IN RE: PETITIONS FOR SPECIAL HEARING & VARIANCE – W/S Glenbrook Drive, 569' N of the c/l Blenheim Road **(39 Glenbrook Drive)** 10th Election District 3rd Council District	*	BEFORE THE
	*	ZONING COMMISSIONER
	*	OF BALTIMORE COUNTY
	*	Case No. 06-180-SPHA
Benjamin A. Governale, et ux Petitioners	*	

* * * * * * * * * * *

FINDINGS OF FACT AND CONCLUSIONS OF LAW

This matter comes before the Zoning Commissioner for consideration of Petitions for Special Hearing and Variance filed by the owners of the subject property, Benjamin A. Governale, and his wife, Kayren P. Governale. The Petitioners request a special hearing, pursuant to Section 500.7 of the Baltimore County Zoning Regulations (B.C.Z.R.), seeking an interpretation of Section 426.A.E of the B.C.Z.R. and approval of: 1) the configuration, height and location of the existing radio operator antenna, 2) giving full consideration and pre-emptive weight and authority to the Federal Communication Commission (FCC) statutes, rules, regulations, policies and interpretations applicable to the radio operator antenna, its height and location on the subject property. In the alternative, variance relief is requested from Section 426.A.E of the B.C.Z.R. to permit the existing radio operator antenna, in its present configuration and location and at its present height: 1) with an existing height as is determined by the Zoning Commissioner's interpretation of Section 426.A.E as applied to the antenna; or, 2) with a height of 99 feet, each in lieu of 65 feet, which is the horizontal distance from the closest point of the array from the nearest property line above grade level. The subject property and requested relief are more particularly described on the site plan submitted which was accepted into evidence and marked as Petitioner's Exhibit 1.

Appearing at the requisite public hearing in support of the request were Benjamin and Kayren Governale, property owners, Bruce Doak, the Surveyor who prepared the site plan for

this property, and Howard L. Alderman, Jr., Esquire, attorney for the Petitioners. Also appearing were a number of amateur radio operators from the locale, namely H. Arthur Brown, Martin J. Green, Jr., Jack C. Hammett, Jr., John V. Evans, Stanley S. Siuta, James M. Green, and Theodore M. Provenza. Appearing as Protestants in the matter were Anne-Marie Hudak, Jason Hardebeck and Jeffrey L. Peek, Esquire, nearby residents of the area.

Testimony and evidence offered revealed that the subject property is an irregular shaped parcel located on the west side of Glenbrook Drive, north of Blenheim Road in Phoenix, not far from the Jacksonville community in northern Baltimore County. The property contains a gross area of 2.20 acres, more or less, zoned R.C.6, and is improved with a two-story single-family dwelling, known as 39 Glenbrook Drive, and a 99-foot tall radio operator tower/antenna that is the subject of the instant request. The Petitioners also own an adjacent unimproved parcel to the rear of the subject property. That parcel is identified on the site plan as Parcel 280 and contains approximately 1.652 acres in area also zoned R.C.6.

The instant Petitions were filed in response to a complaint registered with the Code Enforcement Division of the Department of Permits and Development Management relative to the "horizontal reach" of the antenna that are located on the tower. Essentially, relief is requested seeking a determination that the subject antenna meets the requirements of Section 426.A.E of the B.C.Z.R. relative to its distance to the property line. A resolution of the violation (Case No. 05-5573) is pending the outcome of the special hearing/variance relief.

Mr. Governale testified relative to his experience as an amateur radio operator, his work history, and the efforts he and his wife put into finding the subject property in furtherance of his hobby. After receiving a Bachelor of Science Degree in electronic engineering, Mr. Governale served in the United States Coast Guard, rising in rank from Radioman to Commander. His entire career continued in the radio transmitting and electronic circuitry field, spending some 32 years with the Black & Decker Corporation, and additional years with Bendix Radio until retirement. Mr. Governale is a member of three amateur radio organizations, and

testified to his involvement with the National Weather Service reporting stations and rescue of small boats that use the emergency frequency Band No. 14312 for distress calls.

Mr. Governale testified that he and his wife, using topographical maps, searched for property that would be positioned for optimal transmitting and receiving radio transmitted communications without interference from other sources. The Glenbrook Road property, which was purchased in 1975, proved to be high in elevation with gentle slopes and the R.C. zone permitted operator towers as a matter of right. Mr. Governale applied for and obtained the requisite building permit to construct a radio operator antenna tower and continued to renew the permit for years. Throughout this period of time, the Petitioner maintained his amateur radio license, including the amateur extra feature (see Petitioner's Exhibit 3), which allows him to operate on any band. Upon his retirement, Mr. Governale constructed the subject 99-foot tall tower, without guy wires (see Petitioner's Exhibit 5). As shown on the site plan, the subject 99-foot tall, three-legged, freestanding, lattice-type metal tower is located in the rear, central portion of the property, 254 feet from the nearest adjacent dwelling.

In this regard, Mr. Bruce Doak testified relative to the setback requirements of Section 426.A.E of the B.C.Z.R. As illustrated on the "tower detail" depicted on Petitioner's Exhibit 1, three radio antennae sit atop the tower structure, extending its total height to 99 feet. Each antenna has a separate or different function. The top two antennae (144 MHz at 95 feet and 432 MHz at 99 feet) extend horizontally 8½ feet from the tower. These two antennae broadcast on VHF and UHF antenna bands, referred to as "line of sight" bands, meaning the signal is attenuated, or reduced, by any obstruction in its path, such as trees or structures. The third antenna is a 91-foot high, 7 MHz antenna with an array that extends outward a distance of 34 feet. It is this antenna that is the source of controversy before me. This high frequency short-wave radio band transmits to the ionosphere and bounces back to earth as opposed to the "line of sight" antenna located above it. This 7 MHz antenna is designed to operate at a height of 140 feet, however, due to the topographical characteristics of the Petitioner's property, operates marginally at 91 feet. If the regulations are interpreted to require that this antenna array be

lowered to a height of 65 feet, its capability would be severely limited, according to Mr. Governale, as signals would no longer interact with the atmosphere and return to earth.

Given this backdrop, the "height" of the radio operator antenna and its "appearance" are the key issues in this case. Messrs. Doak and Governale both relate the height of an antenna and its proximity to the nearest property line to safety considerations. Mr. Peek, Mr. Hardabeck and Ms. Hudak (Protestants) relate the height to its appearance from their respective properties.

BCZR Section 426A.E cannot be read in a vacuum. There are three (3) provisions of Section 426A dealing with measurements. Those provisions are:

BCZR Section 426A.C: The "supporting structure for a radio operator antenna may not be located within 20 feet of any property line." (Emphasis added.)

BCZR Section 426A.D: A "radio operator antenna may not extend closer than the front building line to any street on which the lot fronts." (Emphasis added.)

BCZR Section 426A.E: A "radio operator antenna may not be higher than the lesser of 100 feet or the horizontal distance to the nearest property line above grade level." (Emphasis added.)

Thus, these provisions deal, in reverse order, with the height of the antenna, the extension of the antenna and the distance that the supporting structure is located from any property line. Protestants and, apparently, certain personnel in the Code Enforcement Division of the Department of Permits and Development Management utilize the extension of an antenna in determining its height. They suggest that if, as in the instant case, the horizontal distance from any portion of an antenna to the nearest property line is 65 feet, the maximum height permitted is 65 feet. Thus, Protestants consider the "extension" of an antenna in a horizontal plane as the determining factor in its "height".

To apply BCZR Section 426A as suggested by the Protestants would mean that the frequency in use controls the height of the antenna. A whip antenna -- that is an antenna with no "extension" whatsoever for 'non-directional' VHF frequencies -- mounted at the top of a supporting structure could extend to 100 feet in height above the ground, provided that it was a

minimum of 100 feet from all property lines. Conversely, that same analysis for the Governale 7MHz antenna for VHF/short wave frequencies which, as indicated above, 'extends' outward 34 feet from the supporting structure, would result in a limitation in "height" to 65 feet -- a height that, based on Mr. Governale's undisputed testimony renders communications at these frequencies completely inadequate. Thus, the application of Section 426A suggested by the Protestants would mandate maximum heights for different frequencies, an intent that is neither expressly nor implicitly implied in the law.

The relationship between antenna height and property lines as discussed by the Petitioner complies with the overriding standard of the protection of the health, safety and general welfare of the community outlined throughout the BCZR. The monopole antenna located 99 feet from the property line discussed above is limited to 99 feet in height and will not fall on adjoining property possibly jeopardizing the health and/or safety of neighbors. For a homeowner installation, this provision makes sense and no advanced expertise is necessary to locate a radio operator antenna in a fashion to protect the public safety. Applying the Peek *et al* "extension" analysis to the Governale antenna would result in the 7MHz antenna lowered to 65 vertical feet from the ground. Mr. Governale applied his "high school" geometry and the Pythagorean Theorem with respect to the horizontal extension of the antenna at their present height. Applying that geometric principle to each of the three antenna, Mr. Governale's undisputed testimony was that if the supporting structure were to literally snap at its base and fall to any side, the supporting structure and all antenna would fall on the Governale property and not that of adjoining neighbors. Thus, with respect to the issue of determining height and the welfare and safety of the community, the horizontal "extension" is without meaning.

Prior to the enactment of County Council Bill No. 30-1998, antenna associated with resident amateur radio operations were permitted as of right, provided that if it was a "rigid-structure" antenna, it could be no higher than 100 feet or the horizontal distance to the nearest property line, whichever was less, above the grade level. BCZR Section 1A01.2B.7.g [RC-2], 1A02.2B.31 [RC-3], 1A03.3B.14 [RC-4], and 1A04.2B.21 [RC-5]. This "rigid-structure"

antenna height language restricted radio operator antenna in two ways. The first was a maximum height of 100 feet. The second was that no matter what the actual height of the antenna was, it could not be closer to the nearest property line than its height. If such a rigid structure were to fall, it would fall within the property boundaries.

At the request of the County Council, the Baltimore County Planning Board issued a Final Report, dated November 20, 1997, to the County Council, in response to two Council resolutions regarding potential updates to the BCZR. In that report, the Planning Board made recommendations for both wireless telecommunication antenna and amateur radio antenna. The County Council, in Bill No. 30-1998 adopted the recommendations of the Planning Board into BCZR Sections 426 and 426A [the Board had recommended this as Section 427]. The specific recommendation of the Planning Board with respect to amateur radio antenna was to enact a new section of the BCZR and "provide references to it in all zones where amateur radio antennas are permitted, deleting duplicative text in each zone; this does not change the substance of the current regulations." *Final Report of the Baltimore County Planning Board - Proposed Amendments to the Baltimore County Zoning Regulations Regarding Wireless Telecommunications Facilities;* adopted November 20, 1997; p.8. (Emphasis added.) Thus, the legislative history of what is now BCZR Section 426A is clear that there was no intent to modify, substantively, the prior "rigid antenna" regulations.

It is the height of the antenna that is of prime import in this case. Nowhere in the BCZR is the term "height" defined. Section 101 of the BCZR - Definitions provides that any "word or term not defined in this section shall have the ordinarily accepted definition as set forth in the most recent edition of Webster's Third New International Dictionary of the English Language, Unabridged." In reviewing the "Webster's" definition of height, a variety of definitional phrases are set forth, including but not limited to "the highest part of something material"; "the distance extending from the bottom to the top of something standing upright"; and the "extent of elevation above a level". Clearly, height is not measured horizontally but vertically from the ground upward.

An additional legal factor in this analysis is the interrelationship of and potential preemption by the applicable provisions of federal law and regulation. State and local regulation of an amateur station antenna structure must not preclude amateur service communications. Rather, such regulation must reasonably accommodate such communications and must constitute the minimum practicable regulation to accomplish the state or local authority's legitimate purpose. 47 C.F.R., Section 97.15 The reasonable accommodation of the radio operator by the County is further described in the September, 1985 *Memorandum Opinion and Order in Private Radio Bureau (PRB-1)*, issued by the FCC.

More recently, in its consideration of a Petition for Rulemaking the FCC denied the Petition, holding that its findings articulated in *PRB-1* afforded local governments and zoning authorities ample guidance in regulating amateur radio operators and antennas used by those operators. The FCC found that *"PRB-1*'s guidelines brings to a local zoning board's awareness that the very least regulation necessary for the welfare of the community must be the aim of its regulations so that such regulations will not impinge on the needs of amateur operators to engage in amateur communications." *In the Matter of Modification and Clarification of Policies and Procedures Governing Siting and Maintenance of Amateur Radio Antennas and Support, Structures, and Amendment of Section 97.15 of the Commission's Rules Governing the Amateur Radio Service*, Case No. RM-8763, Para. II.9 (Emphasis added.)

In consideration of the Governale evidence and testimony, it is undisputed that the County's legitimate purpose of protection of health, safety and general welfare -- ensuring that a toppled antenna will remain within the boundaries of the Governale property -- will be achieved whether the 7MHz antenna is 65 or 91 vertical feet above the ground. It is also clear from Petitioner's Exhibit 1 that the extension of the 7MHz antenna at either height does not bring it closer to Glenbrook Drive than the front building line of the subject property.

Aesthetics are not a factor that the County Council sought to include in BCZR Section 426A. According to each Protestant their testimony and objections were based solely on aesthetic considerations without regard to regulation for safety considerations. Mr. Peek testified

that he believes that if the 7 MHz antenna were lowered to 65 vertical feet from the ground it might be shielded from his view by the trees planted by Mr. and Mrs. Governale. The supporting structure for the VHF antenna and the VHF antenna themselves would still be visible from the Peek property. Moreover, if for some reason Mr. & Mrs. Governale decided to remove the trees that they planted, the 7MHz antenna if shielded would again be visible from the Peek property, even if that antenna was located no more than 65 vertical feet from the ground. The position of the Protestants, none of whom are directly adjoining owners, apparently is that the 7MHz antenna required for effective communication by Mr. Governale must be aesthetically more consistent with the views from their respective properties. Clearly, this is a physical impossibility and a result not contemplated by the BCZR, the FCC, or the Courts. See *Evans v. Shore Communications, Inc., et al,* 112 Md. App. 284 (1996) and *AT&T Wireless Services v. Mayor and City Council of Baltimore*, 123 Md. App. 681 (1998) where the Court held that alleged adverse aesthetic effects of an antenna tower did not justify denial of a permit.

Applying a "plain language" reading to the height issue presented, if asked how tall a building was would anyone ask "How wide is the building?" This plain language approach, together with the definition of height incorporated into the BCZR and the legislative history of Section 426A persuade me to enter a finding that the height of a radio operator antenna is measured from the ground/base of the supporting structure to the antenna located furthest away in a vertical plane.

Accordingly, upon due consideration of all of the testimony and evidence presented, I am persuaded to grant the special hearing relief requested, allowing the radio operator antenna as presently configured and at its present height and location, to remain on the subject property. However, at such time as the tower and antennae cease to be used for telecommunication purposes, the Petitioners shall have one year from the date thereof to remove the structure(s).

Pursuant to the advertisement, posting of the property, and public hearing on these Petitions held, and for the reasons set forth above, the Petition for Special Hearing shall be granted, and the Petition for Variance dismissed as moot.

THEREFORE, IT IS ORDERED by the Zoning Commissioner for Baltimore County this 2nd day of December 2005 that the configuration, height and location of the existing radio operator antenna meets the requirements of Section 426.A.E of the B.C.Z.R. and the Federal Communication Commission (FCC) statutes, rules, regulations, policies and interpretations applicable to the radio operator antenna, its height and location on the property, as shown on Petitioner's Exhibit 1, and as such, the Petition for Special Hearing, be and is hereby GRANTED; and,

IT IS FURTHER ORDERED that the Petition for Variance seeking relief from Section 426.A.E of the B.C.Z.R. to permit the existing radio operator antenna, in its present configuration and location and at its present height; 1) with an existing height as is determined by the Zoning Commissioner's interpretation of Section 426.A.E as applied to the antenna; or, 2) with a height of 99 feet, each in lieu of 65 feet, which is the horizontal distance from the closest point of the array from the nearest property line above grade level, be and is hereby DISMISSED AS MOOT.

IT IS FURTHER ORDERED that any appeal of this decision must be entered within thirty (30) days of the date hereof.

WJW:bjs

WILLIAM J. WISEMAN, III
Zoning Commissioner
for Baltimore County

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An additional legal factor in this analysis is the interrelationship of and potential preemption by the applicable provisions of federal law and regulation. State and local regulation of an amateur station antenna structure must not preclude amateur service communications. Rather, such regulation must reasonably accommodate such communications and must constitute the minimum practicable regulation to accomplish the state or local authority's legitimate purpose. 47 C.F.R., Section 97.15 The reasonable accommodation of the radio operator by the County is further described in the September, 1985 *Memorandum Opinion and Order in Private Radio Bureau (PRB-1)*, issued by the FCC.

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In consideration of the Governale evidence and testimony, it is undisputed that the County's legitimate purpose of protection of health, safety and general welfare -- ensuring that a toppled antenna will remain within the boundaries of the Governale property -- will be achieved whether the 7MHz antenna is 65 or 91 vertical feet above the ground. It is also clear from Petitioner's Exhibit 1 that the extension of the 7MHz antenna at either height does not bring it closer to Glenbrook Drive than the front building line of the subject property.

Aesthetics are not a factor that the County Council sought to include in BCZR Section 426A. According to each Protestant their testimony and objections were based solely on aesthetic considerations without regard to regulation for safety considerations. Mr. Peek testified

that he believes that if the 7 MHz antenna were lowered to 65 vertical feet from the ground it might be shielded from his view by the trees planted by Mr. and Mrs. Governale. The supporting structure for the VHF antenna and the VHF antenna themselves would still be visible from the Peek property. Moreover, if for some reason Mr. & Mrs. Governale decided to remove the trees that they planted, the 7MHz antenna if shielded would again be visible from the Peek property, even if that antenna was located no more than 65 vertical feet from the ground. The position of the Protestants, none of whom are directly adjoining owners, apparently is that the 7MHz antenna required for effective communication by Mr. Governale must be aesthetically more consistent with the views from their respective properties. Clearly, this is a physical impossibility and a result not contemplated by the BCZR, the FCC, or the Courts. See *Evans v. Shore Communications, Inc., et al*, 112 Md. App. 284 (1996) and *AT&T Wireless Services v. Mayor and City Council of Baltimore*, 123 Md. App. 681 (1998) where the Court held that alleged adverse aesthetic effects of an antenna tower did not justify denial of a permit.

Applying a "plain language" reading to the height issue presented, if asked how tall a building was would anyone ask "How wide is the building?" This plain language approach, together with the definition of height incorporated into the BCZR and the legislative history of Section 426A persuade me to enter a finding that the height of a radio operator antenna is measured from the ground/base of the supporting structure to the antenna located furthest away in a vertical plane.

Accordingly, upon due consideration of all of the testimony and evidence presented, I am persuaded to grant the special hearing relief requested, allowing the radio operator antenna as presently configured and at its present height and location, to remain on the subject property. However, at such time as the tower and antennae cease to be used for telecommunication purposes, the Petitioners shall have one year from the date thereof to remove the structure(s).

Pursuant to the advertisement, posting of the property, and public hearing on these Petitions held, and for the reasons set forth above, the Petition for Special Hearing shall be granted, and the Petition for Variance dismissed as moot.

THEREFORE, IT IS ORDERED by the Zoning Commissioner for Baltimore County this 2nd day of December 2005 that the configuration, height and location of the existing radio operator antenna meets the requirements of Section 426.A.E of the B.C.Z.R. and the Federal Communication Commission (FCC) statutes, rules, regulations, policies and interpretations applicable to the radio operator antenna, its height and location on the property, as shown on Petitioner's Exhibit 1, and as such, the Petition for Special Hearing, be and is hereby GRANTED; and,

IT IS FURTHER ORDERED that the Petition for Variance seeking relief from Section 426.A.E of the B.C.Z.R. to permit the existing radio operator antenna, in its present configuration and location and at its present height; 1) with an existing height as is determined by the Zoning Commissioner's interpretation of Section 426.A.E as applied to the antenna; or, 2) with a height of 99 feet, each in lieu of 65 feet, which is the horizontal distance from the closest point of the array from the nearest property line above grade level, be and is hereby DISMISSED AS MOOT.

IT IS FURTHER ORDERED that any appeal of this decision must be entered within thirty (30) days of the date hereof.

WJW:bjs

WILLIAM J. WISEMAN, III
Zoning Commissioner
for Baltimore County

Petition for Special Hearing

to the Zoning Commissioner of Baltimore County

for the property located at 39 Glenbrook Drive

which is presently zoned RC-6

This Petition shall be filed with the Department of Permits and Development Management. The undersigned, legal owner(s) of the property situate in Baltimore County and which is described in the description and plat attached hereto and made a part hereof, hereby petition for a Special Hearing under Section 500.7 of the Zoning Regulations of Baltimore County, to determine whether or not the Zoning Commissioner should approve

SEE ATTACHMENT 1

Property is to be posted and advertised as prescribed by the zoning regulations.
I, or we, agree to pay expenses of above Special Hearing, advertising, posting, etc. and further agree to and are to be bounded by the zoning regulations and restrictions of Baltimore County adopted pursuant to the zoning law for Baltimore County.

I/We do solemnly declare and affirm, under the penalties of perjury, that I/we are the legal owner(s) of the property which is the subject of this Petition.

Contract Purchaser/Lessee:

N/A

Name - Type or Print

Signature

Address Telephone No.

City State Zip Code

Attorney For Petitioner:

Name - Type or Print City

Signature

Company

Address Telephone No.

City State Zip Code

Legal Owner(s):

Benjamin A. Governale

Name - Type or Print

Benjamin A. Governale

Signature

Kayren P. Governale

Name - Type or Print

Kayren P. Governale

Signature

39 Glenbrook Drive (410) 666-9189

Address Telephone No.

Phoenix MD 21131

State Zip Code

Representative to be Contacted:

Bruce E. Doak, PLS Gerhold, Cross & Etzel, Ltd.

Name

320 East Towsontown Blvd, Suite 100 410-823-4470

Address Telephone No.

Towson MD 21286

City State Zip Code

ORDER RECEIVED FOR FILING
Date 12/21/05
By

Case No. 06-180-A SPHA

REV 9/15/98

OFFICE USE ONLY

ESTIMATED LENGTH OF HEARING _____

UNAVAILABLE FOR HEARING _____

Reviewed By LTM Date 9/23/05

Attachment 1

PETITION FOR SPECIAL HEARING

CASE NO: 06-180-SPHA

REQUESTED RELIEF:

"*why the Zoning Commissioner should*": [1] interpret BCZR § 426A.E to permit the continued configuration, height and location of the existing, radio operator antenna on the subject property; [2] interpret BCZR § 426A.E, giving full consideration and pre-emptive weight and authority to the Federal Communication Commission statutes, rules, regulations, policies and interpretations applicable to the radio operator antenna, its height and location on the subject property; [3] approve the radio operator antenna depicted on the Plat to accompany this Petition; and [4] for such further relief as the nature of this request may require for the uses shown on the Plat to accompany this Petition.

FOR ADDITIONAL INFORMATION ON THIS PETITION, PLEASE CONTACT:

Howard L. Alderman, Jr., Esquire
Levin & Gann, P.A.
8th Floor, Nottingham Centre
502 Washington Avenue
Towson, Maryland 21204

(410) 321-0600
Fax: (410) 296-2801
halderman@LevinGann.com

ORDER RECEIVED FOR FILING
Date 12/28/05
By [signature]

Permit to approve the Radio Operator antenna depicted on the site Plan

Petition for Variance

to the Zoning Commissioner of Baltimore County

for the property located at 39 Glenbrook Drive

which is presently zoned RC-6

This Petition shall be filed with the Department of Permits and Development Management. The undersigned, legal owner(s) of the property situate in Baltimore County and which is described in the description and plat attached hereto and made a part hereof, hereby petition for a Variance from Section(s)

See Attachment 1

of the Zoning Regulations of Baltimore County, to the zoning law of Baltimore County, for the following reasons: (indicate hardship or practical difficulty)

See Attachment 1

Property is to be posted and advertised as prescribed by the zoning regulations.
I, or we, agree to pay expenses of above Variance, advertising, posting, etc. and further agree to and are to be bounded by the zoning regulations and restrictions of Baltimore County adopted pursuant to the zoning law for Baltimore County.

I/We do solemnly declare and affirm, under the penalties of perjury, that I/we are the legal owner(s) of the property which is the subject of this Petition.

Contract Purchaser/Lessee:

Name - Type or Print

Signature

Address Telephone No.

City State Zip Code

Attorney For Petitioner:

Name - Type or Print City

Signature

Company

Address Telephone No.

City State Zip Code

Legal Owner(s):

Benjamin A. Governale
Name - Type or Print

Benjamin A. Governale
Signature

Kayren P. Governale
Name - Type or Print

Kayren P. Governale
Signature

39 Glenbrook Drive 410-666-9189
Address Telephone No.

Phoenix MD 21131
State Zip Code

Representative to be Contacted:

Bruce E. Doak, PLS Gerhold, Cross & Etzel, Ltd.
Name

320 Towsontown Blvd., Suite 100 410-823-4470
Address Telephone No.

Towson MD 21286
City State Zip Code

OFFICE USE ONLY

ESTIMATED LENGTH OF HEARING _____

UNAVAILABLE FOR HEARING _____

Reviewed By LTM Date 9/23/05

ORDER RECEIVED FOR FILING
Date 9/23/05
By

Case No. 06-180-ASPH

REV 9/15/98

Attachment 1

PETITION FOR VARIANCE

CASE NO: 06-180-SPHA

Address: 39 Glenbrook Drive

Legal Owners: Benjamin A. & Kayren P. Governale

Present Zoning: RC-6

REQUESTED RELIEF:

In the **alternative**, provided that the relief requested in the companion Petition for Special Hearing filed contemporaneously herewith is denied, grant a variance from BCZR § 426A.E to permit the existing radio operator antenna, in its present configuration and location and at its present height: i) with an existing height as is determined by the Zoning Commissioner's interpretation of BCZR § 426A.E as applied to the antenna; or ii) with a height of ~~91~~ 99 feet, each in lieu of 65 feet, which is the horizontal distance from the closest point of the array from the nearest property line above grade level as shown more particularly on the Plat to Accompany this Petition and for such further relief as the nature of this request may require.

JUSTIFICATION:

1. Height and location of this radio operator tower are pre-empted by federal law and regulation;
2. Existing lot configuration, improvement location and topographic constraints constrain the location elsewhere on the subject property;
3. The height and configuration of the radio operator tower are the minimum necessary to proper operation permitted by federal law and regulation; and
4. For such further reasons that will be presented at the hearing on this Petition.

FOR ADDITIONAL INFORMATION ON THIS PETITION, PLEASE CONTACT:

ORDER RECEIVED FOR FILING
Date 12/21/05
By BJP

Howard L. Alderman, Jr., Esquire
Levin & Gann, P.A.
8th Floor, Nottingham Centre
502 Washington Avenue
Towson, Maryland 21204

(410) 321-0600
Fax: (410) 296-2801
halderman@LevinGann.com

Gerhold, Cross & Etzel, Ltd.

Registered Professional Land Surveyors • Established 1906

Suite 100 • 320 East Towsontown Boulevard • Towson, Maryland 21286
Phone: (410) 823-4470 • Fax: (410) 823-4473 • www.gcelimited.com

September 20, 2005

Zoning Description
Benjamin A. Governale and Kayren P. Governale
39 Glenbrook Drive
Phoenix, Maryland 21131

All that piece or parcel of land situate, lying and being in the Tenth Election District of Baltimore County, Maryland and described as follows to wit:

Beginning for the same at a point on the North West side of Glenbrook Drive 25 feet from a point in the center of said road 569 feet along the centerline of Glenbrook Drive from the intersection of the centerline of Glenbrook Drive and the center of Blenheim Road, thence leaving the North West side of said Glenbrook Drive and running thence,

1) North 75 degrees 16 minutes 22 seconds West 317.19 feet,
2) North 45 degrees 13 minutes 47 seconds West 416.96 feet,
3) South 48 degrees 54 minutes 36 seconds West 203.00 feet,
4) South 44 degrees 16 minutes 45 seconds East 452.16 feet,
5) North 45 degrees 43 minutes 15 seconds East 210.00 feet,
6) South 75 degrees 16 minutes 22 seconds East 296.12 feet to intersect the North West side of Glenbrook Drive,
7) thence binding on said North West side of Glenbrook Drive by a line curving to the right having a radius of 225 feet for an arc distance of 12.01 feet (the chord of said arc bearing North 11 degrees 33 minutes 09 seconds East 12.00 feet) to the point of beginning.

