fifty (50) feet 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. C1.01. The monopole and all ancillary equipment will be located within this fenced compound.

6. 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)

7. Zoning Map:

Proposed site is zoned A. Site zoning and zoning of adjacent parcels are shown on 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.

8. Coverage Map without proposed site - Exhibit 8
9. Coverage Map with proposed site - Exhibit 9
10. Proposed landscaping – Landscape Plan, Page L1.01 of Construction Drawings
11. Technical Justifications Narrative - Exhibit 10
12. Variances or Waivers from Ordinance - Exhibit 11
13. Photographs of proposed site – Collective Exhibit 12
14. Safety Statements - Exhibit 13
15. Photosimulation of monopole on proposed site - Exhibit 14



**TECHNICAL JUSTIFICATION FOR PROPOSED  
4-WAY-IN CELLSITE 232-484**

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

**Proposal:** Build a digital only CDMA 2000 cellular telephone communications monopole at 908 Graves Road, Strawberry Plains, Knox County, Tennessee on approximately 91 acres of property owned and occupied by Lloyd D. Randolph, Jr. and wife, Shirley Ann Randolph.

**Tower:** U.S. Cellular Corporation ("USCC") proposes to construct a 195 ft. above ground level monopole structure. The proposed site is at 968 feet AMSL per the mandatory 2C survey. Because the height of the tower is less than 200 feet above ground level, it will require no lighting pursuant to FAA regulations.

**RF Justification:** USCC proposes to build this facility in this area to fill in radio frequency coverage gaps as well as strengthen coverage in the areas of Asheville Highway (Hwy-70), Andrew Johnson Highway (Hwy-11), Rutledge Pike (Hwy-11W), Ruggles Ferry Pike, Pleasant Hill Road, Cash Road, Graves Road, and other areas in the vicinity. This facility will also augment existing coverage, provide additional capacity, and reduce access failures and dropped calls on existing USCC sites in the area in question.

USCC's existing Clift Lane and I-40 cell sites and the Joey's Gap repeater site are located a significant distance away from the coverage gaps and thus are not able to provide adequate service. USCC's Chilhowee and Prison Farm sites are terrain blocked from the areas of proposed coverage improvements. In an attempt to address customer requests for better service around the Asheville Highway, Rutledge Pike, Andrew Johnson Highway, and Ruggles Ferry Pike areas, USCC is proposing this tower at this specific location to improve the coverage in this major junction. This poor coverage, as shown by the weak signal in USCC's coverage map, can be efficiently corrected by a full cell site at this proposed location. Otherwise, the alternative will be to build several cell sites to fill the same coverage gaps.

**Collocation:** The alternatives of collocating USCC's equipment and antennas 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. There were no towers found within one mile of the proposed cell site. There is one tower outside of the one mile radius that is located south of the intersection of Asheville Highway and Andrew Johnson Highway, but co-locating on such tower will not solve USCC's coverage issues. Such tower is located in an area where USCC already has adequate coverage and will not address USCC's coverage issues in the Rutledge Pike area. Further, co-locating on such tower will not provide significant improvements in the Ruggles Ferry Pike area because of terrain and distance issues. Therefore, the Graves Road location is the ideal placement for this proposed tower that will help meet USCC's coverage needs.



May 1, 2009

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

**Re: U.S. Cellular Corporation  
Proposed Four Way Inn Site**

Dear Sir or Madam:

This letter is written to confirm U. S. Cellular Corporation=s (AUSCC@) commitment to shared use of its proposed cellular communications monopole site on Graves Road in Knox County, Tennessee.

As you are aware, Knox County Zoning Ordinance Article 4.92.02(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 Graves Road be 195 feet in height. As is evident from Exhibit 3 to the Use on Review Application to which this letter is attached, the specifications show that USCC is constructing the tower to accommodate the required three antenna arrays.