Containing 95794 sq. ft. or 2.20 Acres of land, more or less.

Note: This description only satisfies the requirements of the Office of Zoning and is not to be used for the purposes of conveyance.

STATE OF MARYLAND
BRUCE EDWIN DOAK
NO. 5616
REGISTERED
PROPERTY LINE SURVEYOR

9/22/05

#180

NOTICE OF ZONING HEARING

The Zoning Commissioner of Baltimore County, by authority of the Zoning Act and Regulations of Baltimore County will hold a public hearing in Towson, Maryland on the property identified herein as follows:

Case: #06-180-SPHA
39 Glenbrook Drive
E/side of Glenbrook Drive, 569 feet north of Blenheim Road
10th Election District - 3rd Councilmanic District
Legal Owner(s): Benjamin A. & Kayren P. Governale

Special Hearing: to permit the continued configuration, height and location of the existing radio operator antenna on the subject property, to approve the radio operator antenna on the accompanying plat and for such further relief as the nature of this request may require. **Variance:** to permit the existing radio operator antenna in its present configuration and location and at its present height with an existing height as is determined by the Zoning Commissioner or with a height of 99 feet height in lieu of the allowed 65 feet and for such further relief as the nature of this petition may require.

Hearing: Wednesday, November 16, 2005 at 10:00 a.m. in Room 407, County Courts Building, 401 Bosley Avenue, Towson 21204.

WILLIAM J. WISEMAN, III
Zoning Commissioner for Baltimore County

NOTES: (1) Hearings are Handicapped Accessible; for special accommodations Please Contact the Zoning Commissioner's Office at (410) 887-4386.

(2) For information concerning the File and/or Hearing, Contact the Zoning Review Office at (410) 887-3391.

JT/11/610 Nov. 1 73420

CERTIFICATE OF PUBLICATION

11/3, 2005

THIS IS TO CERTIFY, that the annexed advertisement was published in the following weekly newspaper published in Baltimore County, Md., once in each of 1 successive weeks, the first publication appearing on 11/1, 2005.

- [X] The Jeffersonian
- [ ] Arbutus Times
- [ ] Catonsville Times
- [ ] Towson Times
- [ ] Owings Mills Times
- [ ] NE Booster/Reporter
- [ ] North County News

S. Wilkinson

LEGAL ADVERTISING

Gerhold, Cross & Etzel, Ltd.
Registered Professional Land Surveyors • Established 1906

Suite 100 • 320 East Towsontown Boulevard • Towson, Maryland 21286
Phone: (410) 823-4470 • Fax: (410) 823-4473 • www.gcelimited.com

CERTIFICATE OF POSTING

RE: CASE# 06-180-SPHA
PETITIONER/DEVELOPER:
Benjamin A. & Kayren P. Governale
DATE OF HEARING:
Wednesday, November 16, 2005

BALTIMORE COUNTY DEPARTMENT OF
PERMITS AND DEVELOPMENT MANAGEMENT
COUNTY OFFICE BUILDING, ROOM 111
111 WEST CHESAPEAKE AVE.
TOWSON, MARYLAND 21204

ATTENTION: KRISTEN MATTHEWS

LADIES AND GENTLEMEN:

THIS LETTER IS TO CERTIFY UNDER THE PENALTIES OF PERJURY THAT THE NECESSARY SIGN(S) REQUIRED BY LAW WERE POSTED CONSPICUOUSLY ON THE PROPERTY LOCATED AT

LOCATION:
39 Glenbrook Drive

(see page 2 for full size photo)

POSTED ON: October 25, 2005

SIGNATURE OF SIGN POSTER

John J. Dill

GERHOLD, CROSS & ETZEL, LTD
SUITE 100
320EAST TOWSONTOWN BLVD
TOWSON, MARYLAND 21286
410-823-4470 PHONE
410-823-4473 FAX

41 39

ZONING NOTICE

CASE # :06-180-SPHA

A PUBLIC HEARING WILL BE HELD BY
THE ZONING COMMISSIONER
IN TOWSON, MD.

PLACE: Room 407 County Courts Building
401 Bosley Avenue, Towson, MD

TIME & DATE : 10:00 AM Wednesday November 16, 2005

Special Hearing to permit the constructed configuration
height and location of the existing radio operator antenna on the
post property to approve the radio operator antenna on the
accompanying plat and for such further relief as the nature of this
request may require.

Variance to permit the existing radio operator antenna to be
sited configuration on location and at its present height which
exceeds the height as is determined by the Zoning Commissioner or with
a height of 80 feet in lieu of the allowed 65 feet and for such further
relief as the nature of this petition may require.

HEARINGS ARE HANDICAPPED ACCESSIBLE

10/25/2005

APPEAL SIGN POSTING REQUEST

CASE NO. 06-180-SPHA

39 GLENBROOK DRIVE

10 TH ELECTION DISTRICT APPEALED: 1/19/06

ATTACHMENT – (Plan to accompany Petition – Petitioner's Exhibit No. 1)

*****COMPLETE AND RETURN BELOW INFORMATION******

CERTIFICATE OF POSTING

TO: Baltimore County Board of Appeals
400 Washington Avenue, Room 49
Towson, MD 21204

Attention: Kathleen Bianco
Administrator

CASE NO.: 06-180-SPHA

LEGAL OWNER: BENJAMIN & KAYREN GOVERNALE

This is to certify that the necessary appeal sign was posted conspicuously on the property located at:

39 GLENBROOK DRIVE
E/S OF LENBROOK DRIVE, 569' N OF BLENHEIM ROAD

The sign was posted on 2/16, 2006. MAP 19K2

By: Jeff Radcliffe
(Signature of Sign Poster)

Jeff Radcliffe
(Print Name)

BALTIMORE COUNTY, MARYLAND
OFFICE OF BUDGET & FINANCE
MISCELLANEOUS RECEIPT

No. 2538

DATE 1/13/06 ACCOUNT 001-006-6150

AMOUNT $ 400.00

RECEIVED FROM: Jeffrey Peelk

FOR: Appeal - Case No. 06-181-A SPH

DISTRIBUTION
WHITE - CASHIER PINK - AGENCY YELLOW - CUSTOMER

CASHIER'S VALIDATION

PAID RECEIPT

BUSINESS	ACTUAL	TIME	DRW
1/13/2006	1/13/2006	15:24:30	2

REG C302 MAIL JEVA JE
>>RECEIPT # 449512 1/13/2006 OPLR
Dept 5 528 ZONING VERIFICATION
OR NO. 002539
Recpt tot 400.00
CHECK CK CA
Baltimore County, Maryland

DEPARTMENT OF PERMITS AND DEVELOPMENT MANAGEMENT
ZONING REVIEW

ADVERTISING REQUIREMENTS AND PROCEDURES FOR ZONING HEARINGS

The Baltimore County Zoning Regulations (BCZR) require that notice be given to the general public/neighboring property owners relative to property which is the subject of an upcoming zoning hearing. For those petitions which require a public hearing, this notice is accomplished by posting a sign on the property (responsibility of the petitioner) and placement of a notice in a newspaper of general circulation in the County, both at least fifteen (15) days before the hearing.

Zoning Review will ensure that the legal requirements for advertising are satisfied. However, the petitioner is responsible for the costs associated with these requirements. The newspaper will bill the person listed below for the advertising. This advertising is due upon receipt and should be remitted directly to the newspaper.

OPINIONS MAY NOT BE ISSUED UNTIL ALL ADVERTISING COSTS ARE PAID.

For Newspaper Advertising:

Item Number or Case Number: 06-180-ASPH

Petitioner: BENJAMIN A. GOVERNALE

Address or Location: 39 GLENBROOK DRIVE BALTIMORE MD 21131

PLEASE FORWARD ADVERTISING BILL TO:

Name: BENJAMIN A. GOVERNALE

Address: 39 GLENBROOK DRIVE

BALTIMORE MD 21131

Telephone Number: 410-666-9189

Revised 7/11/05 - SCJ

TO: PATUXENT PUBLISHING COMPANY
Tuesday, November 1, 2005 Issue - Jeffersonian

Please forward billing to:
Benjamin Governale
39 Glenbrook Drive
Baltimore, MD 21121

410-666-9189

NOTICE OF ZONING HEARING

The Zoning Commissioner of Baltimore County, by authority of the Zoning Act and Regulations of Baltimore County, will hold a public hearing in Towson, Maryland on the property identified herein as follows:

CASE NUMBER: 06-180-SPHA
39 Glenbrook Drive
E/side of Glenbrook Drive, 569 feet north of Blenheim Road
10th Election District – 3rd Councilmanic District
Legal Owners: Benjamin A. & Kayren P. Governale

Special Hearing to permit the continued configuration, height and location of the existing radio operator antenna on the subject property, to approve the radio operator antenna on the accompanying plat and for such further relief as the nature of this request may require.
Variance to permit the existing radio operator antenna in its present configuration an location and at its present height with an existing height as is determined by the Zoning Commissioner or with a height of 99 feet height in lieu of the allowed 65 feet and for such further relief as the nature of this petition may require.

Hearing: Wednesday, November 16, 2005 at 10:00 a.m. in Room 407, County Courts Building, 401 Bosley Avenue, Towson 21204

WILLIAM J WISEMAN III
ZONING COMMISSIONER FOR BALTIMORE COUNTY

NOTES: (1) HEARINGS ARE HANDICAPPED ACCESSIBLE; FOR SPECIAL ACCOMODATIONS, PLEASE CONTACT THE ZONING COMMISSIONER'S OFFICE AT 410-887-4386.
(2) FOR INFORMATION CONCERNING THE FILE AND/OR HEARING, CONTACT THE ZONING REVIEW OFFICE AT 410-887-3391.

**Department of Permits a[redacted]
Development Management**

Director's Office
County Office Building
111 W. Chesapeake Avenue
Towson, Maryland 21204
Tel: 410-887-3353 • Fax: 410-887-5708

[redacted]
Baltimore County

James T. Smith, Jr., County Executive
Timothy M. Kotroco, Director

October 13, 2005

NOTICE OF ZONING HEARING

The Zoning Commissioner of Baltimore County, by authority of the Zoning Act and Regulations of Baltimore County, will hold a public hearing in Towson, Maryland on the property identified herein as follows:

CASE NUMBER: 06-180-SPHA
39 Glenbrook Drive
E/side of Glenbrook Drive, 569 feet north of Blenheim Road
10th Election District – 3rd Councilmanic District
Legal Owners: Benjamin A. & Kayren P. Governale

Special Hearing to permit the continued configuration, height and location of the existing radio operator antenna on the subject property, to approve the radio operator antenna on the accompanying plat and for such further relief as the nature of this request may require.
Variance to permit the existing radio operator antenna in its present configuration an location and at its present height with an existing height as is determined by the Zoning Commissioner or with a height of 99 feet height in lieu of the allowed 65 feet and for such further relief as the nature of this petition may require.

Hearing: Wednesday, November 16, 2005 at 10:00 a.m. in Room 407, County Courts Building, 401 Bosley Avenue, Towson 21204

Timothy Kotroco
Director

TK:klm

C: Benjamin & Kayren Governale, 39 Glenbrook Drive, Phoenix 21131
Bruce Doak, Gerhold, Cross & Etzel, 320 E. Towsontown Blvd., Ste. 100, Towson 21286

NOTES: (1) **THE PETITIONER MUST HAVE THE ZONING NOTICE SIGN POSTED BY AN APPROVED POSTER ON THE PROPERTY BY TUESDAY, NOVEMBER 1, 2005.**
(2) HEARINGS ARE HANDICAPPED ACCESSIBLE; FOR SPECIAL ACCOMMODATIONS PLEASE CALL THE ZONING COMMISSIONER'S OFFICE AT 410-887-4386.
(3) FOR INFORMATION CONCERNING THE FILE AND/OR HEARING, CONTACT THE ZONING REVIEW OFFICE AT 410-887-3391.

County Board of Appeals of Baltimore County

OLD COURTHOUSE, ROOM 49
400 WASHINGTON AVENUE
TOWSON, MARYLAND 21204
410-887-3180
FAX: 410-887-3182

July 5, 2006

Howard L. Alderman, Jr., Esq.
Levin & Gann
Nottingham Centre
502 Washington Ave. – 5th Floor
Towson, MD 21204

Re: Mr. & Mrs. Benjamin Governale
Case No.: 06-180-SPHA

Dear Mr. Alderman:

The Board is in receipt of your request for postponement of the above-entitled case, and your postponement has been granted.

The Board's Office Administrator, Kathleen Bianco, will be forwarding an official notice of the new hearing date, scheduled for December 5th, 2006 at 10:00 a.m., within the next couple of weeks.

Please feel free to contact our office should you need any further assistance.

Very truly yours,

Linda B. Fliegel
Legal Secretary

C: Mr. & Mrs. Benjamin Governale
Peter M. Zimmerman, People's Counsel
Jeffrey Peek, Esquire
Ms. Anne-Marie Hudak
Mr. Jason Hardebeck
Bruce E. Doak – Gerhold, Cross & Etzel
Fred Calleri

HOWARD L. ALDERMAN, JR.
hlalderman@LevinGann.com

DIRECT DIAL
410-321-4640

LAW OFFICES
LEVIN & GANN
A PROFESSIONAL ASSOCIATION
NOTTINGHAM CENTRE
502 WASHINGTON AVENUE
8th Floor
TOWSON, MARYLAND 21204
410-321-0600
TELEFAX 410-296-2801

ELLIS LEVIN (1893-1960)
CALMAN A. LEVIN (1930-2003)

June 26, 2006

SENT BY TELECOPIER - 410-887-3182
Lawrence S. Wescott, Chairman
Baltimore County Board of Appeals
400 Washington Avenue, Room 49
Towson, Maryland 21204

Re: Mr. and Mrs. Benjamin Governale
Case No. 06-180-SPHA, 39 Glenbrook Drive
Request for Postponement

Dear Mr. Wescott:

As I informed Kathy Bianco, Administrator to the Board, this morning, my son's MRI of his heart scheduled for July 19, 2006 cannot be rescheduled. Therefore, I am requesting a postponement of the above referenced case. This postponement is made well beyond fifteen days before the hearing and I would therefore ask for the Board's favorable consideration.

Upon receipt of this request, should the Board have any questions or need additional information, please do not hesitate to contact me at my office.

Very truly yours,

Howard L. Alderman, Jr. pd

Howard L. Alderman, Jr.

HLA/pal
cc: Mr. and Mrs. Benjamin Governale (Sent by Email)
Peter Max Zimmerman, People's Counsel (Sent by Telecopier - 410-823-4236)
Jeffrey Peek, Esquire (Sent by Telecopier - 410-752-6013)
G:\Clients\Governale, Mr. & Mrs. B. (15122)\wescott-ltr.wpd

Dictated by Howard Alderman but signed in his absence to avoid delay.

County Board of Appeals of Baltimore County

OLD COURTHOUSE, ROOM 49
400 WASHINGTON AVENUE
TOWSON, MARYLAND 21204
410-887-3180
FAX: 410-887-3182

Hearing Room – Room 48
Old Courthouse, 400 Washington Avenue

October 30, 2006

NOTICE OF REASSIGNMENT

CASE #: 06-180-SPHA

IN THE MATTER OF: BENJAMIN A. & KAYREN P. GOVERNALE
-Legal Owners /Petitioners 39 Glenbrook Drive
10th Election District; 3rd Councilmanic District

12/02/2005 – Z.C.'s Order in which the Petition for Special Hearing was GRANTED; requested variance relief dismissed as moot.

which was postponed from the original hearing date of 7/19/06 has been reassigned for hearing; and has been

REASSIGNED FOR: **TUESDAY, DECEMBER 5, 2006 at 10 a.m.**

NOTICE: This appeal is an evidentiary hearing; therefore, parties should consider the advisability of retaining an attorney.

Please refer to the Board's Rules of Practice & Procedure, Appendix B, Baltimore County Code.

IMPORTANT: No postponements will be granted without sufficient reasons; said requests must be in writing and in compliance with Rule 2(b) of the Board's Rules. No postponements will be granted within 15 days of scheduled hearing date unless in full compliance with Rule 2(c).

If you have a disability requiring special accommodations, please contact this office at least one week prior to hearing date.

Kathleen C. Bianco
Administrator

---

c: Appellant : Office of People's Counsel

Appellant /Protestant : Jeffrey L. Peek, Esquire

Counsel for Petitioners : Howard L. Alderman, Jr., Esquire
Petitioners : Mr. and Mrs. Benjamin Governale
Bruce E. Doak /Gerhold, Cross & Etzel

Fred Calleri
Anne-Marie Hudak
Jason Hardebeck

William J. Wiseman III /Zoning Commissioner
Pat Keller, Planning Director
Timothy M. Kotroco, Director /PDM

County Board of Appeals of Baltimore County

OLD COURTHOUSE, ROOM 49
400 WASHINGTON AVENUE
TOWSON, MARYLAND 21204
410-887-3180
FAX: 410-887-3182

January 9, 2007

NOTICE OF DELIBERATION

IN THE MATTER OF:

BENJAMIN AND KAYREN GOVERNALE – Legal Owners
Case No. 06-180-SPHA

Having heard this matter on 12/05/06, public deliberation has been scheduled for the following date /time:

DATE AND TIME : **THURSDAY, FEBRUARY 22, 2007 at 9:30 a.m.**

LOCATION : **Hearing Room 48, Basement, Old Courthouse**

NOTE: Closing briefs are due on Wednesday, January 31, 2007
(Original and three [3] copies)

NOTE: ALL PUBLIC DELIBERATIONS ARE OPEN SESSIONS; HOWEVER, ATTENDANCE IS NOT REQUIRED. A WRITTEN OPINION /ORDER WILL BE ISSUED BY THE BOARD AND A COPY SENT TO ALL PARTIES.

Kathleen C. Bianco
Administrator

---

c: Appellant : Office of People's Counsel

Appellant /Protestant : Jeffrey L. Peek, Esquire

Counsel for Petitioners : Howard L. Alderman, Jr., Esquire
Petitioners : Mr. and Mrs. Benjamin Governale
Bruce E. Doak /Gerhold, Cross & Etzel

Fred Calleri
Anne-Marie Hudak
Jason Hardebeck

William J. Wiseman III /Zoning Commissioner
Pat Keller, Planning Director
Tim Kotroco

FYI: 2-1-5

9/26/08

IN THE MATTER OF THE APPLICATION OF BENJAMIN A. AND KAYREN P. GOVERNALE – LEGAL OWNERS / PETITIONERS FOR SPECIAL HEARING AND VARIANCE ON PROPERTY LOCATED ON THE E/S OF GLENBROOK DRIVE, 569' N OF BLENHEIM ROAD (39 GLENBROOK ROAD) 10TH ELECTION DISTRICT 3RD COUNCILMANIC DISTRICT	* BEFORE THE * COUNTY BOARD OF APPEALS * OF * BALTIMORE COUNTY * Case No. 06-~~188~~-SPHA 180 *	

* * * * * * * * * *

OPINION

This matter comes before the Board of Appeals on an appeal from a decision by the Zoning Commissioner for Baltimore County to grant Petitioner's special hearing request to approve the configuration, height and location of an existing radio operator antenna. An alternative request for a variance was dismissed below as moot. A de novo hearing was held as to both requests by the Board at which Petitioner was presented by Howard Alderman, Jr., Esquire, and Protestants by Jeffrey L. Peek, Esquire, who also appeared as a Protestant.

Petitioner presented Bruce E. Doak, a registered surveyor employed by Gerhold, Cross & Etzel, who, without objection, was accepted as an expert in surveying and zoning in Baltimore County.

The witness related that his firm had prepared the plat and related documents accompanying the Petition for Special Hearing and Variance in this matter. He described the subject property as an irregularly shaped panhandle lot, sloping to the rear of approximately 2.2 acres and zoned R.C. 6. It is improved by a two-story brick residential structure and a three-legged freestanding 99-foot amateur radio antenna tower, which the witness testified was, in his expert opinion, an accessory use to the residence. He further stated that the tower is 147 feet from the structure of the Petitioner, 102 feet from each side property line, while also 100 feet from the rear property line. He went on to describe the three antennas actually placed on the

tower horizontally, one each at 90 feet, 95 feet and 99 feet respectively. After stating the definition of "radio operator antenna" as it appears in § 101 of the *Baltimore County Zoning Regulations* (BCZR), and concluding that it applied to the Petitioner, the witness concluded that § 426A of the BCZR applied to this matter. He further testified that in compliance with subsection (c) of § 426A, the tower and the supporting generator were both located further than 20 feet from any property line; that it did not extent closer than the front building line of the subject site as required under 426A.D; and lastly, that it complied with 426A.E as the highest antenna placed upon the tower was not higher than the lesser of 100 feet or the horizontal distance to the nearest property line. Based upon these determinations on his part, the witness testified that the antenna was in fact an accessory use permitted by right on the Petitioner's property and was compliant with § 426A.

Under further examination, the witness presented his opinion that this matter is not controlled by the language and determination of permitted height of towers that appears in § 426.5 of the BCZR, as suggested by Protestants. He explained that, although the section provided for a maximum height definition, it was applicable to "wireless telecommunication facilities," and not to the amateur radio operator antennas which are the subject of the instant matter.

It is Mr. Doak's belief and position that the true concern under the BCZR regarding amateur radio antennas was the avoidance of harm to an innocent neighbor in the event the tower was to fall. He testified that the Petitioner's antennas were set back as far from adjoining property lines as they were tall. As such, he believed the antennas to be in compliance with 426A.E and would pose no risk to the adjoining property owners.

Mr. Doak concluded his testimony in chief by presenting his opinion that the Petitioner's

special hearing request would have no impact on the health, safety and general welfare of the community as any collapse of the subject tower would occur on Petitioner's property only. He saw no danger, based on the size, footprint and nature of the Petitioner's request, of causing fire, panic, or of interference with schools, light or air. Based upon the tower's size, it would not, he testified, negatively affect open spaces, overcrowd population, negatively impact impermeable surface, or vegetative retention requirements, or violate the spirit or intent of the zoning regulations.

Several area residents testified. Michael Leonard and James Green testified that they were aware of the project and saw no objections to its continued use by the Petitioner.

John Burdette, vice president of United States Tower Services, Ltd., testified that he was familiar with the architecture and maintenance of radio antennas for 30 years. He explained to the Board that the height of these structures is measured from the center of the foundation to the highest point of the tower. He maintained that the height of a tower is not related to its turning radius and noted that in all of his years he had never come across a situation in which a tower fell a horizontal distance greater than its height above the ground. He observed that in such instances towers will buckle and fall, rather than falling in a straight horizontal line.

Petitioner Benjamin Governale was called to testify. A holder of a BS Degree in Electrical Engineering, he is a retired Coast Guard commander, a resident at the site for 30 years, and a licensed amateur radio operator since 1962. He stated that he is a designated U.S. Weather Service weather reporting station and is part of the Radio Emergency Service for Baltimore County Department of Homeland Security. He described the subject structure as a 99-foot high monopole with three horizontal antennas, at 91, 95, and 99 feet respectively. He testified that his choice of location of the monopole was primarily based upon topography, maintaining

appropriate distances to buildings and adjacent property lines, setbacks and easements applicable to the property, and the utilization of available wooded areas as sight buffers. He concluded by asserting that his request would, in his opinion, not only have no adverse effects on the health, safety or welfare of the surrounding community, but to the contrary, would be an assistance to the public needs in emergency situations.

Christopher Imlay, General Counsel to the American Radio Relay League, was, after voir dire, accepted by the Board as an expert in communications law and land use issues as they relate to amateur radio antenna towers. He described the role of Federal regulations and FCC decisions as they affect amateur radio operators, stating that local regulators should "reasonably accommodate" local radio operators. He observed that it was the first time in his more than 25 years of experience that an attempt had been made to apply setback distance restrictions to a radio antenna structure by measuring the horizontal length of the antenna rather than that from the base to the top of the antenna support structure. He opined that it made no sense to utilize the horizontal measurement of the antenna because those numbers can and do change from time to time and use to use.

The final Petitioner's witness was James Nitzberg, who holds a Bachelor's Degree in Electrical Engineering, specializing in digital signals and systems. After an on-site examination of the subject property and reference to several publications including, *Antenna Height and Communications Effectiveness: A Guide for City Planners and Amateur Radio Operators*, he prepared for the Petitioner (along with collaborator Dr. John V. Evans, former director of COMSAT Laboratories) an analysis of viable and radio activities of the Petitioner on the subject property. They concluded that the Petitioner's signals are marginally acceptable at their present requested heights and that any reduction in that height would seriously degrade the effectiveness

and viability of Petitioner's radio activities and signals, including those abilities needed in emergency situations.

Protestants first presented Jason Hardebeck, a neighbor of Petitioner, who was concerned about the aesthetic effects of the Petitioner's request. He stated his intention to plant tall trees in an effort to block the visual effect of the monopole structure.

Anne-Marie Hudak testified that she lives in the second home constructed in the area some 6 years ago and described her home as the "lowest" of the group. She noted that she was not aware of the construction of Petitioner's monopole until it was completed, and was also concerned about the possible negative aesthetic impact of the structure on the area in general.

Jeffrey Peek, Esquire, was the last Protestant witness. He is also a resident of the immediate area and described his property as being also in a lower elevation than that of the Petitioner. Presenting a number of illustrative photographs, he voiced his opinion about the possible negative aesthetic effect of Petitioner's monopole on the neighborhood and observed that this negative effect is and will be most felt by the newer sections of the immediate neighborhood and area as the possible buffering vegetation is, as of now, less developed in those areas.

The Board has reviewed the entire record in this matter, including all exhibits presented.

We note the definition of radio operation antenna, described in BCZR § 101 as:

> A wireless antenna used in conjunction with radio transmitting and receiving facilities used by a resident amateur radio operator possessing an amateur radio operator's license issued by the Federal Communications Commission.

Section 426A of the BCZR, concerning radio operator antennas, states:

> A. A radio operator antenna and related equipment, including any supporting structure, is considered an accessory structure or use and is permitted by right in any zone if the radio antenna and the related equipment meets the requirements of this section.

B. A radio operator antenna shall be operated by an amateur radio operator who is licensed by the Federal Communications Commission and whose domicile is on the lot where the antenna and the related equipment is placed.

C. A supporting structure for a radio operator antenna may not be located within 20 feet of any property line.

D. A radio operator antenna may not extend closer than the front building line to any street on which the lot fronts.

E. A radio operator antenna may not be higher than the lesser of 100 feet or the horizontal distance to the nearest property line above grade level.

Based upon the definition of "radio operator antenna" contained in § 101 of the BCZR, the Board believes that the tower in question is subject to the requirements of § 426A of the BCZR and not 426.5, which refers to "wireless telecommunication towers and antennas."

It is clear from the testimony of Mr. Doak and the Petitioner that the requirements of § 426A have been met. We find that the tower is an accessory structure as permitted under the BCZR and that the Petitioner is an FCC licensed amateur radio operator whose antenna and equipment are located on his domicile lot. A review of the exhibits and testimony have clearly established that the tower is more than 20 feet from any property line and does not extend closer than Petitioner's building line to the street upon which it fronts.

Subsection E of 426A, requiring that the subject tower "may not be higher than the lesser of 100 feet or the horizontal distance to the nearest property line above grade level," raises the question of the determination of the term "height" as it relates to this requirement. The term does not appear among the definitions in § 101 of the BCZR. In such circumstances, we look to Webster's Third New International Dictionary, which defines the term as it applies in this issue as, "the distance extending from the bottom to the top of something standing upright." We agree that "height" as envisioned in § 426A is a vertical and not horizontal measurement. We find that the height of the subject tower

should be measured from its base at ground level to the antenna located furthest away in a vertical plane. As a number of witnesses have presented, and this Board agrees, to measure from a horizontal point of view to determine height simply makes no sense whatsoever. We therefore unanimously determine that the uncontroverted testimony has established that the subject tower meets the requirements, not only of subsection E but also of all the other requirements of § 426A.

The Board also notes the testimony of Mr. Doak (and to a lesser extent by Mr. Governale) uncontradicted by the Protestants, that, based upon Mr. Doak's review of the site, its surrounding area and the structure in question, he has concluded that the tower does not and would not negatively impact the health, safety and general welfare of the surrounding community; further, based on the size and footprint of the tower, that it would not result in fire, panic or interference with schools, light or air, negatively affect open spaces, not burden population, or violate the spirit or intent of the *Baltimore County Zoning Regulations.*

Protestants raised what are essentially aesthetic issues and concerns. They presented no substantive testimony, expert or otherwise, to contradict or negate any of the expert or lay testimony provided by the Petitioner.

Based upon the totality of the testimony, exhibits, and review of the applicable law, this Board unanimously finds that the Petitioner has met all of his burdens of proof and that we find that, therefore, the configuration, height, and location of the radio operating antenna in this matter is subject to the requirements of § 426A of the *Baltimore County Zoning Regulations*; and that the subject tower does in fact meet all of those requirements; as well as those relating to the project's effect upon the community as a

whole. As such, the Petition for Special Hearing is granted. Under the circumstances, Petitioner's request for variance, in the alternative, is dismissed as moot.

ORDER

THEREFORE, IT IS THIS 28th day of September, 2007 by the County Board of Appeals of Baltimore County

ORDERED that, for the reasons stated in the foregoing Opinion, Petitioner's special hearing request to approve the configuration, height and location of an existing radio operator antenna be and is hereby **GRANTED**; and it is further

ORDERED that Petitioner's request for variance, in the alternative, is hereby **DISMISSED AS MOOT**.

Any petition for judicial review from this decision must be made in accordance with Rule 7-201 through Rule 7-210 of the *Maryland Rules*.

COUNTY BOARD OF APPEALS OF BALTIMORE COUNTY[1]

Margaret Brassil, Ph.D., Chairperson

Lawrence M. Stahl

[1] This case was originally heard and publicly deliberated by a panel comprised of three members of the Board of Appeals of Baltimore County; viz., Margaret Brassil, Ph.D., Chairperson; Mike Mohler; and Lawrence M. Stahl, all of whom reached the unanimous decision in this matter. However, prior to issuance of the Board's final Order, Mr. Mohler resigned from the Board of Appeals.

County Board of Appeals of Baltimore County

OLD COURTHOUSE, ROOM 49
400 WASHINGTON AVENUE
TOWSON, MARYLAND 21204
410-887-3180
FAX: 410-887-3182

September 28, 2007

Jeffrey Peek, Esquire
19 Dalebrook Drive
Phoenix, MD 21131

RE: *In the Matter of:* BENJAMIN A. AND KAYREN P. GOVERNALE
Legal Owners /Petitioners Case No. 06-180-SPHA

Dear Mr. Peek:

Enclosed please find a copy of the final Opinion and Order issued this date by the County Board of Appeals of Baltimore County in the subject matter.

Any petition for judicial review from this decision must be made in accordance with Rule 7-201 through Rule 7-210 of the *Maryland Rules*, **with a photocopy provided to this office concurrent with filing in Circuit Court. Please note that all subsequent Petitions for Judicial Review filed from this decision should be noted under the same civil action number as the first Petition.** If no such petition is filed within 30 days from the date of the enclosed Order, the subject file will be closed.

Very truly yours,

Kathleen C. Bianco
Administrator

Enclosure

c: Howard L. Alderman, Jr., Esquire
Mr. and Mrs. Benjamin Governale
Bruce E. Doak /Gerhold, Cross & Etzel
Fred Calleri
Anne-Marie Hudak
Jason Hardebeck
Office of People's Counsel
William J. Wiseman III /Zoning Commissioner
Pat Keller, Planning Director
Timothy M. Kotroco, Director /PDM

1/31/07

BEFORE THE

COUNTY BOARD OF APPEALS FOR BALTIMORE COUNTY

Case No. 06-180-SPHA

Benjamin A. and Kayren P. Governale, *Owners*

W/S Glenbrook Drive, 569' N of the c/l Blenheim Road
10th Election District
3rd Councilmanic District

PETITIONERS'/OWNERS' POST-HEARING MEMORANDUM

Howard L. Alderman, Jr.
Levin & Gann, P.A.
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502 Washington Avenue
Towson, Maryland 21204

Fred Hopengarten
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Lincoln, MA 01773-5105

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BEFORE THE

COUNTY BOARD OF APPEALS FOR BALTIMORE COUNTY

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W/S Glenbrook Drive, 569' N of the c/l Blenheim Road
10th Election District
3rd Councilmanic District

PETITIONERS'/OWNERS' POST-HEARING MEMORANDUM

Benjamin A. and Kayren P. Governale (referred to collectively as the "Petitioners" or the "Owners") by and through their undersigned legal counsel, hereby submit this Post-Hearing Memorandum in accordance with the direction of the County Board of Appeals for Baltimore County ("Board") at the conclusion of the hearing held on the above-referenced appeal, in lieu of closing argument.

STATEMENT OF THE CASE

This case involves the appeal, by one neighbor, Mr. Jeffrey Peek ("Peek") and the Baltimore County Office of People's Counsel ("People's Counsel") (collectively, the "Protestants") of the *Findings of Fact and Conclusions of Law*, issued by the Zoning Commissioner for Baltimore County ("Commissioner") on December 2, 2005 (the "Order")[1] approving the "configuration, height and location of the existing radio operator

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[1] Petitioners' Exhibit No. 24

antenna" on the Owners' property at 39 Glenbrook Drive (the "subject property").

Mr. Governale, the holder of an "Extra Class" amateur radio license, has been licensed by the Federal Communications Commission ("FCC") for forty-five (45) years. After making an extensive search of properties in northern Baltimore County, looking for a home on a lot that would accommodate his amateur radio activities, the Owners purchased the subject property. After experimenting with a variety of radio antenna configurations, Mr. Governale designed an amateur radio antenna system that was necessary to meet his need for effective transmission and reception of amateur radio signals. Mr. Governale next visited the Baltimore County Department of Permits and Development Management to obtain any permit necessary for the proposed accessory amateur radio antenna system. Mr. Governale was advised that the antenna support structure required a permit rather than the antennas[2] themselves. The permit was obtained and the self-supporting accessory structure [permitted to a height of 100 feet as shown on the permit] was erected at a height of 99 feet above the ground, upon which are located three antennas – one at 99 feet, one at 95 feet and one at 91 feet above the ground.

Sometime after the monopole structure was erected and the antennas mounted, a complaint was filed with Baltimore County Code Enforcement alleging that the accessory structure was taller than the 50 feet allowed. After Code Enforcement personnel visited the subject property, the Owners were issued a Correction Notice which alleged that because the antenna that is located at a height of 91 feet above the ground extended

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[2] Counsel is advised by the experts in this case that for radio, the plural of antenna is antennas. In entomology (the study of insects), the plural of antenna is antennae.

horizontally to within 65 feet of the closest property line, it could not be higher than 65 vertical feet above the ground. Based on the obvious ambiguity in the wording of the *Baltimore County Zoning Regulations* ("BCZR") defining the maximum height for a radio operator antenna, and the illogical measurement of vertical height based on a horizontal distance, the Owners filed a Petition for Special Hearing requesting an interpretation of "BCZR § 426A.E, giving full consideration and pre-emptive weight and authority to the Federal Communication Commission statutes, rules, regulations, policies and interpretations applicable to the radio operator antenna, its height and location on the subject property" to permit "the continued configuration, height and location of the existing, radio operator antenna on the subject property." In the alternative, the Owners filed a Petition for Variance to allow, *inter alia*, the existing radio operator antenna "with a height of 91 feet, each in lieu of 65 feet, which is the horizontal distance from the closest point of the array from the nearest property line."

After accepting testimony and evidence at the public hearing on the Petitions as filed, the Zoning Commissioner issued his Order, approving the configuration, height and location of the existing radio operator antenna on the subject property and dismissing the requested variance relief as moot. Thereafter, an appeal was filed by Mr. Peek and a separate appeal was filed by People's Counsel.

On December 5, 2006, this Board conducted a day-long hearing on the *de novo* appeal, accepting testimony and evidence from those present. People's Counsel did not attend or participate in the proceedings before this Board, electing instead to submit a

written, *Prehearing Memorandum*. In lieu of closing argument, the Owners and Mr. Peek[3] were requested to submit Post-Hearing Memoranda.

THE EVIDENCE

Bruce E. Doak, PLS - Property Description, Applicable Zoning Regulations and Measurements

The Owners presented Bruce E. Doak, a registered surveyor in Maryland and acknowledged zoning expert. Accepted without objection as an expert in Baltimore County zoning matters, Mr. Doak testified that he and his firm were retained to prepare the plat which accompanied the zoning petitions ("Plat") and that it depicts accurately the improvements located on the subject property and a "not-to-scale" drawing of the existing self-supporting (described as "monopole")[4] structure and antennas located thereon, as well as all other information required by applicable zoning checklists for preparation of such drawings. The Plat was accepted as Petitioners' Exhibit No. 2.[5]

The subject property was described by Mr. Doak as an irregularly shaped panhandle lot, of approximately 2.2 acres which slopes from the front to the rear which is zoned RC-6. Improvements on the subject property noted by Mr. Doak were the Governale's existing home, as well as the accessory tower and antennas. As to the accessory amateur radio

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[3] Mr. Peek is a licensed member of the Maryland Bar.

[4] Counsel is advised by the experts in this case that, in the communications world, a "monopole" routinely refers to a round and solid structure, like a wooden telephone pole. The structure on the subject property is a lattice style. The ususal nomenclature for the appropriate category, including the category in the building code, is "antenna support structure."

[5] The entire Zoning Commissioner's file as transmitted to this Board was previously moved and accepted without objection as Petitioners' Exhibit No. 1.

operator antenna use, Mr. Doak testified that such accessory use is permitted, pursuant to BCZR § 426A, in any zone in the County.

With respect to the complaint filed with Baltimore County, Mr. Doak testified that based on his knowledge after reviewing Code Enforcement's file, the original complaint by Mr. Peek alleged that the amateur radio antenna on the subject property was taller than the fifty (50) feet allowed by BCZR § 1B01.1A.18b[6], applicable to property zoned Density Residential (DR). Although the DR zones are associated with the more densely populated areas of the County, the height of the antenna specified in that section is measured with respect to the vertical distance [height] "above grade level." *Id.*

Next, with reference to the Plat [Petitioners' Exhibit No. 2], Mr. Doak described the location of the tower as 100 feet from the rear property line, 102 feet from each side property line and 147 feet from the dwelling at its closest point. The antennas were described as being 91, 95 and 99 feet above the ground, as depicted on the drawing on the left hand side of the Plat. With respect to the 65 foot dimension shown from the end of the antenna located 91 feet above the ground, Mr. Doak testified that based on one Zoning Office reviewer's reading of BCZR § 426A.E, the measurement had to be included as it was the height limit of that antenna. Mr. Doak acknowledged that at all points along the

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[6] BCZR § 1B01.1A.18b provides "[w]ireless transmitting and receiving structures, provided that any such structure: is a radio antenna in conjunction with transmitting and receiving facilities used by a resident amateur radio operator possessing an amateur radio operator's license issued by the Federal Communications Commission; if it is an independent structure, shall be subject to the same requirements as are applied to buildings under Section 400; if it is a rigid-structure antenna, shall be no higher than 50 feet above grade level and with no supporting structure thereof closer than 10 feet to any property line; and does not extend closer to the street on which the lot fronts than the front building line."

subject antenna, it is located 91 feet above the ground.

Mr. Doak then testified as to his familiarity with the provisions of the *Baltimore County Zoning Regulations* ("BCZR") that are applicable in this case and his application of those regulations and others in his professional practice. Three, separate provisions of the BCZR were identified by Mr. Doak and accepted into evidence as follows:

> ***Radio Operator Antenna*** - Definition: "A wireless antenna used in conjunction with radio transmitting and receiving facilities used by a resident amateur radio operator possessing an amateur radio operator's license issued by the Federal Communications Commission."[7] BCZR § 101

BCZR § 426A[8] - ***Radio Operator Antennas***:

A. A radio operator antenna and related equipment, including any supporting structure, is considered an accessory structure or use and is permitted by right in any zone if the radio antenna and the related equipment meets the requirements of this section.

B. A radio operator antenna shall be operated by an amateur radio operator who is licensed by the Federal Communications Commission and whose domicile is on the lot where the antenna and the related equipment is placed.

C. A supporting structure for a radio operator antenna may not be located within 20 feet of any property line.

D. A radio operator antenna may not extend closer than the front building line to any street on which the lot fronts.

E. A radio operator antenna may not be higher than the lesser of 100 feet or the horizontal distance to the nearest property line above grade level.

As part of Mr. Doak's analysis for the Board, BCZR § 426.5, governing the location

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[7] Petitioners' Exhibit No. 3.

[8] Petitioners' Exhibit No. 4

and height restrictions for wireless telecommunications towers and antennas was introduced into evidence as Petitioners' Exhibit No. 5. Drawing upon his familiarity with the BCZR, Mr. Doak advised that the term "height" is not defined therein, but that BCZR § 101 provides that were a term is not otherwise defined, the ordinarily accepted definition as set forth in the most recent edition of Webster's Third New International Dictionary of the English Language is to be used.[9] A copy of the Webster's definition of "height" was submitted as Petitioners' Exhibit No. 6. Mr. Doak, after reviewing the definition, stated without contradiction that the ordinary meaning of "height" (according to Webster) relates to the highest point of an object or the distance from the bottom to the top, but never its width or horizontal distance.

Mr. Doak contrasted BCZR § 426.5D which specifies how height is to be measured as well as the maximum height permitted for wireless telecommunications facilities, with BCZR § 426A.E which specifies only the maximum height for radio operator antennas. For wireless telecommunications facilities, height is measured "from the base of the tower to the tip of the tower or the tip of the highest antenna on the tower, whichever distance is greater." BCZR § 426.5D.

Applying his extensive experience with wireless telecommunications facilities to radio operator antennas, Mr. Doak opined, without contradiction, that the height of an antenna and its supporting structure were of concern with respect to their location from

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[9] BCZR § 101: "Any word or term not defined in this section shall have the ordinarily accepted definition as set forth in the most recent edition of Webster's Third New International Dictionary of the English Language, Unabridged. [Bill No. 149-1987]"

property lines. If the antenna or tower were to fall, the intent of the height limitation and required setback is to ensure that they fall on the property on which they are located and do not strike any buildings located thereon. In his expert opinion, Mr. Doak testified that the antennas located on the subject property were set back from adjoining property lines at least as far as they are tall. Mr. Doak's unchallenged testimony was that all supporting structures for the antennas are more than 20 feet from all property lines [including the back-up generator] and the antennas are not located closer to Glenbrook Drive than the Governale's home.

With respect to the criteria generally applied to zoning special hearing petitions, Mr. Doak testified that the existing antennas, given their location, will have no impact on the health, safety or general welfare of the community; if they fall, they will all fall on the Governale property. The existing antennas and the support structure occupy a small portion of the subject property and will, therefore, not overcrowd the land, nor will they create any potential hazard, nor impact negatively public services. Mr. Doak testified that the existing accessory uses/structures do not interfere with adequate light or air nor, based on the small footprint, is there any impact on the impermeable surface or vegetative retention requirements. Moreover, Mr. Doak noted that radio operator antennas, permitted in all zones, have been determined by the County Council to be consistent with the BCZR and the RC-6 zone.

Applying the Office of Zoning reviewer's application of BCZR § 426A to the existing antennas, Mr. Doak opined that because the BCZR do not prohibit more than one accessory use on a residential property, the existing 99 foot tall tower and the antennas

located at 95 and 99 feet could remain and the Governales could construct a second tower, 65 feet tall, to locate the longest antenna at the top of it. That antenna would then be 65 feet above ground.

If this Board does not interpret BCZR § 426A as did the Zoning Commissioner and in accord with the ordinary meaning of "height," Mr. Doak testified that, based on topographic conditions and the Petitioners' need to transmit at certain frequencies for effective and reliable communication, the subject property is unique when compared to other RC-6 zoned property. Referring to Petitioners' Exhibit No. 2, Mr. Doak testified that the alternative variance relief requested was the minimum necessary to ensure justice to the Petitioners and other property owners, and that strict compliance with one County reviewer's interpretation of BCZR § 426A would unreasonably prevent the use of the subject property for a use that has been specifically permitted by the County Council.

On cross-examination, Mr. Doak was asked if an antenna located at a height above ground less than 100 feet could extend across the property line. In response, Mr. Doak testified that such would be a trespass onto the property of another, even though it was in the air.

Benjamin A. Governale — W3LL — Qualifications/Building Permit/Needs for Effective Communication

Mr. Governale testified that he has been a licensed amateur ("ham") radio operator

since 1962, whose current "Amateur Extra" license[10] issued by the FCC extends until 2012.[11] As a retired U.S. Coast Guard Commander, Mr. Governale was a degreed electrical engineer for the Black & Decker corporation for more than 32 years. Prior to purchasing the subject property in the mid-1970s, Mr. Governale conducted what he described as an exhaustive search for a home and property that would, in addition to family considerations, fulfill his need for reliable and effective amateur radio communications. His search evaluated properties on factors which included [in addition to the standard real estate factors such as schools, shopping, distance to work] topographic considerations, distance from airports and distance from commercial communication towers, etc. He and his wife purchased the subject property and the parcel immediately to the rear.

The radio operator antennas are located on the Governale's home lot and it would not be feasible to locate them on the parcel they own to the north due to its significantly lower topography and extensive forest cover, which would reduce greatly his ability to transmit and receive amateur radio communications.

Although his designation is as an "amateur" radio operator[12]:

- Mr. Governale is a member of the American Radio Relay League;
- His station is designated a National Weather Service certified severe weather reporting station;

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[10] Petitioners' Exhibit No. 11

[11] It is further renewable. 47 CFR 97.21(a)(3).

[12] A complete description of Mr. Governale's memberships, activities and emergency public service as an amateur radio operator is contained in a *Supplemental Information* submission made to this Board directly by Mr. and Mrs. Governale and transmitted with this Memorandum.

- Mr. Governale and his station are part of the Baltimore County Amateur Radio Emergency Service ("RACES"), administered by the Baltimore County Department of Homeland Security – qualification for RACES included fingerprinting and a complete background investigation;

- Mr. Governale was the sole RACES operator during Hurricane Ernesto and the sole operator for the Harford County Emergency Operations Center during their recent Weapons of Mass Destruction drill, as well as an operator for same drill conducted by Baltimore County; and

- Mr. Governale does not conduct or permit any commercial communications from his station or the antennas located on the subject property[13].

Prior to erecting the antenna tower, Mr. Governale personally made application for any and all permits necessary. After describing the proposed antennas, he was advised by County permit officials that the permit application should list a "monopole radio tower" and that the tower could not be more than 100 feet tall and that it must be located at least 100 feet from all property lines. Mr. Governale prepared the required plot plan[14] and submitted the permit application which was then reviewed and approved by all County review agencies before Building Permit No. B551665[15] was issued. That permit was issued on April 6, 2004. Mr. Governale constructed the proposed tower and antennas – the permit remains valid today, having never been revoked or rescinded.

The plot plan submitted with the permit application showed the location of the proposed support structure as 103 to 105 feet from the respective property lines. After

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13 *See*, 47 CFR Sec. 97.113, introduced as Petitioners' Exhibit No. 12.

14 Petitioners' Exhibit No. 13

15 Petitioners' Exhibit No. 8

construction was completed and Mr. Doak's survey conducted, the monopole is actually 100 feet from the rear property line which is a common property line with the parcel that the Governale's own to the north. In all respects, the required setbacks are met.

Mr. Governale described the height of the antenna from grade to be 99 feet and that there are no guy wires necessary to support any portion of the improvements. Using Petitioners' Exhibit No. 1, Mr. Governale described the function and limitations of each of the three antennas as follows:

- at the height of 99 feet is the 432 MHZ array; this array permits communications in the UHF band; trees and buildings act as obstruction to the line of sight communications at these frequencies.

- at the height of 95 feet is the 144 MHZ array; like the previously described array, communications are transmitted and received in the VHF band.

- at the height of 91 feet is the 7 MHZ array (the "**7 MHZ antenna**"), which operates in the High Frequency ("HF") or "Short Wave Band"; the antenna design goal for this frequency is recommended to be 1.0 to 1.5 wavelengths above ground for the lowest frequency used; in this case, the design goal (one wavelength above ground) would be 140 feet. However, given the topography of the subject property and the distance from commercial towers, the 91 foot height renders communications from this array marginally acceptable.

Mr. Governale then described the factors which were used in locating and designing the antennas as:

- surrounding obstructions, such as buildings, trees, etc.

- the ability to transmit/receive on the frequencies used with an antenna at a height necessary to avoid such obstructions, foliage, etc.; transmitting above these obstructions permits the amateur to communicate more effectively, <u>at lower power levels</u> – Mr. Governale's station transmits at approximately 100 watts, approximately 1/500th the power of WBAL's signal.

- it is located as far as possible from adjacent residences without encroaching on setbacks or easements; his 34-foot high home provides an effective screen for the bottom 60 feet of the supporting structure; in anticipation of the installation of these antenna, years ago the Owners planted the existing line of spruce trees.

- the subject property slopes to the southwest, south and northwest and these slopes allow low angle transmission signals to travel effectively.

- higher angle signals are not affected by the elevated slope to the southeast and, looking to the northeast, the line of sight is relatively flat – favoring line of sight communications.

- the attributes of topography and location of the subject property were not duplicated on other properties considered and therefore a much higher antenna would have been necessary on the other properties considered, which would have necessitated a variance for antenna height.

- the antenna support structure has a gray, steel finish to make it harder to see from a distance as depicted in the photographs submitted as Petitioners' Exhibit No. 7 A-C.

In order to continue to transmit and receive radio communications in accordance with his licensed activities and responsibilities, Mr. Governale needs to maintain the 7 MHZ antenna at a minimum height of 91 feet. Any interpretation of BCZR § 426A that would require it to be lower to the ground, below even its existing, marginal capability, would compromise and impair Mr. Governale's needs for effective and reliable communications. In his considered and uncontradicted opinion, a lower height would not be a reasonable accommodation of those needs. Moreover, lowering the 7 MHZ antenna could potentially result in a conflict with electronic devices in the Governale or neighboring homes which, as Mr. Governale described, considered with the need to transmit above trees and obstructions, are precisely the reasons why FCC regulations

permit amateur radio antennas, absent a conflict with FAA regulations, to be as high as 200 feet without further regulation.[16]

If asked to apply the height calculation for wireless communication towers [BCZR § 426.5D] to his 7 MHZ amateur radio antenna, Mr. Governale determined that it's height under that formula would be 97.1 feet as demonstrated graphically in Petitioners' Exhibit No. 15. During his direct testimony, Mr. Governale was called upon to demonstrate the zoning reviewer's method of calculating height by standing in the witness box and advising this Board as to his "height" — to which he responded 5'9". Mr. Governale was then requested to stretch his arms out, horizontally and parallel to the floor, and then advise this Board as to his height — which he testified remained at 5'9".

With respect to potential neighbor perception, Mr. Governale produced a colored copy of a portion of the State tax map showing his property and that of his neighborhood.[17] Mr. Governale identified each of the colored parcels and related them to a signed Petition of support which described verbatim the relief requested and to written letters of support from each of his neighbors for the requested zoning relief.[18] It should be noted that some of the neighboring properties were sold to new owners between the time of the hearing before the Zoning Commissioner and this Board's hearing. The new owners signed the

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16 47 CFR Sec. 97.15(a).

17 Petitioners' Exhibit No. 9

18 Petitioners' Exhibit No. 14. This exhibit contains copies of the letters from neighbors submitted to the Zoning Commissioner which Mr. Governale testified had not been rescinded. Also included in this exhibit is a letter from the Petitioners as owners of the parcel to the north of the subject property.

Petition or submitted a letter in support of the relief requested.

Describing what his neighbors see when looking at the antennas, Mr. Governale described the tower (the "most visible feature") as a "pencil against the sky" having a "majestic appearance." Mr. Governale contrasted that view with what he and his neighbors who live in the Phoenix/Jacksonville area have with respect to the numerous, existing wireless telecommunications towers in their community. Those facilities are taller and many are adjacent to or in the direct line of sight of nearby residences. A series of photographs of these wireless towers was submitted by Mr. Governale as Petitioners' Exhibit No. 16.

Mr. Governale testified that if this Board were to calculate the height of the 7 MHZ antenna by a horizontal measurement of its width, such a determination would:

- run afoul of the federal law requiring that local laws and regulations provide reasonable accommodation for amateur radio operators;

- affect, disproportionally, the communications effectiveness from the subject property, including at times prohibiting completely some of the communications, based upon the signal propagation studies conducted for the subject property; and

- impinge on his federally protected needs as a licensed amateur radio operator.

In summary, Mr. Governale testified that the granting of the requested relief would not have any adverse impact on the health, safety or general welfare of the public and, to the contrary, his radio operator antennas permit him to assist the public and emergency agencies. These public benefits were described by Mr. Governale as precisely why federal law and regulation with which he is required to be familiar mandate that local laws and ordinances provide reasonable accommodation of the needs of amateur radio/ham

operators.

On cross-examination, Mr. Governale acknowledged that he had previously used a temporary, wire antenna stretched between trees which permitted limited communications in the 28MHz band. In responding to a question from Mr. Peek about the 140 foot, optimal height for the 7 MHZ antenna, Mr. Governale indicated that he considered applying for a variance to obtain that optimal performance but the signal propagation studies he had performed indicated that the 91 foot height would accommodate his need, even if only marginally.

Christopher D. Imlay, Esquire – Communications Law Expert

Christopher D. Imlay, Esquire, a partner at Booth, Freret, Imlay & Tepper in Washington DC, testified as to his educational and professional background in representing clients with respect to Federal communications law for the majority of his professional career to date and teaching continuing legal education seminars regarding telecommunications law.[19] Mr. Imlay is also general counsel to the American Radio Relay League, a national association of more than 160,000 amateur radio operators in the United States. After review of his extensive professional qualifications, Mr. Imlay was accepted without objection as an expert in communications law.

Mr. Imlay detailed the decision of the FCC entitled *Memorandum Opinion and Order in PRB-1*, released September 19, 1985.[20] Mr. Imlay, who was indirectly involved in that decision, noted that the FCC held that there is a "strong federal interest in promoting amateur communications" and that "a limited preemption policy [of state and local

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19 Mr. Imlay's Resume was accepted as Petitioners' Exhibit No. 17

20 Petitioners' Exhibit No. 18

law/regulation] is warranted." *PRB-1* at ¶ 24. While the FCC did not suggest precise language to be adopted in local ordinances regarding radio antenna height, the FCC held that any such ordinances involving location, screening or height of antennas must be designed to "accommodate reasonably amateur communications, and to represent the minimum practicable regulation" to accomplish the local government's legitimate, governmental purpose. *PRB-1* at ¶ 25.

In Mr. Imlay's considerable experience in representing amateur/ham radio operators, zoning setback regulations in residential areas are related to the height of the antenna above the ground. Moreover, the height limitation is normally applied to the antenna support structure or monopole, allowing the amateur radio operator to "experiment" with antennas at various heights.

John B. Burdette, VP - United States Tower Services, Ltd.

Mr. Burdette, is the vice-president of the United States Tower Services company where he has been employed for over thirty (30) years.[21] Although his company did not install the antenna system on the subject property, Mr. Burdette has considerable experience in the permitting process in numerous localities for the erection of all types of antennas and towers for communications purposes. Mr. Burdette testified that in his experience and in his knowledge of the professional literature, he is not aware of any instance in which a tower has fallen a horizontal distance greater than its height above ground. However, perhaps the most poignant provision of Mr. Burdette's testimony was that the height of an antenna/tower has no rational relationship to the width of the antenna

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[21] Mr. Burdette's letter to this Board, dated November 29, 2006, was accepted as Petitioners' Exhibit No. 10.

or the turning radius of the antenna.