Furthermore, please accept this letter as confirmation that pursuant to Knox County Zoning Ordinance Article 4.92.02(1)(b), USCC and its successors are committed to allowing shared use of the tower 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 tower and so long as space on such tower 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,

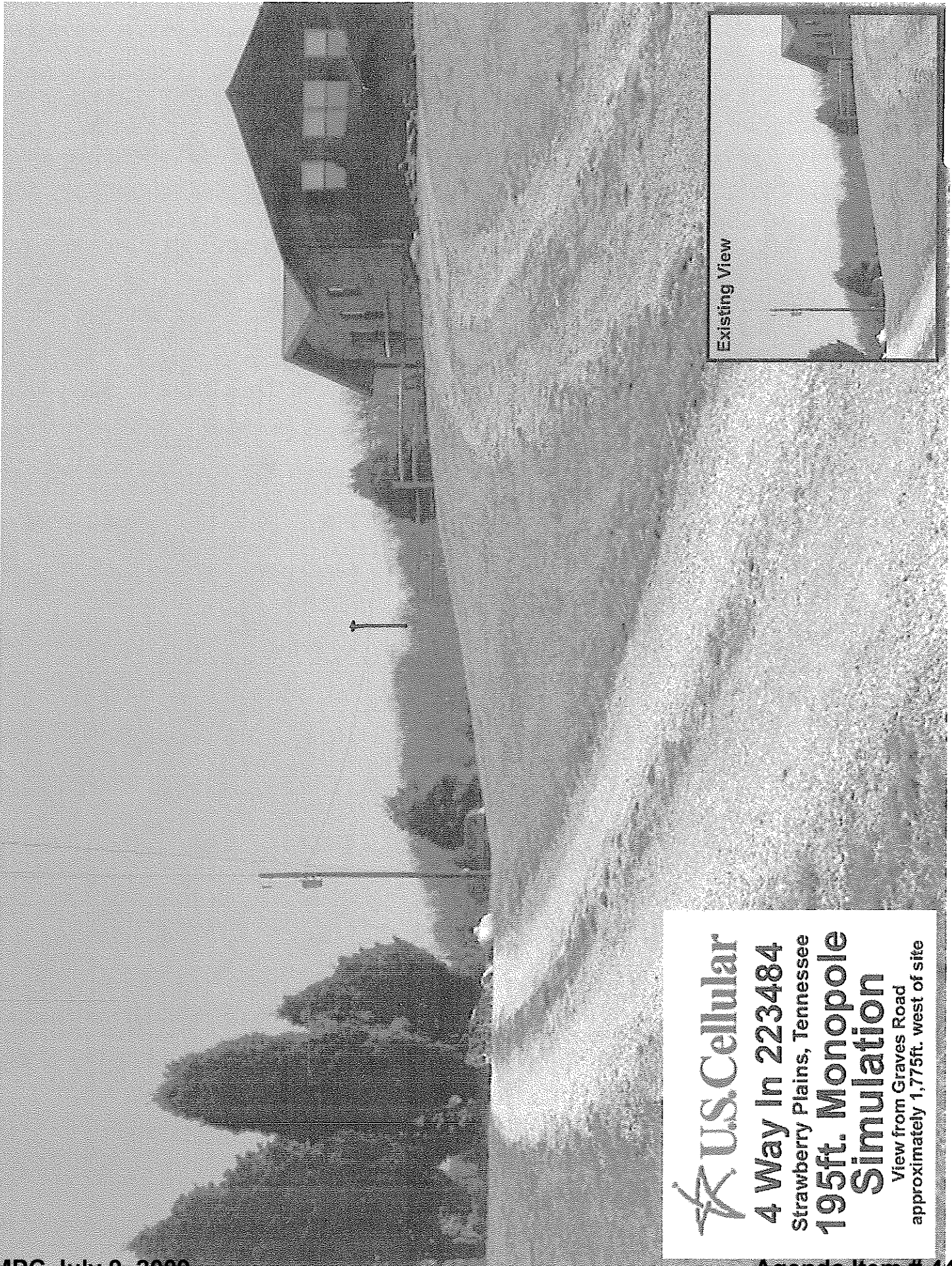
A handwritten signature in black ink, appearing to read "John Locascio".

John Locascio  
Senior Project Manager



**4 Way In 223484**  
Strawberry Plains, Tennessee  
**195ft. Monopole**  
**Simulation**

View from Graves Road  
approximately 1,775ft. west of site



Existing View