James A. Nitzberg, BSEE

Mr. James Nitzberg, who holds a bachelors degree in Electrical Engineering, testified regarding the report that he co-authored with John V. Evans, PhD, entitled *Needs Analysis With Respect to Height for an Amateur Radio Support Structure – Baltimore County, Case No. 06-180-SPA*, for the Governale property.[22] Mr. Nitzberg described his familiarity with the subject property, his review of its terrain and the terrain which surrounds, and his analysis, together with Dr. Evans, of the effectiveness of the radio operator antennas on the subject property. In the analysis conducted, both authors relied on a publication Mr. Nitzberg described as "industry standard" for evaluating amateur radio sites entitled *Antenna Height and Communications Effectiveness* - A Guide for City Planners and Amateur Radio Operators, 2nd Ed.[23], co-authored by R. Dean Straw, the author of the nationally recognized and widely used software developed to analyze local terrain. In addition, Mr. Nitzberg and Dr. Evans utilized software developed by the United States Government for analysis of antenna effectiveness. Referring to the analysis conducted for the subject property, Mr. Nitzberg summarized the conclusions as follows:

- the existing tower and antennas should be higher, but will operate as an acceptable compromise for the needs of this particular amateur radio operator.

- a height of 65 feet for the 7 MHZ antenna would be unacceptable and would not meet the needs of the amateur radio operator.

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[22] Petitioners' Exhibit No. 20

[23] Petitioners' Exhibit No. 19; *also included* in the Appendix to Petitioners' Exhibit No. 20.

- reducing the height of the 7 MHZ antenna to 65 feet would reduce the coverage area and impair communications, including without limitation those to emergency radios used by search and rescue personnel and coverage support for the National Weather Service

Mr. Nitzberg also described the effect that trees have on the propagation of signals at frequencies range used by amateur radio operators. Mr. Nitzberg's analysis and conclusions were based, in part, on an industry recognized publication entitled *Effects of Tree on Slant Propagation Paths*, by Vogel and Hagn.[24] Mr. Nitzberg concluded that due to the extensive tree buffering around the subject property and his analysis of signal propagation using standard industry software, lowering the 7 MHZ antenna to 65 feet above the ground would adversely affect the need of the amateur radio operator.

Mr. Michael Leonard - New Neighbor

Mr. Michael Leonard, who purchased his property in the community in 2006, saw the sign for the Zoning Commissioner's hearing and requested that his realtor find out what was going on. While he lives approximately 300 feet from the subject property, the existence of the accessory structure did not impinge on his decision to purchase his home.

Mr. James Green - Tower Owner

Mr. Green (amateur radio license WB3DJU) took the stand and advised the Board that he lives in the area at 36 Sunnyview Drive, and that he, too, has an amateur radio antenna and tower, but that his is on a significantly smaller parcel.[25] Mr. Green did not understand the relationship of the width of an antenna to its height.

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[24] Petitioners' Exhibit No. 21.

[25] To aid the Board in its deliberations (although not an exhibit in the record of this case), a photograph of Mr. Green's antenna system is provided in the Appendix.

THE PROTESTANTS' CASE

There were a total of three (3) persons who live in the area who appeared and offered lay testimony in opposition to the relief requested.[26] Mr. Jason Hardebeck, who resides at 21 Dalebrook Drive, acknowledged that the antenna structure on the subject property is a monopole as described in the building permit obtained by the Owners, but he is primarily concerned about the aesthetics of the antennas. Likewise, Ms. Anne-Marie Hudak, who has resided at 18 Dalebrook Drive for 6 years, complained that she had not been informed of the erection of the accessory use on the subject property and she, too, was concerned about aesthetics.

Finally, Mr. Jeffrey L. Peek, Esquire, took the stand.[27] Mr. Peek advised the Board that he purchased his home in 2003 and wants a "balance" between owners. His view is that the "effect" of the "tower is 95% aesthetic." (Emphasis added.) His property is lower than the subject property. Mr. Peek introduced a variety of photographs that had been submitted at the time of the hearing before the Zoning Commissioner.[28] Mr. Peek concluded with his opinion that the "tower upsets the aesthetics of the area." (Emphasis added.)

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[26] Any opposition raised by People's Counsel in the Pre-hearing Memorandum will be addressed in the Argument section of this Memorandum.

[27] Due to the late hour at which Mr. Peek took the stand, legal counsel for the Petitioners agreed not to conduct any cross-examination of Mr. Peek.

[28] Protestants' Exhibit No. 1 A-J

ARGUMENT

The Petitioners Have Properly Determined the Height of the 7 MHZ Antenna to be 91 Feet Above the Ground and in Compliance with the BCZR

Prior to the passage of County Council Bill No. 30-98[29] and in response to several Council Resolutions, the Baltimore County Planning Board ("Planning Board") prepared *Proposed Amendments to the Baltimore County Zoning Regulations Regarding Wireless Telecommunications Facilities* - A Final Report of the Baltimore County Planning Board Adopted November 20, 1997.[30] The Planning Board's report and the Council's Resolutions were outgrowths of the comprehensive overhaul by the United State Congress of the regulation of communications in this nation in 1996. Although the Planning Board's report dealt mainly with wireless telecommunications facilities, it also recommended the adoption of language in a new section of the BCZR (which became codified as Section 426A), specifying that the recommended language did "not change the substance of the current regulations." Planning Board Report at page 8. County Council Bill 30-98, repealed the definitions of "Antenna, Long-Wire" and "Antenna, Rigid-Structure" and BCZR § 426 which dealt with the [undefined] use of Wireless Transmitting or Receiving Structures.[31] While, prior to 1998, a "rigid-structure antenna" was limited to 50 feet in height in the **DR zones** [BCZR § 1B01.1A.14.b][32], the corresponding height limitation in

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29 A copy of this legislation is in evidence as Petitioners' Exhibit No. 22.

30 Petitioners' Exhibit No. 23

31 The repealed definitions and the prior BCZR § 426 are included in the Appendix to this Memorandum.

32 A copy of this provision is included in the Appendix to this Memorandum.

the RC zones was 100 feet. [BCZR §§ 1A01.2B.7.g [RC-2], 1A02.2B.31 [RC-3], 1A03.3B.14 [RC-4], 1A04.2B.21 [RC-5]][33]

County Council Bill No. 30-98 added, *inter alia*, the definition of "Radio Operator Antenna" and BCZR § 426A as they exist today. Even the applicable federal regulations and *PRB-1* acknowledge that a local government will not be preempted in its adoption of height and dimensional limitations on antennas provided that such limitations "accommodate reasonably amateur communications" and "represent the minimum practicable regulation". *PRB-1* at ¶ 25. In adopting its policies, the FCC recognized that certain "amateur antenna configurations require more substantial installations <u>if they are to provide the amateur operator with the communications that he/she desires to engage in</u>." *Id.* (Emphasis added.)

Even analyzing the current BCZR § 426A in a light most favorable to the County Council that adopted it still reveals the absolute ambiguity in the language of the regulation as written. It limits the height [absent a variance] of an amateur radio antenna to a maximum of 100 feet at the outset. However, the ambiguity is presented immediately when the height of the antenna is compared to its horizontal length, <u>measured from some unknown/undefined point</u> to the closest property line. As noted by Mr. Doak, nowhere does the current BCZR define the term "height," so its ordinary meaning from Webster's is to be applied — from the bottom to the top, as a <u>vertical measurement</u>.

Each of the Petitioners' experts that testified stated without contradiction that the height of an antenna is in no way related to its width or length. The Protestants are

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[33] A copy of each of these provisions is included in the Appendix to this Memorandum.

attempting to blur the extension of the antenna in a horizontal plane with its height measured in a vertical plane. Such an application, as noted by the Zoning Commissioner is improper:

> BCZR Section 426A.E cannot be read in a vacuum. There are three (3) provisions of Section 426A dealing with measurements. Those provisions are:
>
> BCZR § 426A.C: The "supporting structure for a radio operator antenna may not be located within 20 feet of any property line." (Emphasis added.)
>
> BCZR § 426A.D: A "radio operator antenna may not extend closer than the front building line to any street on which the lot fronts. (Emphasis added.)
>
> BCZR § 426A.E: A "radio operator antenna may not be higher than the lesser of 100 feet or the horizontal distance to the nearest property line above grade level." (Emphasis added.)
>
> Thus, these provisions deal, in reverse order, with the height of the antenna, the extension of the antenna and the distance that the supporting structure is located from any property line.... Thus, Protestants consider the "extension" of an antenna in a horizontal plane as the determining factor in its "height".

Order at 4.

The ambiguity of BCZR § 426A would lead to an absurd result and would effectively regulate the frequencies [communications effectiveness is reduced at lower heights] that can be utilized by an amateur radio operator in contravention of federal law

and regulation. In a seminal case not unknown to this Board, the Maryland Court of Appeals, in determining whether or not a snake was included in the definition of farm animal, held:

> We have said that '[t]he cardinal rule of statutory interpretation is to ascertain and effectuate the intention of the legislature.' Legislative intent must be sought first in the actual language of the statute. Where the statutory language is plain and free from ambiguity, and expresses a definite and simple meaning, courts normally do not look beyond the words of the statute to determine legislative intent. ... This Court recently stated that **'statutory language is not read in isolation, but "in light of the full context in which [it] appear[s], and in light of external manifestations of intent or general purpose available through other evidence."'** To this end, [w]hen we pursue the context of statutory language, **we are not limited to the words of the statute as they are printed.... We may and often must consider other 'external manifestations' or 'persuasive evidence,'** . . . .

Marzullo, et al. v. Peter Kahl, 366 Md. 158, 175-76 (2001) [Alterations in original.)(Citations omitted.) (Emphases added.)

It is only where there is no ambiguity in the words or application of a statute that the plain meaning is applied and enforced. However, where such ambiguity exists, as in BCZR § 426A, a reviewing Court must consider other evidence. Thus, a reviewing Court's goal in interpreting the words of a statue:

> is to give them their "**most reasonable interpretation, in accord with logic and common sense**, and **to avoid a construction not otherwise evident by the words actually used.**" We will avoid constructions that are illogical, unreasonable, or inconsistent with common sense. _Moreover, we will not engage in a "forced or subtle interpretation in an attempt to extend or limit the statute's meaning."'"We bear in mind, however, that **the plain meaning rule is elastic**, rather than cast in stone." "**If persuasive evidence exists outside the plain text of the statute, we do not turn a blind eye to it.**" We may consider the context in which the statute appears, related statutes, legislative history, and other sources for a more complete understanding of what the General Assembly intended when it enacted particular legislation. "**We may also consider the particular problem or problems the**

> **legislature was addressing, and the objective it sought to attain." "This enables us to put the statute in controversy in its proper context and thereby avoid unreasonable or illogical results that defy common sense."**

Ohio Cas. Ins. Co. v. Chamberlin, ___ Md. App. ___, 4-5 (2007)[34] (Citations omitted.) (Emphases added.)

The interpretation suggested by the Protestants – the height of an antenna is determined by its width – defies all common sense regarding the height of an object. All of the witnesses presented by the Petitioners concluded that the measurement of height of the antennas on the subject property is the vertical distance between the ground and each antenna. Like a reviewing court, this Board should not turn a blind eye to the overwhelming evidence in this case which is necessary to avoid an illogical construction of an ambiguous regulation.

The 7 MHZ antenna is 91 feet high, well within the 100 foot maximum imposed by the BCZR [absent a variance]. The highest antenna on the subject property is less than 100 feet. As expressly acknowledged by People's Counsel, "[t]he **height** of the proposed antenna is 99 feet."[35] (Emphasis added.) In the event that this Board were to ignore the substantial evidence before it regarding the proper determination of height, the Petitioners' alternative request for a variance should be granted. The uniqueness of the subject property as testified to by Petitioners' expert witnesses remains uncontradicted. The topography, surrounding vegetation and off-site topographic considerations would have a disproportionate impact on Mr. Governale's need and ability to communicate effectively

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[34] A copy of the reported case captioned *Ohio Casualty Insurance Co. v. Chamberlin*, filed January 2, 2007, appears in the Appendix to this Memorandum.

[35] People's Counsel Pre-Hearing Memorandum at 2.

and reliably by degrading coverage and attenuating signals transmitted and received. The alternative relief is the minimum necessary and, as evidenced by the overwhelming support of all adjoining neighbors and others in the neighborhood, the alternative relief will do substantial justice to the Petitioners and others. Those three community members who are in opposition to any relief, base their opposition solely on aesthetic considerations. Beauty, being in the eye of the respective beholder, must yield to more objective considerations in facilitating and encouraging a federally licensed amateur radio operator.[36]

The Subject Property's Zoning Classification is Irrelevant to the Issues Presented

"A radio operator antenna and related equipment, including any supporting structure, is considered an accessory structure or use and is permitted by right in any zone ...." BCZR 426A.A Peoples' Counsel spends an inordinate amount of paper and words arguing about the RC-6 zoning classification applicable to the subject property and its intent, goals, density and conservancy standards. The subject property was created more than 20 years before the RC-6 classification was even adopted. Moreover, the radio operator antenna is a permitted accessory use in all zones. Likewise, the fact that the subdivision in which the subject property is located may not have been approved if presented today for the first time is irrelevant. The subdivision exists, the subject property exists, both pre-date the RC-6 zone and there is not a shred of evidence in the record that the subject property was created illegally. When the subject property was created, there

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[36] "Congress finds and declares that—. . . (3) reasonable accommodation should be made for the effective operation of amateur radio from residences, private vehicles and public areas, and that regulation at all levels of government should facilitate and encourage amateur radio operation as a public benefit." Public Law 103-408 (1994). http://thomas.loc.gov/cgi-bin/query/z?c103:S.J.RES.90.ENR

was no RC-6 conservancy goal. Even if the subject property (a legal lot of record on the effective date of County Council Bill No. 73-2000) were not improved at the time the RC-6 zone was attached, a single family dwelling and accessory uses (including without limitation, a radio operator antenna) could be erected. BCZR § 1A07.8B.4

This Board Must Apply Applicable Provisions of Federal Law, Regulation and Policy

People's Counsel sets out in its third subsection of the Prehearing Memorandum that it filed with this Board an argument that "Federal law does not preempt or justify the allowance of this antenna." In a clever attempt to give persuasive authority to the review by the Maryland Court of Special Appeals' of this Board's decision in the *Sprint PCS* case, where issues of federal preemption were raised with respect to <u>wireless telecommunications facilities</u>, People's Counsel quotes three entire paragraphs from that Court's <u>unreported opinion</u>.[37] Maryland Rule of Procedure 1-104(a) states clearly that an "unreported opinion of the Court of Appeals or Court of Special Appeals is neither precedent within the rule of stare decisis **nor persuasive authority**." (Emphasis added.)

Next, People's Counsel attempts to argue that the federal Telecommunications Act of 1996 (codified as 47 U.S.C. § 332(c)(7)) does not preempt, in any way, the issues in this case.[38] As a bald statement, it is correct — People's Counsel is citing federal law that has no bearing, impact or relevance to an amateur radio antenna; the provision cited applies <u>only</u> to wireless telecommunications facilities, a category which does not include amateur radio facilities.

The issue in this case involves the allowable height of an amateur radio operator

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[37] People's Counsel Prehearing Memorandum at 8-9.

[38] People's Counsel Prehearing Memorandum at 7.

antenna. As such, 47 CFR § 97.15 which deals with amateur radio antennas is the controlling law which limits local authority, by requiring reasonable accommodation:

> Except as otherwise provided herein, a station antenna structure may be erected at heights and dimensions sufficient to accommodate amateur service communications. (State and local regulation of a station antenna structure must not preclude amateur service communications. Rather, it must reasonably accommodate such communications and must constitute the minimum practicable regulation to accomplish the state or local authority's legitimate purpose. *See* PRB-1, 101 FCC 2d 952 (1985) for details.)

47 CFR § 97.15(b)

The Petitioners have shown conclusively, through uncontradicted, expert evidence that interpretation of BCZR §426A as suggested by the Protestants will not accommodate, reasonably or otherwise, amateur radio communications from the subject property to meet the needs of the licensed amateur radio operator. Lowering the height of the 7 MHZ antenna to 65 feet above the ground will impair its capabilities and impinge on the needs of this radio amateur.[39]

The Williams Case

One Protestant, Mr. Peek, appears to argue that this Board may balance the interests of the Protestants with those of the radio amateur in the creation of its ruling. He bases this claim on *Williams v. City of Columbia*, 906 F.2d 994 (4th Cir. 1990). The key holding from *Williams* is: "[PRB-1, or 47 C.F.R. § 97.15(b)] requires only that the City balance the federally recognized interest in amateur radio communications with local zoning

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[39] "PRB-1's guidelines brings (*sic)* to a local zoning board's awareness that the very least regulation necessary for the welfare of the community must be the aim of its regulations so that such regulations will not impinge on the needs of amateur operators to engage in amateur communications."
http://www.fcc.gov/Bureaus/Wireless/Orders/1999/da992569.txt

concerns." 906 F.2d at 998.

Subsequent to the *Williams* case, the FCC expressed the full extent of its preemptive intent and explicitly disapproved of the Fourth Circuit's approach.

> [T]he PRB-1 decision precisely stated the principle of 'reasonable accommodation.' In PRB-1, the Commission stated: 'Nevertheless, local regulations which involve placement, screening, or height of antennas based on health, safety, or aesthetic considerations must be crafted to accommodate reasonably amateur communications, and to represent the minimum practicable regulation to accomplish the local authority's legitimate purpose.' **Given this express Commission language, it is clear that a 'balancing of interests' approach is not appropriate in this context.**

Modification and Clarification of Policies and Procedures Governing Siting and Maintenance of Amateur Radio Antennas and Support Structures, 14 F.C.C.R. 19,413 para. 7 (1999), FCC 99-2569 or RM-8763 (Emphasis added.)

As the FCC pointed out nine years after the *Williams* decision, the plain language of *PRB-1* imposes the obligation of reasonable accommodation upon a municipality and belies a simple balancing approach. Given this plain and express language, *Williams* was incorrect in its key holding. In the absence of an explicit disapproval of the "balancing of interests" approach by the FCC, the 1990 holding was somewhat understandable, although still incorrect. Given the FCC's explicit disapproval, *Williams* is plainly incorrect today. Published case law after 1990 has uniformly agreed. *See*, *Evans v. Board of County Commissioners*, 994 F.2d 755, 762-63 (10th Cir. 1993) ("We believe the balancing approach under represents the FCC's goals as it specifically selected the 'reasonably accommodate' language."); *Pentel v. City of Mendota Heights*, 13 F.3d 1261, 1264 (8th Cir. 1994) ("[A] standard that requires a city to accommodate amateur communications in a reasonable fashion is certainly more rigorous than one that simply requires a city to

balance local and federal interests when deciding whether to permit a radio antenna."); *Marchand v. Town of Hudson*, 788 A.2d 250, 254 (N.H. 2001) (addressing balancing of interests: "[T]he federal directive requires municipalities to do more.").

A particularly good, and recent, criticism of the *Williams* case may be found in *Snook v. Missouri City, Texas*, http://users3.ev1.net/~osnook/34.pdf (USDC, SDTX, 2003, Hittner, J.)(the Order, 63 pp.); *also* http://users3.ev1.net/~osnook/35.pdf (the Final Judgment, 2 pp.). PACER citation: https://ecf.txsd.uscourts.gov/cgi-bin/login.pl?387442335892775-L_238_0-14:03-cv-00243_Snook v._City_of_Missouri:

59. *Williams* is the principal source for a contrary line of cases to *Pentel* which essentially uncritically defer to a city's zoning action through a balancing test.

60. In *Williams*, an amateur radio licensee twice applied for an exception to a city's 17-foot height restriction for antennas. *Williams v. City of Columbia,* 906 F.2d 994, 995 (4th Cir. 1990). The federal district court had ordered the second request for an exception in an effort to ensure compliance with PRB-1. *Id.* The city denied the application a second time with the basic conclusion that it had complied with PRB-1. *Id.*

61. The *Williams* court erred by first assuming the traditional pre-PRB-1 deference to a city's fact-findings. *See id.* At 996. The court essentially utilized a standard of review for municipal action that had been rejected by PRB-1. *See id.*

62. Proceeding from its incorrect assumption regarding the proper standard, the *Williams* court then quoted excerpts from PRB-1, while erroneously concluding that under PRB-1, "the law requires only that the City balance the federally recognized interest in amateur radio communications with local zoning concerns." *Id.* At 996-98.

63. Although the conclusion of the *Williams* court is not consistent with the text of PRB-1, it may be explained in part based upon where it arises in the context of the discussion in the opinion. The Court's conclusion that a balancing of interests is the proper test does not appear after a discussion of

the text of PRB-1, but as a response to an amicus position of the American Radio Relay League ("ARRL") that an amateur radio operator must be allowed to erect the antenna of choice without any restrictions from a city. *Id.* At 997-998.

64. The *Williams* court, moreover, did not require any real scrutiny of the city's zoning actions, and instead simply reverted to the pre-PRB-1 practice of deferring to a city's zoning action if the city recites that it is in compliance with federal law. *Id.*

65. *Williams*, therefore, turns PRB-1 on its head. The FCC later confirms this when it rejects the *Williams* balancing test as antithetical to the text of PRB-1. RM-8763 at ¶ 7.

The Petitioners urge this Board to adopt the opinion of their expert, communications attorney, Christopher Imlay, and the several courts cited above, to recognize that *Williams* has been implicitly overturned and is no longer good law.

This Case is Not About Aesthetics

People's Counsel and the three other Protestants who appeared before the Board have focused on their "perceived" aesthetic aspects of the radio operator antenna. There has been no showing that the approval of the relief requested will have any impact on the character of the residential neighborhood in which the subject property is located. Ownership of homes, including one immediately adjoining the subject property, has changed since the Petitioners obtained their building permit and erected the antenna. The testimony of one of those new neighbors was he was initially concerned when he saw a zoning sign on the subject property advertising a hearing . Once he learned what the issue was, he had no concern and purchased his home. **This case is <u>not</u> about the 99 foot tall supporting tower – all testifying Protestants acknowledged that it can remain for the VHF and UHF antennas per the BCZR provisions**. Rather, the issue is – at what height

above the ground the 7 MHZ antenna will be located and how that height is determined. The antenna support structure, the most "visual" component of the accessory radio operator antenna use, is battle-ship gray and constructed of a lattice work structure to minimize visual impedance – you look right through the tower. For People's Counsel or the other Protestants to suggest that an antenna, averaging less than two (2) inches in diameter and 68 feet long, presents an aesthetic issue or a visual impact is silly. One need only review the photographs in evidence in this case.

Neither the accessory building provisions of the BCZR (BCZR § 400), nor the radio operator antenna provisions (BCZR § 426A) regulate, impact or influence the location or height of the existing, accessory use based on aesthetic or visual impact considerations. This is no different than the regulations governing the numerous, much taller towers constructed adjacent to residences in the Phoenix/Jacksonville area depicted in Petitioners' Exhibit No. 16. This Board should view the aesthetic/visual impact arguments of the Protestants for the red herrings that they are.

SUMMARY and CONCLUSION

This case is about how far above the ground the 7 MHZ antenna can be located on an existing, permitted accessory structure. The primary issue is how height is determined. The Board should apply the plain, common sense definition of height set forth in Webster's and that described by Petitioners' witnesses. If the height of the 7 MHZ antenna is to be determined by its width, that determination must reasonably accommodate and not impact the need of the licensed radio operator to conduct his public service and other licensed activities.

Alternatively, the Petitioners have met their burden for a variance for the 91 foot

height of the 7 MHZ antenna from the height as and if determined by the width of the antenna. No evidence exists to contradict the Petitioners' case regarding the uniqueness of the subject property, the disproportionate impact of the BCZR or the practical difficulty that the Petitioners would be subjected to upon denial of the variance and a strict application of BCZR § 426A as suggested by the Protestants.

For all of the foregoing reasons, the Petitioners' requested relief should be granted.

Respectfully submitted,

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Attorneys for Petitioners

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that on this 31st day of January, 2007, a copy of the foregoing Petitioners'/Owners' Post-Hearing Memorandum, together with a copy of the Owners' *Supplemental Information Accompanying Application for Approval of Radio Operator Antennas*, was mailed, postage prepaid, First Class United States Mail to the following:

Peter Max Zimmerman, People's Counsel
Baltimore County Office of People's Counsel
400 Washington Avenue, Room 47
Towson, Maryland 21204
and

Jeffrey L. Peek, Esquire
19 Dalebrook Drive
Phoenix, MD 21131

Howard L. Alderman, Jr.

APPENDIX

INDEX TO APPENDIX

coin-operated pool tables, music boxes, children's rides, and shuffleboards. [Bill No. 29, 1982.]

Animal Boarding Place: Any building, other structure or land, or any portion thereof, which is used, intended to be used, or arranged for the boarding, breeding or other care of animals for profit, but excluding a farm, kennel, pet shop, veterinarian's office or veterinarium. [Bill No. 85, 1967.]

Animal Boarding Place, Class A: An animal boarding place exclusively for dogs, cats, birds, and/or other household pets. [Bill No. 85, 1967.]

Animal Boarding Place, Class B: Any other animal boarding place not excluded under the general definition of "Animal Boarding Place", above. [Bill No. 85, 1967.]

Antenna, Long-wire: A single, flexible wire not thicker than 12-gauge, stretched between two stationary insulators and used as an antenna for the transmission and/or reception of broadcast signals. [Bill No. 61, 1967.]

Antenna, Rigid-structure: Any exterior wireless antenna other than a long-wire antenna. [Bill No. 61, 1967.]

{"Apartment Building..."} {Deleted by Bill No. 2, 1992.}

{"Apartment, Group-house..."} {Deleted by Bill No. 2, 1992.}

{"Apartment House..."} {Deleted by Bill No. 111, 1968.}

Arcade: A building or part of a building in which five or more pinball machines, video games, or other similar player-operated amusement devices are maintained. [Bill No. 29, 1982.]

Area, Net: Land area not including area of land in public streets or other fee-simple public rights of way. [Bill No. 40, 1967.]

Arterial Street: A motorway or portion thereof which: is, or is intended, for travel to or from major employment centers, such as town centers; has or is intended to have, four or more lanes for moving traffic; is, or is intended to be, designed for traffic speeds of at least 40 miles per hour; has or is intended to have, a right of way at least 66 feet wide; is not a freeway or an expressway; and has been designated as an arterial street (or as a boulevard or thoroughfare) by the planning board. [Bill No. 40, 1967.]

Assisted Living Facility: A building, or a section of a building, or a residence that provides: 1) a residential environment assisted by congregate meals, housekeeping, and personal services, for persons 62 years of age or older, who have temporary or periodic difficulties with one or more essential activities of daily living, such as feeding, bathing, dressing or mobility, and for persons, regardless of age, who have physical or developmental disabilities; or

g. Radio antennas in conjuction with wireless transmitting or receiving facilities, provided that any such facility is used by a resident who has an amateur radio operator's licence issued by the Federal Communications Commission. No such antenna may extend closer than the front building line to any street on which the lot may front; no rigid-structure antenna may be taller above grade level than the horizontal distance to the nearest property line or 100 feet, whichever is less; and no supporting structure may be situated within 50 feet of any property line [see also Section 400]. [Bill No. 178, 1979]

h. Swimming pools, tennis courts, garages, utility sheds, satellite receiving dishes (subject to Section 429), or other accessory structures or uses (subject to the height and area provisions for buildings as set forth in Section 400). [Bill No. 178, 1979; Bill No. 71, 1987.]

i. Tenant houses, including trailers used as tenant houses. [Bill No. 178, 1979]

j. Rubble landfills, provided that the actual fill area does not exceed three percent of the total contiguous acreage of the property in the same ownership, and subject to the provisions of subsection 412.7 only. [Bill No. 97, 1987.]

8. Commercial film production, subject to Section 435. [Bill No. 57, 1990.]

9. Transit facilities. [Bill No. 91, 1990.]

C. Uses permitted by special exception.[4] The following uses, only, may be permitted by special exception in any R.C. 2 zone, provided that in each case the hearing authority empowered to hear the petition finds that the use would not be detrimental to the primary agricultural uses in its vicinity; and, in the case of any use permitted under Item 24, further provided that the hearing authority finds that the use would support the primary agricultural use in its vicinity and would not itself be situated on land more appropriately used for primary agricultural uses: [Bill No. 178, 1979.]

1. Airports. [Bill No. 178, 1979.]

2. Animal boarding places (regardless of class), kennels, veterinarians' offices or veterinariums (see Section 421). [Bill No. 178, 1979.]

~~(20. "Research institutes (subject to the provisions of Section 418)" added by Bill No. 98, 1972; repealed by Bill No. 122, 1984.)~~

20. Rail passenger station, subject to Section 434. [Bill No. 91, 1990.]

21. Standard restaurants or tea rooms converted from dwellings or other buildings as provided in Subsection 402.3. [Bills No. 98, 1975 and No. 110, 1993.]

22. Riding stables, (Commercial or non-commercial). [Bill No. 98, 1975.]

23. Sanitary or rubble landfills (see Section 412). [Bills No. 98, 1975; No. 97, 1987.]

24. Schools not permitted as of right. [Bill No. 98, 1975.]

25. Shooting ranges, including, but not limited to, archery, pistol, skeet, trap, target (smallbore rifle only) except that any such use existing at the time of date of enactment of this subsection may continue at the same level, provided that within 365 days of the enactment date of this legislation, they shall file for a use permit as prescribed under the now existing zoning regulation Section 500.4 and turkey shoots. [Bill No. 98, 1975.]

26. Shooting preserves including hunting and fishing preserves. [Bill No. 98, 1975.]

26a. Sludge disposal facility - Landspreading (see Section 412.A2.E). [Bill No. 46, 1982.]

27. Trailers (subject to the provisions of Subsection 415.1d). [Bill No. 98, 1975.]

28. Volunteer fire company or ambulance-rescue facilities. [Bill No. 98, 1975.]

29. Radio or television transmitting facilities. [Bill No. 98, 1975.]

30. Planned unit developments (subject to the provisions of Section [illegible] 1975.]

31. Wireless transmitting and receiving structures, except that a radio antenna in conjunction with transmitting and receiving facilities used by a

resident amateur radio operator possessing an amateur radio operator's license issued by the Federal Communications Commission shall be considered an accessory structure or, if attached to another structure, an accessory use, and, as such, is permitted without a special exception, provided: (a) that if it is an accessory structure, it shall be subject to the provisions of Section 400; (b) that if it is a rigid-structure antenna, it shall be no higher than 100 feet or the horizontal distance to the nearest property line, whichever is less, above grade level, and no supporting structure thereof shall be closer than 50 feet to any property line; and, further, (c) that it does not extend closer to the street on which the lot fronts than the front building line. [Bill No. 98, 1975.]

1A02.3--Height and area regulations [Bill No. 98, 1975.]

A. Height regulation. No structure hereafter erected in an R.C. 3 zone shall exceed a height of 35 feet, except as otherwise provided under Section 300. [Bill No. 98, 1975.]

B. Area regulations.

1. Cluster development. Residential development shall be permitted in the R.C. 3 zone classification on lots not less than one acre in area and clustered in such a manner to allow for future urban density development, except as provided in Subparagraph 103 or Paragraph 6 below. [Bill No. 98, 1975.]

2. Density control. The maximum gross density of a record lot of the effective date of this paragraph is 0.3 dwellings per acre. [Bill No. 98, 1975.]

3. Minimum diametral dimension. The minimum diametral dimension of any lot hereafter created in an R.C. 3 zone shall be 150 feet, except as provided in Subparagraph 103 or Paragraph 6 below. [Bill No. 98, 1975.]

4. Building setbacks. Any principal building hereafter constructed in an R.C. 3 zone shall be situated at least 75' from the centerline of any street and not less than 50' from the future right-of-way line, 25' from both side lot lines and 50' from any rear lot line. [Bill No. 98, 1975.]

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7b. Horticultural nurseries, subject to the provisions of Section 404.1 and 404.2. {Bill No. 41, 1992.}

7c. Landscape service operations, subject to provisions of Section 404.1 and 404.3. {Bill No. 41, 1992.}

7d. Offices or studios of physicians, dentists, lawyers, architects, engineers, artists, musicians, or other professional persons as an accessory use, provided that any such office or studio is established within the same building as that serving as the professional person's primary residence; does not occupy more than 25% of the total floor area of that residence; and does not involve the employment of more than one non-resident professional associate nor two other non-resident employees. {Bill No. 105, 1982.}

8. Public utility uses not permitted as of right, including underground interstate and intercontinental pipe lines. {Bill No. 98, 1975.}

8a. Rail passenger station, subject to Section 434. {Bill No. 91, 1990}

9. Riding stables. {Bill No. 98, 1975.}

10. Shooting preserves including hunting and fishing preserves. {Bill No. 98, 1975.}

11. Shooting ranges, including, but not limited to, archery, pistol, skeet, trap, target (small bore rifle only) except that any such use existing at the time of date of enactment of this subsection may continue at the same level, provided that within 365 days of the enactment date of this legislation, they shall file for a use permit as prescribed under the now existing zoning regulation Section 500.4, and turkey shoots. {Bill No. 98, 1975.}

12. Trailers (subject to the provisions of Section 415.1.D). {Bill No. 98, 1975.}

13. Volunteer fire company or ambulance rescue facility. {Bill No. 98, 1975.}

14. Wireless transmitting and receiving structures, except that a radio antenna in conjunction with transmitting and receiving facilities used by a resident amateur radio operator possessing an amateur radio operator's license issued by the Federal Communications Commission shall be considered an accessory structure, or, if attached to another structure, accessory use, and as such, is permitted without a special exception, provided that:

a. If it is an accessory structure, it shall be subject to the provisions of Section 400;
b. If it is a rigid-structure antenna, it shall be no higher than 100 feet or the horizontal distance to the nearest property line, whichever is less, above grade level, and no supporting structure thereof shall be closer than 50 feet to any property line; and
c. It does not extend closer to the street on which the lot fronts than the front building line. [Bill No. 98, 1975.]

15. Farm market, subject to the provisions of Section 404.4. {Bill No. 41, 1992.}

16. Winery as an agricultural support use, including accessory retail and wholesale distribution of wine produced on-premises. Temporary promotional events, such as wine tasting or public gatherings associated with the winery, are permitted, within any limits set by the special exception. {Bill No. 51, 1993.}

1A03.4 Height and Area Regulations. [Bills No. 98, 1975; No. 178, 1979; No. 113, 1992.]

A. Height. No structure hereafter erected in an R.C. 4 zone shall exceed a height of 35 feet, except as otherwise provided under Section 300. [Bill No. 98, 1975.]

B. Area regulations. [Bills No. 98, 1975; No. 178, 1979; No. 113, 1992.]

1. Lot density. {Bill No. 113, 1992.}

a. A tract to be developed in an R.C.4 zone with a gross area of less than 6 acres may not be subdivided, and a tract to be developed with a gross area of at least 6 acres but not more than 10 acres may not be subdivided into more than two lots (total), each of which must be at least three acres, except as otherwise provided in Section 103.3 or in paragraph 4 below. [Bills No. 98, 1975; 178, 1979; 113, 1992.]

b. The maximum gross density of a tract to be developed with a gross area of more than 10 acres is 0.2 lot per acre. Any lots created hereafter, except as provided in paragraph 4 below, shall be in accordance with the

a. If it is an accessory structure, it shall be subject to the provisions of Section 400;

b. If it is a rigid-structure antenna, it shall be no higher than 100 feet or the horizontal distance to the nearest property line, whichever is less, above grade level, and no supporting structure thereof shall be closer than 50 feet to any property line; and

c. It does not extend closer to the street on which the lot fronts than the front building line. [Bill No. 98, 1975.]

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A. Height. No structure hereafter erected in an R.C. 4 zone shall exceed a height of 35 feet, except as otherwise provided under Section 300. [Bill No. 98, 1975.]

B. Area regulations. [Bills No. 98, 1975; No. 178, 1979; No. 113, 1992.]

1. Lot density. {Bill No. 113, 1992.}

a. A tract to be developed in an R.C.4 zone with a gross area of less than 6 acres may not be subdivided, and a tract to be developed with a gross area of at least 6 acres but not more than 10 acres may not be subdivided into more than two lots (total), each of which must be at least three acres, except as otherwise provided in Section 103.3 or in paragraph 4 below. [Bills No. 98, 1975; 178, 1979; 113, 1992.]

b. The maximum gross density of a tract to be developed with a gross area of more than 10 acres is 0.2 lot per acre. Any lots created hereafter, except as provided in paragraph 4 below, shall be in accordance with the

14. Residential art salons (subject to the provisions of Section 402C). [Bill No. 98, 1975.]

15. Standard restaurants or tea rooms, converted from dwellings or other buildings as provided in Subsection 402.3. [Bills No. 98, 1975, No. 110, 1993.]

16. Riding stables (commercial or non-commercial). [Bill No. 98, 1975.]

17. Sanitary or rubble landfills (see Section 412). [Bills No. 98, 1975, No. 97, 1987.]

18. Schools, not permitted as of right. [Bill No. 98, 1975.]

19. Trailers (subject to the provisions of Section 415.1D). [Bill No. 98, 1975.]

20. Volunteer fire company or ambulance-rescue facilities. [Bill No. 98, 1975.]

21. Wireless transmitting and receiving structures, except that a radio antenna in conjunction with transmitting and receiving facilities used by a resident amateur radio operator possessing an amateur radio operator's license issued by the Federal Communications Commission shall be considered an accessory structure, or, if attached to another structure, an accessory use, and, as such, is permitted without a special exception, provided: (a) that if it is an accessory structure, it shall be subject to the provisions of Section 400; (b) that if it is a rigid-structure antenna, it shall be no higher than 100 feet or the horizontal distance to the nearest property line, whichever is less, above grade level, and no supporting structure thereof shall be closer than 50 feet to any property line; and, further, (c) that it does not extend closer to the street on which the lot fronts than the front building line. [Bill No. 98, 1975.]

1A04.3 Height and area regulations. [Bill No. 98, 1975.]

A. Height regulation. No structure hereafter erected in an R.C. 5 zone shall exceed a height of 35 feet, except as provided under Section 300. [Bill No. 98, 1975.]

B. Area regulations. [Bill No. 98, 1975.]

C. Parking, drop off and delivery areas shall be located in the side or rear yards, unless the zoning commissioner, upon the recommendation of the director of Planning, determines that there will be no adverse impact by using the front yard for parking, drop off or delivery purposes. In all cases these areas shall be located outside of the required buffer area. [Bill No. 200-1990.]

D. Maximum height: 35 feet [Bill No. 200-1990.]

E. Maximum impervious surface area: 25% of gross area [Bill No. 200-1990.]

Section 425--ALCOHOLIC BEVERAGES LICENSE. [Bill No. 66, 1983.]

Any entertainment, leisure, or recreation oriented principal use provided for in Section 422(a) which holds a valid on-sale alcoholic beverages license of any class, except a special or temporary license, may have amusement devices on its premises as long as the alcoholic beverages license remains effective. All of the conditions and limitations set forth in Sections 422 and 423 are applicable to such uses, except that Sections 422(c)(4) and 423.5 do not apply to such uses. [Bill No. 66, 1983.]

Section 426--WIRELESS TRANSMITTING OR RECEIVING STRUCTURES [Bill No. 64, 1986.]

426.1--Wireless Transmitting or Receiving Structures with a maximum height of 200 feet above grade level, including all antennas and platforms, are permitted by right in O-2 (Office Park) zones, O.T. (Office and Technology) zones, and business and manufacturing zones subject to the following restrictions: [Bill No. 64, 1986.]

A. The structure shall be enclosed within a locked, chain link fence, or comparable wall or structure, at least 8 feet high unless such structure is roof-mounted. [Bill No. 64, 1986.]

B. The minimum setback from any boundary of a residential or R-Ozone shall be 200 feet. [Bill No. 64, 1986.]

C. Environmental protection agency standards and guidelines relating to radiation emissions shall be met at all times. [Bill No. 64, 1986.]

426.2--Within O-2, O.T., business and manufacturing zones, accessory wireless transmitting or receiving structures are permitted by right; however, no exterior antenna greater than 50 feet above grade level shall be considered as an accessory use or structure. [Bill No. 64, 1986.]

b. Wireless transmitting and receiving structures, provided that any such structure: is a radio antenna in conjunction with transmitting and receiving facilities used by a resident amateur radio operator possessing an amateur radio operator's license issued by the Federal Communications Commission; if it is an independent structure, shall be subject to the same requirements as are applied to buildings under Section 400; if it is a rigid-structure antenna, shall be no higher than 50 feet above grade level and with no supporting structure thereof closer than 10 feet to any property line; and does not extend closer to the street on which the lot fronts than the front building line; [Bill No. 100, 1970.]

{c. "Automotive-service stations"...deleted by Bill No. 172, 1993.}

d. Home occupations, as defined in Section 101; {Bill No. 100, 1970.}

e.[2]

f. Parking spaces, including accessory garage spaces; [Bill No. 100, 1970.]

g. Offices for the conduct of business incidental to the rental, operation, service, or maintenance of apartment buildings; [Bill No. 100, 1970.]

h. Accessory signs (see Section 413); [Bill No. 100, 1970.]

i. Swimming pools, tennis courts, garages, utility shed, satellite receiving dishes (subject to Section 429) or other accessory structures or uses (all such accessory structures or uses subject to the height and area provisions for buildings as set forth in Section 400). [Bill No. 71, 1987.]

15. Commercial film production, subject to Section 435. [Bill No. 57, 1990.]

B. Dwelling-type and other supplementary use restrictions based on existing subdivision and development characteristics. [Bills No. 100, 1970; No. 124, 1981.]

1. Residential transition areas and uses permitted therein. [Bills No. 100, 1970; No. 124, 1981; No. 2, 1992.]

a. Definitions and purpose. [Bills No. 100, 1970; No. 124, 1981; No. 2, 1992.]

REPORTED

IN THE COURT OF SPECIAL APPEALS

OF MARYLAND

No. 1574

September Term, 2005

OHIO CASUALTY INSURANCE COMPANY

v.

SARA CHAMBERLIN, et al.

Murphy, C.J.,
Salmon,
Karwacki, Robert L.
(Ret., specially assigned),

JJ.

Opinion by Karwacki, J.

Filed: January 2, 2007

On May 23, 2005, Ohio Casualty Insurance Company, appellant, filed a motion in the Circuit Court for Baltimore County, seeking to compel Sara Chamberlin, appellee, to return $20,000 paid to her pursuant to Md. Code (2002 Repl. Vol.) §19-511 of the Insurance Article ("Ins."). On August 12, 2005, the circuit court issued a written opinion and order denying appellant's motion, and this appeal followed.

The sole question presented for our consideration is whether the circuit court erred in denying appellant's request for reimbursement of the funds advanced pursuant to Ins. §19-511. Finding no error, we shall affirm.

FACTUAL BACKGROUND

This case arises out of an automobile accident involving motor vehicles operated by Sara Chamberlin, appellee, and Charlotte Deitrick. Chamberlin filed a complaint in the Circuit Court for Baltimore County against Deitrick and her own uninsured/underinsured motorist ("UIM") carrier, Ohio Casualty Insurance Company, appellant herein, claiming that she was injured as a result of Deitrick's negligence and demanding compensation from Deitrick and Ohio Casualty.

Prior to trial, Deitrick's insurer, Progressive Insurance Company, offered its policy limits of $20,000 in exchange for a release of all claims by both Chamberlin and Ohio Casualty. Ohio Casualty rejected the request for a release. Pursuant to Ins. §19-511, Ohio Casualty advanced to Chamberlin the $20,000

that had been offered by Progressive, and the case proceeded to trial.

The jury returned a verdict in favor of Chamberlin in the amount of $5,445 and Progressive paid that amount to Ohio Casualty. By letter dated April 21, 2005, Ohio Casualty demanded that Chamberlin repay the $20,000 that had been advanced to her pursuant to §19-511, but Chamberlin refused. Thereafter, Ohio Casualty filed a motion in the trial court seeking an order compelling the return of the $20,000.

A hearing was held on July 6, 2005, and the court held its decision *sub curia*. In a written opinion and order filed on August 12, 2005, the circuit court denied Ohio Casualty's request for an order compelling the return of the $20,000 paid to Chamberlin stating, in part:

> Ohio Casualty had an opportunity to carefully assess its exposure in this case, and it ultimately determined that [Chamberlin's] claim was worth significantly more than the proposed settlement amount; otherwise, it would have no reason to "thwart" settlement to preserve its own subrogation rights. Accordingly, [Chamberlin] is entitled to keep the $20,000 advanced by Ohio Casualty.

DISCUSSION

Ohio Casualty contends that the circuit court erred in denying its motion to compel the return of the $20,000 paid to Chamberlin, to the extent that the funds advanced exceeded the jury verdict, because there is no provision in Maryland law or in

the insurance policy issued to Chamberlin that entitles her to retain the full amount paid by Ohio Casualty, and it would be neither fair nor equitable to allow her to do so, particularly when the jury verdict was considerably less than the amount advanced. Resolution of this issue requires us to examine §19-511 of the Insurance Article.

As the Court of Appeals stated in *Adamson v. Correctional Medical Services, Inc.*, 359 Md. 238, 251 (2000), "[t]he principles of statutory construction are not novel." The cardinal rule of statutory construction is to ascertain and effectuate legislative intention. *State v. Green*, 367 Md. 61, 81 (2001). Our "quest to discover and give effect to the objectives of the legislature begins with the text of the statute." *Adamson*, 359 Md. at 251 (quoting *Huffman v. State*, 356 Md. 622, 628, 741 A.2d 1088, 1091 (1999)). "'[I]f the plain meaning of the statutory language is clear and unambiguous, and consistent with both the broad purposes of the legislation, and the specific purpose of the provision being interpreted, our inquiry is at an end.'" *Thomas v. Dep't of Labor, Licensing, and Regulation*, 170 Md. App. 650, 104 (2006)(quoting *Breitenbach v. N.B. Handy Co.*, 366 Md. 467, 473 (2001)). *See also Adamson*, 359 Md. at 251 (and cases cited therein)(if the Legislature's intentions are evident from text of statute, inquiry will cease and plain meaning of statute will govern).

"'Where the statutory language is plain and unambiguous, a court may neither add nor delete language so as to 'reflect an intent not evidenced in that language.'" *Chesapeake & Potomac Telephone Co. v. Director of Finance for Mayor and City Council of Baltimore*, 343 Md. 567, 579 (1995)(quoting *Condon v. State*, 332 Md. 481, 491 (1993)). Our goal in interpreting statutes is to give them their "most reasonable interpretation, in accord with logic and common sense, and to avoid a construction not otherwise evident by the words actually used." *Greco v. State*, 347 Md. 423, 429 (1997). We will avoid constructions that are illogical, unreasonable, or inconsistent with common sense. *Frost v. State*, 336 Md. 125, 137 (1994). Moreover, we will not engage in a "forced or subtle interpretation in an attempt to extend or limit the statute's meaning." *Nesbit v. GEICO*, 382 Md. 65, 76 (2004).

"We bear in mind, however, that the plain meaning rule is elastic, rather than cast in stone." *Adamson*, 359 Md. at 251 (citing *Kaczorowski v. Mayor of Baltimore*, 309 Md. 505, 513 (1987)). "If persuasive evidence exists outside the plain text of the statute, we do not turn a blind eye to it." *Id.* We may consider the context in which the statute appears, related statutes, legislative history, and other sources for a more complete understanding of what the General Assembly intended when it enacted particular legislation. *Id.*; Ridge *Heating, Air*

Conditioning & Plumbing v. Brennan, 366 Md. 336, 350-51 (2001); *Harris v. State*, 331 Md. 137, 146 (1993). "We may also consider the particular problem or problems the legislature was addressing, and the objective it sought to attain." *Sinai Hosp. of Baltimore, Inc. v. Dep't of Employment and Training*, 309 Md. 28, 40 (1987). "This enables us to put the statute in controversy in its proper context and thereby avoid unreasonable or illogical results that defy common sense." *Adamson*, 359 Md. at 252.

In the case at hand, our analysis begins with the statutory language itself, which provides:

> (a) If an injured person receives a written offer from a motor vehicle insurance liability insurer or that insurer's authorized agent to settle a claim for bodily injury or death, and the amount of the settlement offer, in combination with any other settlements arising out of the same occurrence, would exhaust the bodily injury or death limits of the applicable liability insurance policies, bonds, and securities, the injured person shall send by certified mail, to any insurer that provides uninsured motorist coverage for the bodily injury or death, a copy of the liability insurer's written settlement offer.
>
> (b) Within 60 days after receipt of the notice required under subsection (a) of this section, the uninsured motorist insurer shall send to the injured person:
>
> (1) written consent to acceptance of the settlement offer and to the execution of releases; or
>
> (2) written refusal to consent to

acceptance of the settlement offer.

(c) Within 30 days after a refusal to consent to acceptance of a settlement offer under subsection (b)(2) of this section, the uninsured motorist insurer shall pay to the injured person the amount of the settlement offer.

(d)(1) Payment as described in subsection (c) of this section shall preserve the uninsured motorist insurer's subrogation rights against the liability insurer and its insured.

(2) Receipt by the injured person of the payment described in subsection (c) of this section shall constitute the assignment, up to the amount of the payment, of any recovery on behalf of the injured person that is subsequently paid from the applicable liability insurance policies, bonds, and securities.

(e) The injured person may accept the liability insurer's settlement offer and execute releases in favor of the liability insurer and its insured without prejudice to any claim the injured person may have against the uninsured motorist insurer:

(1) on receipt of written consent to acceptance of the settlement offer and to the execution of releases; or

(2) if the uninsured motorist insurer has not met the requirements of subsection (b) or subsection (c) of this section.

This statute sets forth the settlement procedure for claims pertaining to the uninsured motorist coverage provided by §19-509 of the Insurance Article. The uninsured motorist provision was enacted to protect innocent victims from irresponsible drivers who drive without insurance. It is liberally construed to ensure

that innocent victims of motor vehicle accidents can be compensated for the injuries they suffer as a result of such accidents. *State Farm Mut. Auto. Ins. Co. v. DeHaan*, 393 Md. 163, 194 (2006).

The specific provisions of §19-511(b) at issue in this case were enacted in 1995. The words of section (b) do not address whether an insured is entitled to keep the entire amount paid to him or her by a UIM carrier when a subsequent jury verdict is less than that amount. The legislative history, however, sheds some light on the purpose of the settlement provisions. A Floor Report prepared for Senate Bill 253 provides that the bill

> contains a remedy to a problem that has existed in Maryland's tort system for some time. Currently, an injured person who makes a claim against a liability carrier for limits available under the liability policy is frequently not allowed by their uninsured/underinsured motorist carrier to give the liability carrier a full release of their claim. Therefore, if the injured person wishes to make an additional claim for their injuries against their underinsured motorist coverage, they get caught in a situation where the liability carrier will not give them the limits of the at-fault party's policy without a release and the uninsured/underinsured motorist carrier will not allow them to give a release to the liability carrier. As a result, they are unable to recover funds from either carrier. This dilemma can cause a lengthy delay in settlement.
>
> Senate Bill 253 would eliminate this dilemma by requiring the uninsured/ underinsured motorist carrier to: (1) allow their injured insured to settle with the

> liability carrier and provide a release or (2) pay their injured insured themselves to fully maintain their subrogation rights against the liable party. Therefore, the injured party gets his money more quickly and the uninsured/underinsured motorist carrier would have "up front" the liability settlement.

There is nothing in the Bill File to suggest that the Legislature considered that a jury verdict could be less than the amount paid to the insured by the UIM carrier. In fact, as a Revised Fiscal Note for Senate Bill 253 indicates, the assumption clearly was that "[e]ventually the injured person's insurer would recover ... from the tortfeasor's insurer and be able to seek recovery ... from the tortfeasor's assets." Certainly, the Legislature, in enacting §19-511, was most concerned with eliminating the lengthy delay experienced by injured parties and it addressed this dilemma by placing the burden of protecting subrogation rights on the UIM carrier.

Under the statutory scheme, the UIM carrier, in order to protect its subrogation rights, must examine and evaluate the facts of the case before deciding to make a payment to the injured party in the amount of the settlement offered by the liability carrier. The UIM carrier's payment to the injured party is designed to protect the carrier's subrogation rights and is not intended to deprive insureds of the benefit of a settlement with the liability carrier. Accordingly, a subsequent jury verdict less than the payment made by a UIM carrier cannot

justify a "refund" of that portion of the payment that exceeds the verdict.

Although no Maryland court has addressed this issue previously, courts in several other jurisdictions have considered it and have reached the same conclusion. In *Gusk v. Farm Bureau Mutual Insurance Co.*, 559 N.W.2d 421 (1997), the Supreme Court of Minnesota considered a case in which Farm Bureau made a substituted payment to Gusk in lieu of allowing him to settle with an underinsured motorist, in order to preserve its subrogation rights. A jury found for Gusk, but in an amount less than the insurer's substitution payment. In considering whether Farm Bureau could offset its contractual liability for UIM benefits against the amount it had paid, the Supreme Court held that it could not demand a refund of the amounts paid and that the insured did not receive an impermissible double recovery. In reaching that decision, the Supreme Court stated that "[a] substitution is a payment to the plaintiff for the protection of the insurer's potential right of subrogation; its creation was not intended to deprive insureds of the benefit of their tentative settlement bargain." *Id.* at 424.

In *Nationwide Mutual Ins. Co. v. State Farm Auto. Ins. Co.*, 973 S.W.2d 56 (1998), the Supreme Court of Kentucky considered a case in which the UIM carrier, Nationwide, substituted its policy proceeds for a liability insurer's settlement offer. After a

jury awarded damages less than the liability policy limits, Nationwide brought an action against the liability insurer, State Farm, to recover subrogation. The court held that Nationwide bore the risk of overpayment when the jury awarded damages less than the liability coverage limits and, therefore, it was not entitled to subrogation. In reaching its decision, the Kentucky court noted that if UIM coverage is to accomplish its remedial purpose, the UIM carrier's contractual subrogation right must not obstruct the UIM's right to settle for the policy limits, even if that means releasing subrogation. The remedial purposes of the statutory scheme are accomplished when

> the plaintiff can receive the amount of the tortfeasor's policy limits, either from the liability carrier or from the UIM carrier without having to obtain a judgment. The tortfeasor has an incentive to settle, in that he may obtain a release from further liability, and the tortfeasor's liability carrier protects itself from a bad faith action by making the offer for policy limits. The plaintiff can then proceed against the UIM carrier and the UIM carrier can preserve its right of subrogation. ... [Bearing] the risk of overpaying the plaintiff ... encourages the UIM carrier to make an informed decision as to whether its subrogation rights are valuable or simply illusory. Since UIM benefits are payable only when the tortfeasor's liability exceeds the tortfeasor's policy limits, the UIM carrier must determine the value of the plaintiff' claim and the value of the potential subrogation claim when the liability carrier has offered the policy limits. The UIM carrier must determine, before it substitutes payment, the strength of the plaintiff's claim, the extent of the

> plaintiff's damages and the likelihood of being reimbursed by the tortfeasor for UIM benefits.

Id., 973 S.W.2d at 57-58.

Regarding who should bear the risk of loss, the Kentucky court went on to say:

> [A] substitution by the UIM of the amount offered in settlement does not truly result in a settlement. The tortfeasor remains in a position of potential liability should the judgment exceed the amount of his policy limits. Further, should the tortfeasor refuse to settle, instead of going to trial, the jury could absolve him or her of liability or adjudge the liability to be less than the policy limits. Thus, if the UIM carrier can substitute its payment without any risk, then the tortfeasor may be in a better position if he does not make a settlement offer at all to the plaintiff. With the risk of a bad decision on the UIM carrier, the UIM carrier is forced to make an informed decision and a realistic assessment of the offer. Further, it promotes finality between the plaintiff and the tortfeasor when the UIM carrier decides that its subrogation right has no value.
>
> * * *
>
> [T]he UIM carrier must determine its own destiny: if it chooses to substitute payment based on the risk of evaluation of the liability carrier, it is bound by that assessment when the time to assert its subrogation rights arrives.

Id. at 58.

Similarly, in *USAA Casualty Ins. Co. v. Kramer*, 987 S.W.2d 779 (Ky. 1999), the Supreme Court of Kentucky held that a UIM carrier was not entitled to reimbursement from the insured or the

liability insurer of $50,000 that was advanced to the insured after the liability insurer offered that amount in settlement even after a jury found that the defendant/motorist was not negligent for striking the insured's automobile. Relying on *Nationwide*, 973 S.W.2d 56 (1998), the court held that "[t]he bottom line is that the UIM bears the risk when it chooses to thwart a proposed settlement between the plaintiff and the alleged tortfeasor by substituting payment of the settlement amount." *Id.* at 783.

In *Connelly v. McVeigh*, 863 A.2d 1085 (2005), the Superior Court of New Jersey held that a UIM carrier that refused to consent to an insured's settlement with an alleged tortfeasor and substituted payment was not entitled to the money after a jury determined that the alleged tortfeasor was not liable. The Court reasoned that the insurer owed the substituted payment to the insured "as the price of preserving its own subrogation rights against [the alleged tortfeasor], and not as a measure of [the insured's] damages....[The UIM] nonetheless remains obligated for the payment it made to preserve its own right of subrogation. That payment was due as a consequence of its refusal to allow plaintiff to accept the [liability insurer's] settlement." *Id.* at 171.

We find the reasoning in these cases to be persuasive. Thus, we hold that when a UIM chooses to thwart a proposed

settlement between a plaintiff and an alleged tortfeasor by substituting payment of the settlement amount, it bears the risk that a jury might return a verdict in an amount less than the amount advanced or in favor of the defendant(s) and it is not entitled to a refund of any amount paid.

II.

Appellant next contends that even if the statute does not allow for the return of the substituted payment, appellee is required by the language of the UIM provisions of her insurance policy to return the funds. Specifically, appellant points to the following language from appellee's insurance policy:

> PART F - GENERAL PROVISIONS
>
> * * *
>
> OUR RIGHT TO RECOVER PAYMENT
>
> * * *
>
> If we advance payment to the insured in the amount equal to the tentative settlement within thirty (30) days after written refusal to consent to the acceptance of the settlement offer:
>
> 1. That payment will be separate from any amount the "insured" is entitled to recover by the provisions of the Uninsured Motorists Coverage; and
>
> 2. We also have the right to recover the advance payment.

Appellee contends that the language of subsection 2 is vague and unenforceable, and we agree.

Contractual language is considered ambiguous "if, when read by a reasonably prudent person, it is susceptible of more than one meaning." *Calomiris v. Woods*, 353 Md. 425, 436 (1999); *Heat & Power Corp. v. Air Prods. & Chems., Inc.*, 320 Md. 584, 596 (1990). In determining whether language is susceptible of more than one meaning, courts are not precluded from considering "the character of the contract, its purpose, and the facts and circumstances of the parties at the time of execution." *Pacific Indem. Co. v. Interstate Fire & Cas. Co.*, 302 Md. 383, 388 (1985). If ambiguity is found to exist, then extrinsic evidence may be used to determine the parties' intent. *Sullins v. Allstate Ins. Co.*, 340 Md. 503, 508 (1995). In *Calomiris*, the Court of Appeals recognized that the question of whether a contract is ambiguous ordinarily is a question of law. *Calomiris*, 353 Md. at 434. The Court explained:

> [T]he determination of ambiguity ... is subject to *de novo* review by the appellate court .... [T]he review is essentially a "paper" review where the same contractual language is before the appellate court as was before the trial court. Since neither the credibility of witnesses nor the evaluation of evidence, other than the *written* contract, is in issue, the policy reasons behind deferring to the trial judge under the clearly erroneous standard are inapplicable.

Id., 353 Md. at 434-35. On appeal, therefore, we determine whether the trial court was legally correct.

Appellant argues that, pursuant to Section III, Part F,

subsection 2 of the insurance policy, it is entitled to recover from Chamberlin the funds advanced to her in excess of the jury's verdict. Specifically, that provision provides that appellant has "the right to recover the advance payment." That language, however, does not specify from whom appellant may recover advance payments. A reasonably prudent person might read the policy language as implying that the insurer has a right to recover advanced payments from the insured, but that is not specifically stated. A reasonably prudent person might also read that language as implying that the insurer has a right to recover from the tortfeasor or the tortfeasor's insurer.

Moreover, the interpretation argued by appellant is at odds with the purpose of §19-511(b) and the following language contained in the policy issued to Chamberlin pertaining to the duties of a person seeking UIM coverage:

> ADDITIONAL DUTY
>
> A person seeking Uninsured Motorists Coverage must
>
> * * *
>
> 3. Allow us to advance payment to that "insured", within 30 days after the written refusal to consent to acceptance of the settlement offer, in an amount equal to the tentative settlement **to preserve our rights against the insurer, owner or operator of such "uninsured motor vehicle."**

(Emphasis added).

Since the contractual language lacks the necessary clarity

and definiteness that are required for a contract to be enforceable, we conclude, as did the trial court, that Chamberlin is not obligated to return any portion of the $20,000 advanced to her by appellant.

JUDGMENT AFFIRMED; APPELLEE'S REQUEST TO HAVE SPECIFIC PRINTING COSTS ASSESSED AGAINST APPELLANT IS DENIED; ALL OTHER COSTS TO BE PAID BY APPELLANT.

APP-24

1/31/07

RE:	PETITION FOR SPECIAL HEARING AND VARIANCE	*	BEFORE THE COUNTY
	39 Glenbrook Drive; E/side Glenbrook Drive, 569' N. Blenheim Road	*	BOARD OF APPEALS
	10th Election & 3rd Councilmanic Districts	*	FOR
	Legal Owner(s): Benjamin & Kayren Governale	*	BALTIMORE COUNTY
	Petitioners	*	06-180-SPHA

* * * * * * * * * * * * *

COMPLAINTANTS MEMORANDUM

The undersigned hereby submits the following Memorandum in opposition to all relief requested by Petitioners in the above-captioned matter.

SUMMARY OF ARGUMENT

1. BCZR §426A requires analysis of both height and distance to the property line.

2. BCZR §426A restricts antenna based upon the size of the property for asthetic reasons not safety concerns.

3. All three antennas maintained by Governale violate BCZR §426A because they are taller than their distances to the property line.

4. There is no federal preemption of BCZR §426A because it reasonably balances the rights of the radio operators and the rights of adjacent landowners.

5. Lowering the Governale antennas would result in only a modest reduction in operational capacity. He in no way will be precluded from effectively broadcasting or receiving.

6. The Governale property is not unique; therefore, a variance from BCZR §426A is not appropriate.

BACKGROUND

This case involves an amateur radio operator antenna and the interpretation and application of BCZR §426A of the Baltimore County Zoning Regulations ("BCZR"). In order

to fairly interpret and apply BCZR §426A, it is important to understand the historical, political and legislative environment in which it was enacted.

Conflict between amateur radio operators and local zoning regulation has existed since the inception of comprehensive zoning regulations. Any type of restriction or limitation has the potential to adversely affect the ability of the amateur radio operator to broadcast and receive. The conflict came to a head in 1985 when the FCC issued a Memorandum and Opinion known as PRB-1.[1] The FCC opinion was requested by the Amateur Radio Relay League ("ARRL"), a national association for amateur radio operators. PRB-1 created a limited preemption of state and local zoning ordinances when they preclude amateur radio operations by enacting zoning regulations that do not attempt to reasonably accommodate amateur radio operators. In so doing, the FCC stated:

> ...We believe it is appropriate to strike a balance between Federal interest in promoting amateur operations and the legitimate interest of local governments in regulating local zoning matters. The corner stone on which we will predicate our decision is that reasonable accommodations may be made between the sides.

See Exhibit No. 1, PRB-1.

Among the things the FCC expressly recognized as an important, legitimate and a pervasive rational for local zoning regulation is "asthetic consideration(s)." Id. The FCC, despite numerous requests to do so, has never advocated or proscribed a specific height limitation which it considered to be an undue restriction on amateur radio operators. Instead, the FCC has repeatedly stated that as long as the local zoning regulation is crafted to reasonably accommodate the needs of radio operators while balancing the needs of neighboring landowners, it will be considered appropriate. See Exhibit No.: 2, FCC Order, November 18, 1999.

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[1] PRB-1 was later codified. 47 C.F.R. 97.15 (1999)

Until 1998 Baltimore County had no specific regulations that addressed amateur radio operator antennas. Amateur radio operators were required to comply with zoning regulations that proscribed height and set back restrictions which vastly limited the operational capacities of amateur radios.

In the mid to late 1990's there was a groundswell of activity in the wireless cellular communication field and there was a proliferation of wireless telecommunication towers and antennas. In 1996 Congress passed the Telecommunications Act of 1996 which changed the way radio, television and telephone communications were regulated. In Baltimore County, the response to the 1996 Telecommunications Act culminated in a comprehensive set of zoning guidelines that dealt with telecommunications equipment and structures. The legislation, drafted as Bill 30-1998 was enacted by the County Council on February 17, 1998.

This history is relevant to this case because BCZR §426A was part of Bill 30-1998. However, it is important to recognize that BCZR §426A is not a telecommunication regulation, but is instead a very specific rule which addresses only amateur radio operator antennas. Central to this case is what ends the County Counsel sought to achieve in enacting BCZR §426A, which represented a vast departure from existing height restrictions and which granted amateur radio operators much greater access to the airwaves. It is clear, as discussed below, that a BCZR §426A was crafted and enacted to strike an equitable balance between amateur radio operators and adjacent landowners who value the rural nature and scenic views available in much of Baltimore County.

The legislative policy behind BCZR §426A may be inferred from the proliferation of PRB-1 (PRB-1 became law in 1999 effectively protecting the rights of the amateur radio operators) and from the stated legislative policy regarding the siting of telecommunication

antennas. In the final report of the Baltimore County Planning Board regarding new zoning regulations governing wireless telecommunication facilities, the following statement of legislative policy appears:

> a. It is the intent of Baltimore County that wireless telecommunication antennas be placed on existing structures wherever feasible.
>
> b. It is the intent of Baltimore County that, if it is necessary to construct a wireless telecommunication tower, the tower be designed to accommodate multiple wireless telecommunication antennas and cited so as to **minimize its visibility**. (emphasis added)
>
> c. It is further the intent of Baltimore County that if it is necessary to construct a wireless telecommunication tower, the tower be erected in a medium or high intensity commercial zone wherever such a site is available and constructed so as to **minimize its visibility** from residential areas. (emphasis added)

See Exhibit No. 3, Final Report of the Baltimore County Planning Board, 11/20/97.

It is certainly no stretch to infer that the same stated policy for the siting of wireless telecommunication antennas would apply to BCZR §426A and amateur radio operator antennas. After all, the proposed legislation for both types of towers appear in the same bill. It is obvious that the overriding concern with respect to location of radio towers and antennas is minimizing visibility in residential areas. This purpose is in keeping with the spirit of the Baltimore County Zoning Regulations, specifically in RC Zones, which are replete with references to preservation of the asthetics and scenic views in rural areas.

While some may consider radio antennas to be "majestic structures" others may find them to ugly, unsightly or even offensive. Preservation of the rural character in RC Zones, preserving scenic views and minimizing the visibility of radio antennas are all stated, obvious and unambiguous goals of the Baltimore County Zoning Regulations. These goals are achieved

by linking the height restriction for amateur radio operators to the size of the property. It was, therefore, with this legislative purpose that BCZR §426A was enacted.

ARGUMENT

I. Application of BCZR §426A to the Governale Antenna and Property

BCZR §101 define radio operator antennas as follows:

> A wireless antenna used in conjunction with radio **transmitting** and **receiving** facilities used by a resident amateur radio operator possessing a amateur radio operator's license issued by the Federal Communications Commissions. (emphasis added)

Mr. Governale maintains three antennas on his property. All three are mounted at different heights atop a support structure that Mr. Governale characterized as the "radio tower". The tallest antenna is 99 feet high and is 17 feet in horizontal width. The second highest antenna is 95 feet high and is also 17 feet in horizontal width. The largest antenna is at 91 feet high and is 68 feet in horizontal width. All three antennas meet the definition of radio operator antenna stated in §101, because all three transmit and receive signals (432 MHz, 144 MHz and 7 MHz respectively).

The support structure, or what Mr. Governale called a "radio tower", is cited 100 feet from the rear of the property line and 102 feet from the sides of the Governale property. As Mr. Governale's expert surveyor, Bruce Doak, stated the property line is a "plane" which extends from the ground to the sky. Thus, to determine how close the antennas are horizontally to the property line, according to another of Mr. Governale's witnesses, Joseph Burdette, Vice President of United States Tower Services, Ltd., we would simply measure from the outer most

tip of the antenna to the property line. Accordingly, the following measurements[2] would apply to the Governale property and the three antennas:

Height	Width	Radius	Distance To Back	Distance To Sides	Overage
99	17	8.5	91.5	93.5	7.5-5.5
95	17	8.5	91.5	93.5	3.5-1.5
91	68	34	66	68	25-27

There is no dispute with respect to these measurements nor is there any dispute with respect to distances of the antennas to the property line. The overage represents the distance by which the height of antenna is greater than the distance of the antenna to the property line. Governale, however, incorrectly advocates that only the height of the tower must be considered. This position, however, ignores the plain language of BCZR §426A.

BCZR §426A reads, in relevant part, as follows:

> c. The **supporting structure** for a radio operator antenna may not be located within 20 feet of any property line. (emphasis added)
>
> d. A radio operator **antenna** may not extend closer than the front building line to any street on which the lot fronts. (emphasis added)
>
> e. A radio operator **antenna** may not be higher than the lesser of 100 feet or the horizontal distance to the nearest property line above grade level. (emphasis added)

Subsections (a) and (b) of BCZR §426A are not in dispute and are not reproduced above. The structure complies with subsection (c) because the support structure, "the radio tower", is located over 20 feet from the property line (100 feet from the rear property line and 102 feet from the side property lines). The antennas comply with subsection (d) because they do not extend horizontally beyond the front building line.

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[2] The radius is ½ the diameter and is the measure of how far the antenna extends horizontally from the support structure to the property line. The overage is the amount by which the height of the antenna is greater than its horizontal distance to the property line. All measurements in feet.

However, all three antennas violate BCZR §426A(e). The tallest antenna is 99 feet high and extends to within 91.5 feet of the rear property line and to within 93.5 feet of the side property lines for the property. BCZR §426A(e) would require this antenna, therefore, to be no higher than 91.5 feet. The second antenna is 95 feet tall and extends to within 91.5 feet of the rear property line and to within 93.5 feet of the side property lines. This antenna, accordingly, to comply with BCZR §426A(e) should be no higher than 91.5 feet. Finally, the third and largest antenna is at a height of 91 feet and extends to within 66 feet of the rear property line and to within 68 feet of the side property lines. The large antenna should be no taller than 66 feet to comply with BCZR §426A.

James H. Thompson, Supervisor, Baltimore County Department of Permits and Development Management, Code Inspection and Enforcement issued a correction notice on August 4, 2005 after concluding that the Governale antennas failed to comply with BCZR §426A(e) because they were higher than their horizontal distance to the property line. See, Exhibit No. 6, Correction Notice, 8/14/05.

To conclude that the Governale antennas comply with BCZR §426A requires the Board to ignore the history surrounding regulation of amateur radio operations, the legislative history of BCZR §426A and the plain language of the regulation itself. There must be a two dimensional analysis which restricts the height based on the size of the property. The restriction is based on asthetic considerations and not safety concerns. Indeed, if safety was the issue, why is the antenna restricted to placement in the backyard? An individual with a large enough property, could theoretically place an antenna in the front yard. However, BCZR §426A(d) prevents placement or extension of the antenna into the front yard. This restriction, in subsection (d), is not grounded upon concerns that the antenna should fall only on the owner's property, but is

instead based upon the appearance of the antenna and the realization that it would adversely affect the asthetic of the neighborhood if placed in the front yard.

The notion that the height and the horizontal width restriction is specifically designed to ensure that the tower will fall within the owner's property is unsupported by the available legislative history and is contradicted by the regulation itself. The maximum height for all amateur operator antennas is 100 feet irrespective of the size of the property. Indeed, properties over 2 acres could accommodate a taller antenna that, if toppled, would collapse entirely within that property. While there is always a safety consideration with respect to any zoning restriction, no where in Bill 30-1998 or in the resulting Code sections is there an antenna height limitation dependant upon the ability of that antenna to fall or topple within the owner's own property. Again, while safety is implicit in any zoning regulation, the primary consideration for the citing regulations contained in Bill 30-1998 is asthetic – to minimize visibility.

There can be no other conclusion but that BCZR §426A balances the needs of the amateur radio operators with the asthetic concerns of adjacent landowners by linking the size of the property to the size of the antenna and by requiring a two dimensional analysis. Application of this analysis to the Governale property clearly indicates that all three antennas violate BCZR §426A.

II. Federal Preemption

There is no application of the limited preemption created by PRB-1 to this case and to BCZR §426A generally. To conclude that BCZR §426A is preempted by federal law in this case would require the Board to determine that BCZR §426A is void and is preempted by federal law entirely. To the contrary, BCZR §426A achieves precisely what is required by PRB-1 because it balances the competing rights of amateur radio operators and adjacent landowners and it does so

in a reasonable and minimally restrictive fashion. Every amateur radio operator would like to have a 200 foot tower in their yard, but that would not be fair to surrounding neighbors. Most people would rather not have to see any type of antenna on their neighbors' property. Each landowners rights must be respected and balanced and BCZR §426A does precisely that in a minimally restrictive manner.

Mr. Governale presented testimony from Christopher Imlay, Esquire, who offered himself as an expert in telecommunications law and amateur radio antenna law. Apparently, Mr. Imlay has represented the national association of amateur radio operators, called the American Relay Radio League, ("ARRL") in many matters. At the hearing, Mr. Imlay gave his interpretation BCZR §426A and offered his understanding of the federal preemptions issues. As discussed below, however, Mr. Imlay's interpretation of the BCZR is not only inaccurate but his notions with respect to federal preemption are greatly misplaced.

The only case in this federal judicial circuit that considered the issue of federal preemption of local zoning ordinances with respect to amateur radio towers is Williams v. City of Columbia, 906 F.2d 994 (4th Cir. 1990). See, Exhibit No. 4. Although he initially forgot, Mr. Imlay was on brief as *amicus curiae* for the ARRL in the Williams case. The ordinance at issue in Williams required a special exception for any antenna over 17 feet, and Mr. Williams sought to construct a retractable antenna that would be 28 feet tall when retracted and 65 feet tall when fully extended. The special exception was denied and Mr. Williams filed suit against the City in federal court. He lost at the District Court level and appealed. The United States Circuit Court of Appeals for the Fourth Circuit affirmed, finding that the City ordinance was not preempted and that the restriction imposed on the height of the radio operator antenna was constitutional. Id. at 999. Despite Mr. Imlay's erroneous assertion that the Williams decision is bad law or is

inapplicable to this case, the Court's own statement framing arguments proffered by Mr. Williams indicates otherwise; he argued that:

> The zoning ordinance should be invalidated pursuant to PRB-1 because it operates to preclude amateur radio communications.....

Id. at 999. As *amicus*, Mr. Imlay asserted that that Mr. Williams should be able to build whatever he wanted and that "a municipality can not consistent with the FCC's preemption regulation, limit amateur radio antennas under any circumstance, to any.... non-functional height (in this case, significantly less than the 65 feet requested by the Appellant)." Id. at 999. The Court unequivocally rejected Mr. Imlay's argument.

Perhaps not surprisingly and probably because he lost, Mr. Imlay now takes the position that Williams is a bad decision or that it is no longer good law. He, of course, is wrong because Williams is controlling authority in this federal judicial circuit. Therefore, the only time that the federal appeals court that would potentially hear this case decided whether a local restriction on amateur radio antennas was preempted, they found that 17' restriction was acceptable..

Furthermore, the argument that requiring Mr. Governale to lower his largest antenna to 65 feet deprives him of the opportunity to adequately transmit and receive is unfounded and misleading.[3] Without question, the higher the tower the better it will work and the lower the tower the less effective it will be in sending and receiving signals. However, optimal, best or even better operation is not dispositive.

The needs reports submitted by Mr. Governale, however, actually reflects only a modest difference in the effectiveness of the antennas if they are lowered to 65 feet. See, "Needs Analysis", Governale Exhibit 20. The largest antenna transmits and receives high frequency "HF" signals which bounce between the atmosphere and the earth. The needs study, Governale

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[3] PRB-1 and ARRL state that the needs of most amateurs are served by antennas 60-65' in height. See *Exhibit 1; and Exhibit 5.*

Exhibit No. 20, depicts maps of Africa, Japan/Asia and Oceania which do show (if you assume they are technically accurate) some diminution in coverage that it is minor considering some of the locations are over 10,000 miles away. However, he still has very effective coverage over 10,000 miles away in Africa, Asia and Oceania.

The smaller, line of site antennas, are very high frequency (VHF) and ultra high frequency (UHF) and are also (again, if you accept Governale's expert's analysis) somewhat less effective if they are lowered to 65 feet. At 99 feet the VHF/UHF antennas cover 14.07 miles and at 65 feet they would cover 11.04 miles.

The results of Mr. Governale's own expert needs analysis demonstrates that he will clearly be able to effectively operate his radio if the antennas are lowered to 65 feet. He may have slightly less coverage 10,000 miles away and have some diminution of coverage locally, but he will, nevertheless, have very significant use capabilities with the lower antennas.

It is simply not dispositive that Governale claims the coverage areas at 65 feet are unacceptable for his requirements. Every residential zoning restrictions limits an individual's ability to do whatever he/she wants to do on their property. You could not erect a 50 foot satellite dish because you wanted better television reception. You could not build a taller house because you want more space. Asthetic concerns of neighbors are such that zoning regulations exist to balance these competing concerns.

Furthermore, the Governale property is better suited because of its size, elevation and proximity to other unique topographic features for operation of an amateur radio station than most other properties. BCZR §426A or in reality any other height/size restriction on amateur radio antennas would much more severely limit most other properties in the county. The Governale property is at 540-560 feet elevation, higher than most properties in the county. Mr.

Governale testified that he specifically purchased his land because it was ideal for radio operation. The elevation was excellent and it's slope and proximity to Loch Raven Reservoir was ideal. His property was much better for radio operation than the vast majority of other properties in Baltimore County. Bruce Doak testified that the Governale property was not dissimilar size, shape, elevation, topography or vegetation than other properties in Baltimore County. Indeed, he conceded that there were many properties in Baltimore County smaller in size, irregularly shaped and with lesser elevations than the Governale property.

James Nitzberg, author of the Petitioners' "Needs Analysis", also testified that the Governale property was not dissimilar in size, topography or vegetation from the other properties in Baltimore County. In fact, the elevation and other inherent features of the Governale property actually make the property better than most in Baltimore County for amateur radio operation.

It is apparent that BCZR §426A in application restricts the Governale property to a much lesser degree than the vast majority of other properties in Baltimore County. To preempt BCZR §426A in this case would require the Board to *de facto* void the entire regulation. However, BCZR §426A only seeks to balance the rights of amateur radio operators with neighbors who have views adversely affected by the placements of the antennas. PRB-1 would preempt any zoning ordinance that did not attempt to accommodate amateur radio operators' reasonable needs. Interestingly, in both PRB-1 and in materials promulgated by ARRL, it is noted that a 60'-65' antenna would be accommodate the needs of most amateurs. See, Exhibit No.1, PRB-1; and Exhibit No. 5, ARRL Antenna Restriction "How to" chart. BCZR §426A permits a larger antenna, provided it can be located far enough away from adjacent landowners so as to minimize visibility. BCZR §426A provides a sliding scale analysis, restricting antenna size in more densely populated areas to minimize visibility. The larger the property (the greater the distance

between adjacent land owners) the higher and/or wider the antenna may be. This adjustability or accommodation within the regulation balances the right of the amateur radio operator with the rights of neighbors to have unobstructed, scenic views.

III. Variance

There is absolutely no basis to award Mr. Governale a variance. BCZR §426A does not apply to Mr. Governale's property in a disproportionate manner because the property is unique. Indeed, BCZR §426A would more adversely restrict many more properties in Baltimore County than it does the Governale property. First, most other properties do not have the evaluation and proximity to topographic features (Loch Raven Reservoir) beneficial to radio operation as the Governale property. Further, many properties are smaller, so they would only be permitted to accommodate an antenna of lesser height; therefore, reducing effectiveness. Finally, BCZR §426A marginally restricts Mr. Governale's ability to operate his amateur and comes no where near to precluding or even severely restricting his ability to operate.

A variance may only be granted where "special circumstances or conditions exist that are peculiar to the land or structure which is the subject of the variance request and where strict compliance...would result in practical difficulty or unreasonable hardship." Cromwell v. Ward, 651 A.2d 426 (Md. App. 1995). The first and most important consideration is "the abnormal impact the ordinance has on a specific piece of property because of peculiarity and uniqueness of that piece of property, not the uniqueness or peculiarity of the practical difficulties alleged to exist." Id. at 427. Bruce Doak and James Nitzberg, witnesses called by Governale, both testified that there was nothing about the shape, size, vegetation or topography of the Governale property that made it "unique" as compared to other properties in Baltimore County. The property is essentially a rectangle, 2 acres in size with significant elevation.

In North v. St. Mary's County, 638 A.2d 1175, 1181 (Md. App. 1994) the Maryland Court of Special of Appeals said:

> In the zoning context the unique aspect of a variance requirement does not refer to the extent of improvements upon the property or upon neighboring properties. The uniqueness of a property for a zoning purposes requires that the subject property have inherent characteristics not shared by other properties in the area...

Id. at 1181. As in North the only relevant consideration is the property, not what the owner wants to put on the property. The antenna and how BCZR §426A restricts radio operation is not relevant on the variance issue. The fact that the size of the property restricts the size of antenna they may have does not make the Governale property "unique." To the contrary, the Governale property is not unique such that BCZR §426A adversely effects it; but instead because of its location, elevation and size, BCZR §426A actually places less restriction on the property than the majority of other properties in Baltimore County.

The Court in Cromwell said:

> It is fundamental that the difficulties or hardships must be unique to justify a variance: they must be peculiar to the application of the zoning restrictions to a particular property and not general in character...It is not uniqueness of the plight of the owner, but uniqueness of the land causing the plight which is the criteria.

See, Cromwell, 651 A.2d at 438. There is nothing that suggests unfair application of BCZR §426A to the Governale property because of "uniqueness." Every witness who testified agreed that the size, shape, topography and vegetation of the Governale property is similar to other properties in the County. It is undisputed that there is no inherent uniqueness about the property that causes BCZR §426A to apply more restrictively than it would apply to other properties. The inherent uniqueness of the land not the proposed structure (antenna) is dispositive. The Court of Special Appeals in Cromwell ultimately held as follows:

> We concluded that the law in Maryland and in Baltimore County under its charter and ordinance remains as it has always been--A property's peculiar characteristics or unusual circumstances relating only and uniquely to that property must exist in conjunction with the ordinances more severe impact on the specific property because of the property's uniqueness before any consideration will be given to whether practical difficulty or unnecessary hardship exists.

Id., 651A.2d at 439.

In this case, the testimony of Mr. Governale, Mr. Doak and Mr. Nitzberg conclusively establish that the Governale property is in no way unique such that BCZR §426A applies in a disproportionate manner. In fact, there has been no evidence that the property is unique in any way. To the contrary, the property is better suited for amateur radio operations than most properties in the County. Accordingly, there is no basis for a variance.

CONCLUSION

For the reasons stated herein, all relief requested by the Petitioner must and should be denied.

Respectfully submitted,

Jeffrey L. Peek, Esquire
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CERTIFICATE OF SERVICE

I HEREBY CERTIFY that on this 31 day of Jan., 2007, a copy of the foregoing Complainants Memorandum was sent by first-class mail, postage prepaid to the following:

Howard L. Alderman, Esquire
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Towson, Maryland 21204
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Towson, Maryland 21204

Jeffrey L. Peek

Memorandum Opinion and Order in PRB-1

Before the
Federal Communications Commission
Washington, DC 20554

FCC 85-506
36149

In the Matter of	)	
	)	
Federal preemption of state and local regulations pertaining to Amateur radio facilities.	)	**PRB-1**

MEMORANDUM OPINION AND ORDER

Adopted: September 16, 1985 ; Released: September 19, 1985

By the Commission: Commissioner Rivera not participating.

Background

1. On July 16, 1984, the American Radio Relay League, Inc (ARRL) filed a Request for Issuance of a Declaratory Ruling asking us to delineate the limitations of local zoning and other local and state regulatory authority over Federally-licensed radio facilities. Specifically, the ARRL wanted an explicit statement that would preempt all local ordinances which provably preclude or significantly inhibit effective reliable amateur radio communications. The ARRL acknowledges that local authorities can regulate amateur installations to insure the safety and health of persons in the community, but believes that those regulations cannot be so restrictive that they preclude effective amateur communications.

2. Interested parties were advised that they could file comments in the matter.[1] With extension, comments were due on or before December 26, 1984,[2] with reply comments due on or before January 25, 1985.[3] Over sixteen hundred comments were filed.

Local Ordinances

3. Conflicts between amateur operators regarding radio antennas and local authorities regarding restrictive ordinances are common. The amateur operator is governed by the regulations contained in Part 97 of our rules. Those rules do not limit the height of an amateur

antenna but they require, for aviation safety reasons, that certain FAA notification and FCC approval procedures must be followed for antennas which exceed 200 feet in height above ground level or antennas which are to be erected near airports. Thus, under FCC rules some antenna support structures require obstruction marking and lighting. On the other hand, local municipalities or governing bodies frequently enact regulations limiting antennas and their support structures in height and location, e.g. to side or rear yards, for health, safety or aesthetic considerations. These limiting regulations can result in conflict because the effectiveness of the communications that emanate from an amateur radio station are directly dependent upon the location and the height of the antenna. Amateur operators maintain that they are precluded from operating in certain bands allocated for their use if the height of their antennas is limited by a local ordinance.

4. Examples of restrictive local ordinances were submitted by several amateur operators in this proceeding. Stanley J. Cichy, San Diego, California, noted that in San Diego amateur radio antennas come under a structures ruling which limits building heights to 30 feet. Thus, antennas there are also limited to 30 feet. Alexander Vrenios, Mundelein, Illinois, wrote that an ordinance of the Village of Mundelein provides that an antenna must be a distance from the property line that is equal to one and one-half times its height. In his case, he is limited to an antenna tower for his amateur station just over 53 feet in height.

5. John C. Chapman, an amateur living in Bloomington, Minnesota, commented that he was not able to obtain a building permit to install an amateur radio antenna exceeding 35 feet in height because the Bloomington city ordinance restricted "structures" heights to 35 feet. Mr. Chapman said that the ordinance, when written, undoubtedly applied to buildings but was now being applied to antennas in the absence of a specific ordinance regulating them. There were two options open to him if he wanted to engage in amateur communications. He could request a variance to the ordinance by way of a hearing before the City Council, or he could obtain affidavits from his neighbors swearing that they had no objection to the proposed antenna installation. He got the building permit after obtaining the cooperation of his neighbors. His concern, however, is that he had to get permission from several people before he could effectively engage in radio communications for which he had a valid FCC amateur license.

6. In addition to height restrictions, other limits are enacted by local jurisdictions—anti-climb devices on towers or fences around them; minimum distances from high voltage power lines; minimum distances of towers from property lines; and regulations pertaining to the structural soundness of the antenna installation. By and large, amateurs do not find these safety precautions objectionable. What they do object to are the sometimes prohibitive, non-refundable application filing fees to obtain a permit to erect an antenna installation and those provisions in ordinances which regulate antennas for purely aesthetic reasons. The amateurs contend, almost universally, that "beauty is in the eye of the beholder." They assert that an antenna installation is not more aesthetically displeasing than other objects that people keep on their property, e.g. motor homes, trailers, pick-up trucks, solar collectors and gardening equipment.

Restrictive Covenants

7. Amateur operators also oppose restrictions on their amateur operations which are contained in the deeds for their homes or in their apartment leases. Since these restrictive

covenants are contractual agreements between private parties, they are not generally a matter of concern to the Commission. However, since some amateurs who commented in this proceeding provided us with examples of restrictive covenants, they are included for information. Mr. Eugene O. Thomas of Hollister, California, included in his comments an extract of the Declaration of Covenants and Restrictions for Ridgemark Estates, County of San Benito, State of California. It provides:

> No antenna for transmission or reception of radio signals shall be erected outdoors for use by any dwelling unit except upon approval of the Directors. No radio or television signals or any other form of electromagnetic radiation shall be permitted to originate from any lot which may unreasonably interfere with the reception of television or radio signals upon any other lot.

Marshall Wilson, Jr. provided a copy of the restrictive covenant contained in deeds for the Bell Martin Addition #2, Irving, Texas. It is binding upon all of the owners or purchasers of the lots in the said addition, his or their heirs, executors, administrators or assigns. It reads:

> No antenna or tower shall be erected upon any lot for the purposes of radio operations.

William J. Hamilton resides in an apartment building in Gladstone, Missouri. He cites a clause in his lease prohibiting the erection of an antenna. He states that he has been forced to give up operating amateur radio equipment except a hand-held 2 meter (144-148 MHz) radio transceiver. He maintains that he should not be penalized just because he lives in an apartment.

Other restrictive covenants are less global in scope than those cited above. For example, Robert Webb purchased a home in Houston, Texas. His deed restriction prohibited "transmitting or receiving antennas extending above the roof line."

8. Amateur operators generally oppose restrictive covenants for several reasons. They maintain that such restrictions limit the places that they can reside if they want to pursue their hobby of amateur radio. Some state that they impinge on First Amendment rights of speech. Others believe that a constitutional right is being abridged because, in their view, everyone has a right to access the airwaves regardless of where they live.

9. The contrary belief held by housing subdivision communities and condominium or homeowner's associations is that amateur radio installations constitute safety hazards, cause interference to other electronic equipment which may be operated in the home (television, radio, stereos) or are eyesores that detract from the aesthetic and tasteful appearance of the housing development or apartment complex. To counteract these negative consequences, the subdivisions and associations include in their deeds, leases or by-laws, restrictions and limitations on the location and height of antennas or, in some cases, prohibit them altogether. The restrictive covenants are contained in the contractual agreement entered into at the time of the sale or lease of the property. Purchasers or lessees are free to choose whether they wish to reside where such restrictions on amateur antennas are in effect or settle elsewhere.

Supporting Comments

10. The Department of Defense (DOD) supported the ARRL and emphasized in its comments that continued success of existing national security and emergency preparedness telecommunications plans involving amateur stations would be severely diminished if state and local ordinances were allowed to prohibit the construction and usage of effective amateur transmission facilities. DOD utilizes volunteers in the Military Affiliate Radio Service (MARS),[4] Civil Air Patrol (CAP) and the Radio Amateur Civil Emergency Service (RACES). It points out that these volunteer communicators are operating radio equipment installed in their homes and that undue restrictions on antennas by local authorities adversely affect their efforts. DOD states that the responsiveness of these volunteer systems would be impaired if local ordinances interfere with the effectiveness of these important national telecommunication resources. DOD favors the issuance of a ruling that would set limits for local and state regulatory bodies when they are dealing with amateur stations.

11. Various chapters of the American Red Cross also came forward to support the ARRL's request for a preemptive ruling. The Red Cross works closely with amateur radio volunteers. It believes that without amateurs' dedicated support, disaster relief operations would significantly suffer and that its ability to serve disaster victims would be hampered. It feels that antenna height limitations that might be imposed by local bodies will negatively affect the service now rendered by the volunteers.

12. Cities and counties from various parts of the United States filed comments in support of the ARRL's request for a Federal preemption ruling. The comments from the Director of Civil Defense, Port Arthur, Texas, are representative:

> The Amateur Radio Service plays a vital role with our Civil Defense program here in Port Arthur and the design of these antennas and towers lends greatly to our ability to communicate during times of disaster.
>
> We do not believe there should be any restrictions on the antennas and towers except for reasonable safety precautions. Tropical storms, hurricanes and tornadoes are a way of life here on the Texas Gulf Coast and good communications are absolutely essential when preparing for a hurricane and even more so during recovery operations after the hurricane has past.

13. The Quarter Century Wireless Association took a strong stand in favor of the Issuance of a declaratory ruling. It believes that Federal preemption is necessary so that there will be uniformity for all Amateur Radio installations on private property throughout the United States.

14. In its comments, the ARRL argued that the Commission has the jurisdiction to preempt certain local land use regulations which frustrate or prohibit amateur radio communications. It said that the appropriate standard in preemption cases is not the extent of state and local interest in a given regulation, but rather the impact of the regulation on Federal goals. Its position is that Federal preemption is warranted whenever local government regulations relate adversely to the operational aspects of amateur communication. The ARRL maintains that localities routinely employ a variety of land use devices to preclude the installation of effective amateur antennas, including height restrictions, conditional use permits, building setbacks and dimensional limitations on antennas. It sees a declaratory ruling of Federal preemption as necessary to cause municipalities to accommodate amateur operator needs in land use planning efforts.

15. James C. O'Connell, an attorney who has represented several amateurs before local zoning authorities, said that requiring amateurs to seek variances or special use approval to erect reasonable antennas unduly restricts the operation of amateur stations. He suggested that the Commission preempt zoning ordinances which impose antenna height limits of less than 65 feet. He said that this height would represent a reasonable accommodation of the communication needs of most amateurs and the legitimate concerns of local zoning authorities.

Opposing Comments

16. The City of La Mesa, California, has a zoning regulation which controls amateur antennas. Its comments reflected an attempt to reach a balanced view.

> This regulation has neither the intent, nor the effect, of precluding or inhibiting effective and reliable communications. Such antennas may be built as long as their construction does not unreasonably block views or constitute eyesores. The reasonable assumption is that there are always alternatives at a given site for different placement, and/or methods for aesthetic treatment. Thus, both public objectives of controlling land use for the public health, safety, and convenience, and providing an effective communications network, can be satisfied. A blanket to completely set aside local control, or a ruling which recognizes control only for the purpose of safety of antenna construction, would be contrary to...legitimate local control.

17. Comments from the County of San Diego state:

> While we are aware of the benefits provided by amateur operators, we oppose the issuance of a preemption ruling which would elevate 'antenna effectiveness' to a position above all other considerations. We must, however, argue that the local government must have the ability to place reasonable limitations upon the placement and configuration of amateur radio transmitting and receiving antennas. Such ability is necessary to assure that the local decision-makers have the authority to protect the public health, safety and welfare of all citizens.
>
> In conclusion, I would like to emphasize an important difference between your regulatory powers and that of local governments. Your Commission's approval of the preemptive requests would establish a "national policy." However, any regulation adopted by a local jurisdiction could be overturned by your Commission or a court if such regulation was determined to be unreasonable.

18. The City of Anderson, Indiana, summarized some of the problems that face local communities:

> I am sympathetic to the concerns of these antenna owners and I understand that to gain the maximum reception from their devices, optimal location is necessary. However, the preservation of residential zoning districts as "liveable" neighborhoods is jeopardized by placing these antennas in front yards of homes. Major problems of public safety have been encountered, particularly vision blockage for auto and pedestrian access. In addition, all communities are faced

with various building lot sizes. Many building lots are so small that established setback requirements (in order to preserve adequate air and light) are vulnerable to the unregulated placement of antennas. ...the exercise of preemptive authority by the FCC in granting this request would not be in the best interest of the general public.

19. The National Association of Counties (NACO), the American Planning Association (APA) and the National League of Cities (NLC) all opposed the issuance of an antenna preemption ruling. NACO emphasized that federal and state power must be viewed in harmony and warns that Federal intrusion into local concerns of health, safety and welfare could weaken the traditional police power exercised by the state and unduly interfere with the legitimate activities of the states. NLC believed that both Federal and local interests can be accommodated without preempting local authority to regulate the installation of amateur radio antennas. The APA said that the FCC should continue to leave the issue of regulating amateur antennas with the local government and with the state and Federal courts.

Discussion

20. When considering preemption, we must begin with two constitutional provisions. The tenth amendment provides that any powers which the constitution either does not delegate to the United States or does not prohibit the states from exercising are reserved to the states. These are the police powers of the states. The Supremacy Clause, however, provides that the constitution and the laws of the United States shall supersede any state law to the contrary. Article III, Section 2. Given these basic premises, state laws may be preempted in three ways: First, Congress may expressly preempt the state law. See Jones v. Rath Packing Co., 430 U.S. 519, 525 (1977). Or, Congress may indicate its intent to completely occupy a given field so that any state law encompassed within that field would implicitly be preempted. Such intent to preempt could be found in a congressional regulatory scheme that was so pervasive that it would be reasonable to assume that Congress did not intend to permit the states to supplement it. See Fidelity Federal Savings & Loan Ass'n v. de la Cuesta, 458 U.S. 141, 153 (1982). Finally, preemption may be warranted when state law conflicts with federal law. Such conflicts may occur when "compliance with both Federal and state regulations is a physical impossibility," Florida Lime & Avocado Growers, Inc. v. Paul, 373 U.S. 132, 142, 143 (1963), or when state law "stands as an obstacle to the accomplishment and execution of the full purposes and objectives of Congress," Hines v. Davidowitz, 312 U.S. 52, 67 (1941). Furthermore, federal regulations have the same preemptive effect as federal statues, Fidelity Federal Savings & Loan Association v. de la Cuesta, supra.

21. The situation before us requires us to determine the extent to which state and local zoning regulations may conflict with federal policies concerning amateur radio operators.

22. Few matters coming before us present such a clear dichotomy of view point as does the instant issue. The cities, countries, local communities and housing associations see an obligation to all of their citizens and try to address their concerns. This is accomplished through regulations, ordinances or covenants oriented toward the health, safety and general welfare of those they regulate. At the opposite pole are the individual amateur operators and their support

groups who are troubled by local regulations which may inhibit the use of amateur stations or, in some instances, totally preclude amateur communications. Aligned with the operators are such entities as the Department of Defense, the American Red Cross and local civil defense and emergency organizations who have found in Amateur Radio a pool of skilled radio operators and a readily available backup network. In this situation, we believe it is appropriate to strike a balance between the federal interest in promoting amateur operations and the legitimate interests of local governments in regulating local zoning matters. The cornerstone on which we will predicate our decision is that a reasonable accommodation may be made between the two sides.

23. Preemption is primarily a function of the extent of the conflict between federal and state and local regulation. Thus, in considering whether our regulations or policies can tolerate a state regulation, we may consider such factors as the severity of the conflict and the reasons underlying the state's regulations. In this regard, we have previously recognized the legitimate and important state interests reflected in local zoning regulations. For example, in Earth Satellite Communications, Inc., 95 FCC 2d 1223 (1983), we recognized that

> ...countervailing state interests inhere in the present situation...For example, we do not wish to preclude a state or locality from exercising jurisdiction over certain elements of an SMATV operation that properly may fall within its authority, such as zoning or public safety and health, provided the regulation in question is not undertaken as a pretext for the actual purpose of frustrating achievement of the preeminent federal objective and so long as the non-federal regulation is applied in a nondiscriminatory manner.

24. Similarly, we recognize here that there are certain general state and local interests which may, in their even-handed application, legitimately affect amateur radio facilities. Nonetheless, there is also a strong federal interest in promoting amateur communications. Evidence of this interest may be found in the comprehensive set of rules that the Commission has adopted to regulate the amateur service. [5] Those rules set forth procedures for the licensing of stations and operators, frequency allocations, technical standards which amateur radio equipment must meet and operating practices which amateur operators must follow. We recognize the amateur radio service as a voluntary, noncommercial communication service, particularly with respect to providing emergency communications. Moreover, the amateur radio service provides a reservoir of trained operators, technicians and electronic experts who can be called on in times of national or local emergencies. By its nature, the Amateur Radio Service also provides the opportunity for individual operators to further international goodwill. Upon weighing these interests, we believe a limited preemption policy is warranted. State and local regulations that operate to preclude amateur communications in their communities are in direct conflict with federal objectives and must be preempted.

25. Because amateur station communications are only as effective as the antennas employed, antenna height restrictions directly affect the effectiveness of amateur communications. Some amateur antenna configurations require more substantial installations than others if they are to provide the amateur operator with the communications that he/she desires to engage in. For example, an antenna array for international amateur communications will differ from an antenna used to contact other amateur operators at shorter distances. We will not, however, specify any particular height limitation below which a local government may not regulate, nor will we suggest the precise language that must be contained in local ordinances,

such as mechanisms for special exceptions, variances, or conditional use permits. Nevertheless, local regulations which involve placement, screening, or height of antennas based on health, safety, or aesthetic considerations must be crafted to accommodate reasonably amateur communications, and to represent the minimum practicable regulation to accomplish the local authority's legitimate purpose.[6]

26. Obviously, we do not have the staff or financial resources to review all state and local laws that affect amateur operations. We are confident, however, that state and local governments will endeavor to legislate in a manner that affords appropriate recognition to the important federal interest at stake here and thereby avoid unnecessary conflicts with federal policy, as well as time-consuming and expensive litigation in this area. Amateur operators who believe that local or state governments have been overreaching and thereby have precluded accomplishment of their legitimate communications goals, may, in addition, use this document to bring our policies to the attention of local tribunals and forums.

27. Accordingly, the Request for Declaratory Ruling filed July 16, 1984, by the American Radio Relay League, Inc., IS GRANTED to the extent indicated herein and in all other respects, IS DENIED.

FEDERAL COMMUNICATIONS COMMISSION
William J. Tricarico
Secretary

Footnotes

[1]Public Notice, August 30, 1984, Mimeo. No. 6299, 49 F.R. 36113, September 14, 1984.

[2]Public Notice, December 19,1984, Mimeo. No. 1498.

[3]Order, November 8, 1984, Mimeo, No. 770.

[4]MARS is solely under the auspices of the military which recruits volunteer amateur operators to render assistance to it. The Comission is not involved in the MARS program.

[5]47 CFR Part 97.

[6]We reiterate that our ruling herein does not reach restrictive covenants in private contractual agreements. Such agreements are voluntarily entered into by the buyer or tenant when the agreement is executed and do not usually concern this Commission.

Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of	)	
	)	
Modification and Clarification of Policies and Procedures Governing Siting and Maintenance of Amateur Radio Antennas and Support Structures, and Amendment of Section 97.15 of the Commission's Rules Governing the Amateur Radio Service.	)	RM-8763

ORDER

Adopted: November 18, 1999 Released: November 19, 1999

By the Deputy Chief, Wireless Telecommunications Bureau:

I. Introduction and Executive Summary

1. In this Order, we address a Petition for Rule Making (Petition), filed on February 7, 1996, by The American Radio Relay League, Inc. (ARRL or Petitioner), asking that the Commission review and modify its policies and procedures pertaining to the Commission's limited preemption of state and local regulations affecting amateur radio facilities. The Petitioner also requests that the Commission amend Section 97.15 of the Commission's Rules to clarify the Commission's preemptive intent with respect to such state and local regulations. We have carefully reviewed the requests, and the supporting arguments, and conclude that the modifications and clarifications suggested by Petitioner would not serve the public interest, convenience and necessity. Therefore, the Petition is denied.

II. Background

2. In 1984, ARRL petitioned the Commission for a declaratory ruling that would limit local regulatory control of amateur

stations. It was believed that local building codes and zoning regulations had limited the communications ability of licensees in the amateur service. An outdoor antenna is a necessary component for most types of amateur service communications. Municipalities and local land use regulatory authorities regulated the heights, placement and dimensions of antennas. In PRB-1, resolving the ARRL's declaratory ruling petition, the Commission noted that these regulations often result in conflict because the effectiveness of the communications that emanate from an amateur radio station is directly dependent upon the location and the height of the antenna. Consequently in PRB-1, the Commission enunciated the Federal policy toward state and local regulatory restrictions on amateur station facilities.

3. In the MO&O, the Commission declared a limited preemption of state and local regulations governing amateur station facilities, including antennas and support structures. The Commission determined that there was a strong Federal interest in promoting amateur service communications, and that state and local regulations that preclude amateur service communications are in direct conflict with Federal objectives and must be preempted. Furthermore, the Commission stated that a local ordinance or zoning regulation must make reasonable accommodation for amateur communications and must constitute the minimum practicable regulation to accomplish the local authority's legitimate purpose. However, the Commission did not extend the limited preemption to covenants, conditions and restrictions (CC&Rs) in deeds and in condominium by-laws because they are contractual agreements between private parties. Petitioner, inter alia, requests the extension of the limited preemption to such CC&Rs.

4. Petitioner also requests other clarifications to PRB-1, as follows: (a) that local governments must make a reasonable accommodation for amateur radio antennas, rather than balancing their own local interests against the Federal interest in amateur radio; (b) that local governments could not specify a lower height maximum than sixty to seventy feet for an amateur radio antennna structure; (c) that overly burdensome conditions in land use authorizations or imposition of excessive costs is preempted; (d) that denial of a particular use permit or special exception does not relieve a local government from having to make a reasonable accommodation for amateur communications; (e) that conditional use permit procedures can be used to regulate amateur radio antennas, but only as an adjunct to a reasonable height restriction; and, (f) that land use restrictions pertaining to safety that limit the overall height of an amateur radio antenna structure, or restrict installation of an antenna altogether, are invalid unless there is no other alternative available that is less burdensome and still accomplishes the same purpose. The Commission sought comment on the Petition on February 21, 1996.

5. Since the adoption of the Commission's limited premption policy in PRB-1, Congress enacted Section 704 of the Telecommunications Act of 1996, concerning the siting of personal wireless service facilities. We note that Section 704 of the Telecom Act encompasses commercial mobile radio services, unlicensed wireless services and common carrier wireless exchange access services. Thus, Section 704 of the Telecom Act, which, among other things, bars state or local regulations that prohibit or have the effect of prohibiting the provision of personal wireless services, does not apply to stations or facilities in the amateur radio service.

III. Discussion

6. The Commission's policy with respect to restrictive covenants is clearly stated in the MO&O establishing a limited

preemption of state and local regulations. In the MO&O, the Commission stated that PRB-1 does not reach restrictive covenants in private contractual agreements. The Petitioner argues that enforcement of a covenant by the court constitutes "state action", thus converting what otherwise would be a private matter into a matter of state regulation and, thus, subject to the Commission's limited preemption policy. Notwithstanding the clear policy statement that was set forth in PRB-1 excluding restrictive covenants in private contractual agreements as being outside the reach of our limited preemption, we nevertheless strongly encourage associations of homeowners and private contracting parties to follow the principle of reasonable accommodation and to apply it to any and all instances of amateur service communications where they may be involved. Although we do not hesitate to offer such encouragement, we are not persuaded by the Petition or the comments in support thereof that specific rule provisions bringing the private restrictive covenants within the ambit of PRB-1 are necessary or appropriate at this time. Having reached this conclusion, we need not resolve the issue of whether, or under what circumstances, judicial enforcement of private covenants would constitute "state action."

7. Petitioner further requests a clarification of PRB-1 that local authorities must not engage in balancing their enactments against the interest that the Federal Government has in amateur radio, but rather must reasonably accommodate amateur communications. We do not believe a clarification is necessary because the PRB-1 decision precisely stated the principle of "reasonable accommodation". In PRB-1, the Commission stated: "Nevertheless, local regulations which involve placement, screening, or height of antennas based on health, safety, or aesthetic considerations must be crafted to accommodate reasonably amateur communications, and to represent the minimum practicable regulation to accomplish the local authority's legitimate purpose." Given this express Commission language, it is clear that a "balancing of interests" approach is not appropriate in this context.

8. Petitioner also requests establishment of sixty or seventy feet as the minimum height in a metropolitan area for an amateur antenna structure so that local authorities could not specify a lower height maximum for an amateur antenna. Petitioner argues that such a minimum height would minimize interaction between amateur stations and home electronic equipment and provide reasonable antenna efficiency at different amateur frequencies, MF through UHF and beyond. Petitioner also contends that structures of that height and above can be so located as to minimize the visual impact, and that retractable antennas could be used to address unusual aesthetic situations, such as in historic or scenic zones. We do not believe that it would be prudent or that it is appropriate to set such a standard for amateur antennas and their supporting structures because of varying circumstances that may occur when a particular antenna configuration is under consideration, such as terrain or man-made obstructions. We believe that the policy enunciated in PRB-1 is sound. PRB-1 did not specify a particular height limitation below which a local government may not regulate. The Commission did not want to mandate specific provisions that a local authority must include in a zoning ordinance. We continue to believe that the standards the Commission set, that is, "reasonable accommodation" and "minimum practicable regulation", have worked relatively well. Therefore, we are not persuaded that changes to the Commission's policy of leaving the specifics of zoning regulations to the local authority, including provisions concerning the height of an amateur antenna, are necessary at this time.

9. Petitioner further requests that the Commission

specifically preempt overly burdensome conditions and excessive costs levied by a local authority in connection with engineering certifications or issuance of antenna permits. Specifically, Petitioner argues that assessment of unusual costs for processing an antenna permit application cannot be used by the local authority as a means of indirectly prohibiting the antenna. Petitioner states that the same argument is true of conditional use permits that require an amateur antenna to be screened from view by the installation of mature vegetation. According to the ARRL, if full vegetative screening cannot be accomplished in a cost-effective manner, a condition requiring such screening is a de facto prohibition. Although Petitioner concedes that a municipality may require amateur operators to pay reasonable expenses to obtain amateur permits, the Petitioner objects to the imposition of unreasonable expenses because such expenses would discourage or prohibit the installation of amateur antennas. Petitioner also requests that the Commission declare as invalid certain land use restrictions based on safety considerations, such as setbacks on the property where the antenna is to be erected, unless there are no other alternatives that would accomplish the same purpose. Finally, Petitioner requests that the Commission specify that, if a local authority denies a conditional use permit or a special exception request, it still has the obligation to make a reasonable accommodation for amateur communications. We return once again to the position that we have stated earlier in this Order, that is, that the standards of "reasonable accommodation" and "minimum practicable regulation" are sufficiently efficacious as guideposts for state, local and municipal authorities. We believe that the effectiveness of these guidelines or standards can be gauged by the fact that a local zoning authority would recognize at the outset, when crafting zoning regulations, the potential impact that high antenna towers in heavily-populated urban or suburban locales could have and, thus, would draft their regulations accordingly. In addition, we believe that PRB-1's guidelines brings to a local zoning board's awareness that the very least regulation necessary for the welfare of the community must be the aim of its regulations so that such regulations will not impinge on the needs of amateur operators to engage in amateur communications.

IV. Conclusion

10. In our view, Petitioner has not demonstrated that the clarifications requested are necessary. Accordingly, we conclude that the public interest would best be served by denying the ARRL request for modification and clarification of Commission policies and procedures concerning the limited preemption of state and local regulations that affect amateur service radio facilities.

V. Ordering Clause

11. Accordingly, IT IS ORDERED that, pursuant to Sections 4(i) and 303(r) of the Communications Act of 1934, as amended, 47 U.S.C. §§ 154(i) and 303(r), the petition for rule making, RM-8763, filed by The American Radio Relay League, Inc. on February 7, 1996, IS HEREBY DENIED. This action is taken under the delegated authority contained in Sections 0.131 and 0.331 of the Commission's Rules, 47 C.F.R. §§ 0.131 and 0.331.

FEDERAL COMMUNICATIONS COMMISSION

Kathleen O'Brien Ham

Deputy Chief, Wireless
Telecommunications Bureau j:\prd\depont\prbclor2.mjd

Introduced June 5, 1997; Planning Board Hearing July 10, 1997; Supplement to June 5 Report October 29, 1997; Revised Staff Report November 10, 1997; Addendum to Revised Staff Report November 19, 1997; Final Report November 20, 1997

Legislative Project 96-06

PROPOSED AMENDMENTS TO THE BALTIMORE COUNTY ZONING REGULATIONS REGARDING WIRELESS TELECOMMUNICATION FACILITIES

A Final Report of the Baltimore County Planning Board
Adopted November 20, 1997

PROJECT DESCRIPTION

This report is in response to Council Resolutions 55-96 and 27-97 which request the Planning Board to consider whether the Zoning Regulations need to be updated to reflect the increased demand for antennas and towers for wireless telecommunication.

BACKGROUND

The Zoning Regulations were most recently revised regarding telecommunication structures in 1986. They permit antennas and towers as follows:

	Antenna	Tower <=200' high	Tower >200' high
RC, DR, RO	SE	SE*	SE*
MR	By right if the antenna will not be more than 50 feet above grade level	R	SE
OR2, OT, BL, BM, BR, ML, MLR, MR, MH	By right if the antenna will not be more than 50' above grade level	R**	SE

R= By Right; SE= By Special Exception

* Must be set back from the property line at least twice the height of the tower
** Must be set back at least 200 feet from a residential or RO zone line

In 1994, the Planning Board recommended, in response to a Council Resolution, that the Zoning Regulations not be further amended but that all regulations regarding telecommunications equipment and structures be consolidated into one section of the BCZR. Council held a public hearing on March 7, 1994 but did not take further action on the report.

Since the Planning Board sent its recommendations to Council, Congress has comprehensively overhauled the way radio, television and telephone communications are regulated. The Telecommunications Act of 1996 encourages market growth and network building by removing impediments to competition. As a result of these changes, the Federal Communications Commission (FCC) can approve licenses to allow multiple carriers to provide the same services within the same geographic market. Applications to erect new antennas and towers have dramatically increased in Baltimore County and across the nation. Technological innovations, including digitizing, which provides clearer reception, are leading to the need for a larger number of antenna locations.

DISCUSSION

The Telecommunications Act of 1996 acknowledges the role of local government with regard to regulating the placement and construction of antennas and towers:

> Except as provided in this paragraph, nothing in this Act shall limit or affect the authority of a State or local government or instrumentality thereof over decisions regarding the placement, construction, and modification of wireless service facilities. [Telecommunications Act of 1996, § 704(a); 47 USC § 332(c)(7)(A)].

The Act places several constraints on the scope of local authority. The Act explicitly prohibits local government from imposing environmental regulations stricter than the FCC's.

Section 704(a) of the Act also states that local governments, in regulating the placement and construction of wireless equipment for "personal wireless facilities" (which includes cellular, paging and Personal Communication Services facilities) cannot "unreasonably" discriminate among providers by "prohibit[ing] or have[ing] the effect of prohibiting the provision of such services." Local government must act on an antenna application within a "reasonable" time period and support its decision in written findings based on "substantial evidence." The scope of this language is ambiguous. However, the conference committee report provides some guidance as to Congress's intent. According to the report, Congress did not intend that a locality treat the placement of facilities uniformly throughout a jurisdiction, regardless of the zone or district in which the facility is to be located:

> It is not the intent of the bill that if a State or local government grants a permit in a commercial district, it must also grant a permit for a competitor's 50-foot tower in a residential district. [Telecommunications Act of 1996, Conference Report 104-458, p. 208.]

On the other hand, the conference committee report makes clear that local government cannot ban the provision of wireless services.

The County's policy favoring the placement of towers in non-residential zones appears not to violate the Act, based on the conference committee's report. The Zoning Regulations do not prevent a tower from being located within a residential zone, but provide a different approval process and setback standards for such towers. A possible area of concern, based on the Act, is that it is not clear whether the Zoning Regulations permit wireless telecommunications facilities in the Service-Employment, the Performance Based Business zones and the Maritime zones. Unless a use is listed, it is not permitted. This affects the ability of providers to obtain sites to provide services.

COMMENTS FOLLOWING JULY 10, 1997 PUBLIC HEARING

The Planning Board held a public hearing on July 10, 1997 and received numerous comments. In response to comments made at the public hearing, and by the Office of Law and other County agencies, the County recommends changes to the Zoning Regulations to further the objective of co-location of antennas. The Planning Board also recommends that the County organize a Tower Review Committee, consisting of the Directors of Planning and the Office of Information Technology, and other government agencies considered appropriate for a particular site as well as a Council-designated citizen-at-large. This group will track the location of all towers and work with providers to determine the need for new tower locations. When considering a new tower application, representatives of communities where the tower could be located should be added to the group. Acting in an advisory capacity, the purpose of the group will be to coordinate co-location. The Tower Review Committee will also work with the State and Baltimore Gas and Electric with regard to possible antenna locations at their properties.

RECOMMENDATIONS

The Baltimore County Zoning Regulations, 1955, as amended, should be further amended as follows. **Boldfaced** text denotes language to be added to the Zoning Regulations. [Bracketed text] indicates text to be deleted from the Zoning Regulations.

1. In Section 101, add the following definitions:

Wireless telecommunication antenna: A directional or omnidirectional device which transmits or receives communications including radio, television, personal wireless services (commercial mobile services, unlicensed wireless services and common carrier wireless exchange services) and its related equipment housed at its base, but not including an amateur radio operator's antenna. A wireless telecommunication antenna is mounted on a wireless telecommunication tower or on another structure or building.

Wireless telecommunication tower: A self-supporting, guyed or freestanding structure erected for the purpose of supporting one or more wireless communication antennas.

2. Delete Section 426 and Subsection 502.7.C. Enact a new Section 426 as follows:

426.1 Statement of Legislative Policy for the Siting of Wireless Telecommunication Antennas

A. It is the intent of Baltimore County that wireless telecommunication antennas be placed on existing structures wherever feasible.

B. It is the intent of Baltimore County that, if it is necessary to construct a wireless telecommunication tower, the tower be designed to accommodate multiple wireless telecommunication antennas and sited so as to minimize its visibility.

C. It is further the intent of Baltimore County that, if it is necessary to construct a wireless telecommunication tower, the tower be erected in a medium or high intensity commercial zone wherever such a site is available, and constructed so as to minimize its visibility from residential areas.

426.2 Wireless Telecommunication Antennas and Towers

	Antennas*		Towers	
	How Permitted	Maximum Antenna Height and Antenna Diameter	<200 ft. high	> =200 ft. high
Residential Zone RC, RCC, CR District, DR, ROA	R	15 feet high, diameter three feet	SE	SE
Transitional Zones Service-Employment, RO, OR1, BMM, BMYC, BMB, CB,	R	15 feet high, diameter three feet	SE	SE
Medium Intensity Commercial OR2, BLR, BL, BM, BR, MR, ML, MLR	R	Not regulated	R	SE
High Intensity Commercial O3, OT, MH	R	Not regulated	R	SE

R= By Right; SE= By Special Exception

* This column refers to antennas located on a building, structure or tower which was legally erected prior to the installation of the antenna. The number of antennas or antenna clusters placed on a building, structure or tower is not regulated.

426.3 Wireless Telecommunication Towers are subject to the following standards:

A. For all wireless telecommunication towers:

1. Before submitting a petition for a special exception or an application for a building permit for a wireless telecommunication tower, the applicant shall meet with the County's Tower Review Committee. —

a. The Tower Review Committee shall include the Directors of the Office of Planning and the Office of Information Technology, or designees; an at-large citizens' representative appointed by Council and such other government agencies or community groups deemed appropriate by the Directors with regard to a particular site.

b. The applicant shall indicate the maximum number of wireless telecommunication carriers whose equipment the structure can support and such other location and technical information as requested by the County.

c. The Tower Review Committee shall evaluate the proposal with regard to the Statement of Legislative Intent in 426.1 and may provide advisory comments.

2. No stroboscopic lights are permitted on a tower, unless required by the Federal Aviation Administration (FAA).

3. Setbacks

a. A wireless telecommunication tower shall be set back from any property line a distance equivalent to at least the height of the tower.

b. The tower shall be set back from any residential or transitional zone line at least 200 feet.

4. The tower, antenna and any supporting lines shall be of a neutral color except as may be required by the FAA. The owner of the wireless communications facility is required to maintain, replace or repair any hazardous or unsafe condition flaking or worn exterior paint, or conditions caused by acts of vandalism.

5. The height of a wireless telecommunication tower is measured from the base of the tower to the tip of the highest antenna placed on the tower.

7. Upon completion of the tower, and every five years thereafter, a professional engineer registered in Maryland shall certify that the structure meets all safety requirements

8. Antennas may be installed by right on any legally existing tower, regardless of whether the tower was approved by special exception.

9. The applicant shall annually certify to the Director of Permits and Development Management the number of antennas on the tower.

10. Any special exception for the operation of a wireless telecommunication tower shall become void upon notice of cessation or termination by the owner and the tower may be considered abandoned. The right to resume the use of an abandoned tower may be terminated.

11. **Removal of Towers**

a. **Prior to obtaining a building permit for a wireless telecommunication tower, the applicant shall provide security to the County in a form and amount sufficient to accomplish the tower's removal. Removal of the tower shall mean all above ground structures, including paving.**

b. **The Director of Permits and Development Management (the code official) shall issue an order for the removal of the tower if it is abandoned or unsafe.**

i. **Notwithstanding the failure of the owner to notify the Director of Permits and Development Management, any wireless telecommunication tower which has not been in actual and continuous operation as a telecommunication tower for a period of twelve consecutive months shall be presumed to have been abandoned..**

ii. **A wireless telecommunication tower which has been determined by the code official to constitute a fire hazard or to be otherwise dangerous to human life or the public welfare, or to involve illegal or improper occupancy or inadequate maintenance, shall be considered unsafe. The code official shall issue to the owner an order to correct the deficiencies. If the owner does not correct the deficiencies within the time period ordered by the code official, the code official shall issue an order for removal of the tower.**

c. **Procedure**

i. **The owner shall have 15 days to contest the order and request a hearing.**

ii. **The hearing shall be conducted within 30 days of the filing of the request for a hearing.**

iii. **Appeals shall be as provided in §1-7(g) of the Baltimore County Code, 1988, as amended, except that if the owner does not request, or fails to appear at, the hearing, the order shall be a non-appealable, final order of the code official.**

iv. **If the owner fails to comply with a final order, the code official may procure compliance in accordance with the procedure authorized in §1-7.1(b) except that only those expenses exceeding the security obtained by the County prior to the issuance of the building permit shall become a lien on the property.**

B. For wireless telecommunication towers permitted by special exception:

1. The petitioner shall have the burden of demonstrating, through written documentation, that:

   a. The petitioner has made a diligent search for mounting the antenna on an existing building, structure or wireless telecommunication tower; and

   b. That due to location, elevation, engineering, technical feasibility, or inability to obtain a lease or ownership of a location elsewhere, the building of a tower at the proposed location is warranted; and

   c. The tower has been designed to accommodate at least two other personal wireless services antennas, to the extent technically feasible; and

   d. The height of the tower is no higher than what is required to enable present and future co-location of antennas.

   e. The Zoning Commissioner shall review the petitioner's submittal with regard to the County's goals for co-location and community conservation, as stated in 426.1.

2. In a residential or transitional zone:

   a. In addition to the requirements of 426.3.B.1, the petitioner shall have the burden of demonstrating, with written documentation, that there is no available, suitable site for the wireless telecommunication tower in a medium or high intensity commercial zone, or that due to topographic or other unique features, the proposed site will better meet the intent of 426.1.B than a site in a medium or high intensity commercial zone; and

   b. The tower shall be located on a lot of at least three acres except where the petitioner can prove that a site less than three acres would better meet the intent of 426.1.B.

   c. The Zoning Commissioner may require the tower to be camouflaged by taking the form of a structure or natural formation found in the area.

426.4 Each structure housing equipment shall meet minimum setback requirements from the property line. Notwithstanding the provisions of Section 102.2, if multiple equipment structures are placed on the same property, no yard or setback shall be required between them. If located in a residential or transitional zone, the structure housing equipment shall be screened in accordance with the Landscape

Manual (Class A screening requirements) and shall be faced with brick unless the Director of Planning approves the use of an alternate material.

426.5 Notwithstanding the provisions of Section 307 (Variances), in cases where a variance to a height or area requirement for a wireless telecommunication tower, antenna or a structure housing antenna equipment is requested, the Zoning Commissioner may grant the variance if the petitioner proves that the variance requested is the minimum needed to enable present or future co-location of antennas.

4. Enact a new Section 427 and provide references to it in all zones where amateur radio antennas are permitted, deleting duplicative text in each zone; this does not change the substance of the current regulations.

Section 427

427 --- Radio antennas and related equipment, including any supporting structure, shall be considered an accessory structure or use and as such shall be permitted by right provided that:

A. They are operated by an amateur radio operator who is licensed by the Federal Communications Commission and whose domicile is on the lot where the facility is placed;

B. No supporting structure is located within 20 feet of any property line;

C. No antenna extends closer than the front building line to any street on which the lot fronts;

D. No antenna shall be higher than 100 feet or the horizontal distance to the nearest property line, whichever is less, above grade level;

West Reporter Image (PDF)

906 F.2d 994, 67 Rad. Reg. 2d (P & F) 1629

United States Court of Appeals,
Fourth Circuit.
John F. WILLIAMS, Plaintiff-Appellant,
v.
CITY OF COLUMBIA; City of Columbia Zoning Board of Adjustment; J.M. McCulloch; Zack Weston; Katheryn Bellfield; Shirley Curry; Marsha Monteith; Edgar L. Morris; Richard M. Unger, In their official capacities as members of the City of Columbia Zoning Board of Adjustment; Nathanial B. Land, Jr., In his official capacity as Zoning Administrator of the City of Columbia, Defendants-Appellees,
The American Radio Relay League, Incorporated, Amicus Curiae.
No. 89-1068.
Argued May 9, 1990.
Decided June 29, 1990.
As Amended July 10, 1990.

Amateur radio operator brought civil rights action challenging local zoning board's decision to deny application for special exception to antenna height limitation. The United States District Court for the District of South Carolina, Clyde H. Hamilton, J., 707 F.Supp. 207, granted summary judgment for zoning board, and operator appealed. The Court of Appeals, Dupree, Senior District Judge, sitting by designation, held that: (1) FCC policy of limited federal preemption of local zoning laws affecting radio communications furthered federal interests, and (2) local zoning ordinance did not violate operator's free speech or equal protection rights.
Affirmed.

West Headnotes

[1] KeyCite Notes

170B Federal Courts
170BVI State Laws as Rules of Decision
170BVI(C) Application to Particular Matters
170Bk433 k. Other Particular Matters. Most Cited Cases

Federal courts must accord state agency's fact-finding same preclusive effect to which it would be entitled in state courts as long as agency acted in judicial capacity and parties had adequate opportunity to litigate.

[2] KeyCite Notes

92 Constitutional Law
92XII Due Process of Law
92k278.2 Zoning, Building, and Planning Regulations
92k278.2(2) k. Proceedings and Review. Most Cited Cases

Proceeding in city zoning board of adjustment in South Carolina, in which amateur radio operator's application for exception to allow construction of radio antenna was heard, was not inadequate and did not violate due process rights of operator who was represented by counsel and was permitted to present extensive evidence. U.S.C.A. Const.Amends. 5, 14.

[3] KeyCite Notes

414 Zoning and Planning
414IX Variances or Exceptions
414IX(B) Proceedings and Determination
414k542 Determination
414k543 k. Vote of Members of Board, and Bias or Disqualification. Most Cited Cases

No evidence of bias against applicant for special exception to zoning regulations existed on part of zoning board of adjustment, other than resulting adverse decision.

[4] KeyCite Notes

414 Zoning and Planning
414IX Variances or Exceptions
414IX(A) In General
414k502 Particular Structures or Uses
414k502.1 k. In General. Most Cited Cases
(Formerly 414k502)

Federal Communications Commission (FCC) policy of limited rather than complete federal preemption of local zoning laws affecting amateur radio communications permitted local Zoning Board of Adjustment to consider extent to which amateur radio operator seeking to erect radio communications antenna would further federal interests, for purposes of determining whether operator was entitled to special exemption to construct radio antenna.

[5] KeyCite Notes

92 Constitutional Law
92XII Due Process of Law
92k278.2 Zoning, Building, and Planning Regulations
92k278.2(1) k. In General. Most Cited Cases

414 Zoning and Planning KeyCite Notes
414II Validity of Zoning Regulations
414II(A) In General
414k41 k. Delegation of Power in General. Most Cited Cases

Local zoning ordinance prohibiting construction of radio antennas over certain height struck balance between weighing federal against local interests and giving discretion to local officials, and, thus, ordinance did not confer unbridled and standardless discretion in local zoning board of adjustment in violation of due process. U.S.C.A. Const.Amends. 5, 14.

[6] KeyCite Notes

92 Constitutional Law
92V Personal, Civil and Political Rights

92k90 Freedom of Speech and of the Press
92k90.1 Particular Expressions and Limitations
92k90.1(9) k. Telecommunications. Most Cited Cases

414 Zoning and Planning KeyCite Notes
414II Validity of Zoning Regulations
414II(B) Regulations as to Particular Matters
414k62 Architectural and Structural Designs; Value
414k65 k. Height of Buildings and Structures. Most Cited Cases

Local zoning ordinance prohibiting construction of radio antennas above a certain height did not violate right to free speech of amateur radio operator who sought special exception for construction of antenna; zoning ordinance was content-neutral time, place and manner restriction.

[7] KeyCite Notes

92 Constitutional Law
92XI Equal Protection of Laws
92k228.2 k. Zoning, Planning, and Building Regulations. Most Cited Cases

414 Zoning and Planning KeyCite Notes
414II Validity of Zoning Regulations
414II(B) Regulations as to Particular Matters
414k62 Architectural and Structural Designs; Value
414k65 k. Height of Buildings and Structures. Most Cited Cases

Local zoning ordinance prohibiting construction of radio antennas above certain height did not violate equal protection rights of amateur radio operator, in light of at least rational distinction between antennas and chimneys, spires and other structures.

***995** Richard Ashby Farrier, Jr., argued, John F. Kuppens, on brief, Nelson, Mullins, Riley & Scarborough, Columbia, S.C., for appellant.
James Shelton Meggs, argued, Roy D. Bates, on brief, City Attorney's Office, Columbia, S.C., for appellees.
Charles Freret, Christopher D. Imlay, Booth, Freret & Imlay, Washington, D.C., for amicus curiae.

Before RUSSELL and SPROUSE, Circuit Judges, and DUPREE, Senior United States District Judge for the Eastern District of North Carolina, sitting by designation.

DUPREE, Senior District Judge:
This appeal from a grant of summary judgment entered by the district court in favor of defendants-appellees presents a conflict between a City of Columbia, South Carolina (the City), zoning ordinance requiring a special exception for radio antennas exceeding seventeen feet in height and the desires of plaintiff-appellant John F. Williams to erect an antenna of sufficient height to communicate with all areas of the world. For the reasons set forth below, we find no error and affirm the judgment of the district court.

I.

Williams was granted an amateur radio license by the FCC, pursuant to the Communications Act of

1934, as amended, 47 U.S.C. §§ 151, *et seq.*, and thereafter began preparations for an antenna system that would be twenty-eight feet high when retracted and fifty-five to sixty-five feet high when fully extended. Since the City's zoning ordinance requires anyone wanting to erect an antenna over seventeen feet to apply for a special exception to the Zoning Board of Adjustment (ZBA), *see* City of Columbia Zoning Ordinance § 6-3099, Williams presented the matter to the ZBA at a public hearing on November 10, 1987. His request for a special exception was denied on November 11, 1987.

Williams subsequently filed suit in federal court on August 25, 1988, alleging the City's zoning ordinance to be invalid based on the federal preemption of an FCC declaratory ruling, *Amateur Radio Preemption*, 101 F.C.C.2d 952, 50 Fed.Reg. 38813 (1985) (PRB-1), and certain provisions of the Constitution. By order filed February 28, 1989, the district court ordered the ZBA to rehear Williams' application in order to perform the reasonable accommodation analysis required by PRB-1. 707 F.Supp. 207.

***996** On April 18, 1989, the ZBA again denied the application for a special exception, this time certifying that it did so in accordance with PRB-1. By order filed July 31, 1989, the district court denied Williams' motion for summary judgment on the preemption issue and ordered further briefing on the constitutional issues. By order filed October 2, 1989, the district court denied Williams' motion for reconsideration of the preemption issue and granted defendants' motion for summary judgment on all other issues, whereupon Williams filed this appeal.

II.

Initially, Williams argues that the district court erred in concluding that the findings of the ZBA should be left undisturbed so long as they were not "arbitrary and capricious" or "clearly erroneous." Williams asserts that those standards are inapplicable, because the case involves questions of law or mixed questions of law and fact which must be reviewed by the district court *de novo*. *Rawl v. United States*, 778 F.2d 1009, 1014 n. 9 (4th Cir.1985), *cert. denied*, 479 U.S. 814, 107 S.Ct. 67, 93 L.Ed.2d 25 (1986). However, we find that the district court's deference to the ZBA extended only to findings of fact and that the court gave appropriate review to the legal questions involved.

[1] In general, federal courts must accord a state agency's fact-finding the same preclusive effect to which it would be entitled in state courts where the agency acted in a judicial capacity and the parties had an adequate opportunity to litigate. *University of Tennessee v. Elliott*, 478 U.S. 788, 797-99, 106 S.Ct. 3220, 3225-27, 92 L.Ed.2d 635 (1986). Williams argues, however, that the lack of opportunity to cross-examine witnesses precluded an adequate opportunity to litigate and called into question whether the ZBA was acting in a judicial capacity. He also argues that his due process rights were violated since the ZBA was not a fair and impartial tribunal. *Goldberg v. Kelly*, 397 U.S. 254, 271, 90 S.Ct. 1011, 1022, 25 L.Ed.2d 287 (1970).

[2] As a preliminary matter, there is a strong argument that Williams has waived this ground by not requesting a change in the procedure to allow for cross-examination and by not objecting to the district court's order of a rehearing before the ZBA. Even if Williams is deemed not to have waived his objections to the fairness of ZBA procedures, we are unconvinced that the ZBA proceedings, where Williams was represented by counsel and permitted to present extensive evidence, were either inadequate or violative of due process. *See United States v. Utah Construction and Mining Company*, 384 U.S. 394, 422, 86 S.Ct. 1545, 1560, 16 L.Ed.2d 642 (1966).

[3] Moreover, there is no evidence of bias against Williams by the ZBA other than the resulting adverse decision and an inference from the fact that Williams had named the members of the ZBA as defendants in his federal suit. The district court below correctly pointed out that presuming bias against Williams and disqualifying the ZBA from consideration of the matter would encourage all applicants for zoning variances to file federal suits against local authorities, thereby converting federal courts into super zoning boards.

III.

[4] Williams' principal argument is that the zoning ordinance should be invalidated pursuant to PRB-1 because it operates to preclude amateur radio communications and it does not represent the minimum practicable regulation to accomplish the City's legitimate purpose.

In PRB-1, the FCC announced a policy of limited rather than complete federal preemption of local zoning laws which affect amateur radio communications. The text of PRB-1 states that:

22. Few matters coming before us present such a clear dichotomy of viewpoint as does the instant issue. The cities, counties, local communities and housing associations see an obligation to all of their citizens and try to address their concerns. This is accomplished through regulations, ordinances or covenants oriented toward the health, safety **997* and general welfare of those they regulate. At the opposite pole are the individual amateur operators and their support groups who are troubled by local regulations which may inhibit the use of amateur stations or, in some instances, totally preclude amateur communications···· In this situation, we believe it is appropriate to strike a balance between the federal interest in promoting amateur operations and the legitimate interests of local governments in regulating local zoning matters. The cornerstone on which we will predicate our decision is that a reasonable accommodation may be made between the two sides.

* * * * * *

24. ··· [W]e recognize here that there are certain general state and local interests which may, in their even-handed application, legitimately affect amateur radio facilities. Nonetheless, there is also a strong federal interest in promoting amateur communications···· Upon weighing these interests, we believe a limited preemption policy is warranted. State and local regulations that operate to preclude amateur communications in their communities are in direct conflict with federal objectives and must be preempted.

25. Because amateur station communications are only as effective as the antennas employed, antenna height restrictions directly affect the effectiveness of amateur communications···· We will not, however, specify any particular height limitation below which a local government may not regulate, nor will we suggest the precise language that must be contained in local ordinances, such as mechanisms for special exceptions, variances, or conditional use permits. Nevertheless, local regulations which involve placement, screening, or height of antennas based on health, safety, or aesthetic considerations must be crafted to accommodate reasonably amateur communications, and to represent the minimum practicable regulation to accomplish the local authority's legitimate purpose.

The present case is made more difficult by the relative paucity of previous opinions applying PRB-1 to specific zoning ordinances. In *Bodony v. Incorporated Village of Sands Point,* 681 F.Supp. 1009, 1013 (E.D.N.Y.1987), the court struck down a twenty-five-foot height limitation as applied to plaintiff's radio antenna where the action of the local zoning board was "devoid of any effort to make 'a reasonable accommodation ··· between the two sides.' " In *Bulchis v. City of Edmonds,* 671 F.Supp. 1270, 1274 (W.D.Wash.1987), the court granted summary judgment to plaintiff seeking a conditional use permit for a seventy-foot retractable radio antenna where the application of a zoning ordinance to plaintiff did not provide for reasonable accommodation of amateur radio communication. In *Howard v. City of Burlingame,* No. C-87-5329 (N.D.Cal. July 29, 1988) (1988 WESTLAW 169074), the court invalidated a zoning ordinance governing radio antennas where the city "failed to explore alternatives to a blanket denial" of plaintiff's application for a special permit.

In contrast to previous cases where zoning ordinances were found to be violative of PRB-1, it appears that by seeking a compromise with Williams, the City applied its zoning ordinance in compliance with FCC regulations. Specifically, the record reveals that the ZBA investigated the possibility of accommodating Williams' request while simultaneously preserving the aesthetic beauty and safety of

the neighborhood by suggesting a restriction of hours of operation, but these attempts at compromise were rejected by Williams. Moreover, the ZBA's rejection of Williams' previous application for a special exception does not preclude him from now filing an application for a smaller structure or for an antenna which would only be fully extended during nighttime hours.

We disagree with the position taken by the American Radio Relay League as amicus curiae that Williams must be allowed to build whatever he wants. They contend that "a municipality cannot, consistent with the FCC's preemption regulation, limit amateur***998*** radio antennas under any circumstances, to ··· any ··· nonfunctional height (in this case, anything significantly less than the 65 feet requested by the appellant)." Amicus Brief at 6. However, absent a full federal preemption in this area, the law cannot be that municipalities have no power to restrict antennas to heights below that desired by radio licensees. The law requires only that the City balance the federally recognized interest in amateur radio communications with local zoning concerns. The fact that Williams would only be satisfied if that balance results in the City allowing him to build an antenna of whatever height he chooses does not entitle him to relief.

In an argument closely related to the preemption issue, Williams attacks the fact that the ZBA denied the application for a special exception in part due to Williams' lack of participation in activities for the Department of Defense and other emergency relief organizations and the presence of other available radio operators in the area. The ZBA concluded, and the district court accepted as a finding of fact, that Williams used his radio for recreational purposes and could not assist in emergency communications. Williams asserts that the ZBA abused its discretion and invaded the province of the FCC by independently evaluating the need for his participation in the amateur radio network.

However, since Williams' whole case centers on the proposition that he is entitled to a special exception merely because he needs it, the ZBA must be able to consider his specific needs and the way in which he would use his antenna. This is particularly true in light of the ZBA's "duty of striking 'a balance between the federal interest in promoting amateur operations and the legitimate interests of local governments in regulating local matters.' " *Bodony*, 681 F.Supp. at 1013. Rather than precluding local zoning boards from considering the extent to which individuals seeking to erect antennas would further federal interests, as Williams argues, we find that PRB-1 requires such an analysis.

IV.

[5] Next, Williams argues that the zoning ordinance is void for vagueness because it contains no standards for variances. However, since the zoning ordinance is clearly written to require all antennas measuring over seventeen feet to get the approval of the ZBA, the void for vagueness label does not fit the facts of this case. *See, e.g., Jordan v. De George*, 341 U.S. 223, 231, 71 S.Ct. 703, 707-08, 95 L.Ed. 886 (1951) (the test for vagueness is "whether the language conveys sufficiently definite warning as to the proscribed conduct").

Rather than a vagueness challenge, Williams seems to be asserting that the ordinance violates due process by conferring unbridled and standardless discretion in the ZBA. *See, e.g., Shuttlesworth v. City of Birmingham*, 394 U.S. 147, 89 S.Ct. 935, 22 L.Ed.2d 162 (1969). However, the ZBA was not, as Williams argues, operating in a standardless vacuum. The criteria to be used by the ZBA in deciding whether to grant a special exception are contained in Section 6-3192 of the City's zoning ordinance and include "adverse impact of the proposed use on the aesthetic character of the environs, to include possible need for screening from view."

Of course, any city enacting a zoning ordinance must strike a balance between a standard which is on the one hand so definite that it runs afoul of the requirement of PRB-1 to weigh federal against local interests, and on the other hand so vague that it gives too much discretion to local officials. *See, e.g., Secretary of State of Maryland v. Joseph H. Munson Company*, 467 U.S. 947, 964 n. 12, 104 S.Ct. 2839, 2850-51 n. 12, 81 L.Ed.2d 786 (1984) (stating that a statute that provided for exemptions "whenever necessary" was inherently suspect, since it placed discretion in the hands of an official to grant or deny a license). We find that the City's zoning ordinance, which allows for special exceptions

based on the standards enumerated in Section 6-3192, strikes that balance in a way that is permissible as a matter of law.

*999 V.

Finally, Williams argues that the zoning ordinance violates his right to equal protection because it infringes the fundamental right of free speech and it irrationally treats antennas differently than other structures.

[6] KC Regarding the first prong of Williams' equal protection argument, the zoning ordinance is a content-neutral time, place and manner restriction, and therefore is not an unconstitutional infringement of the right to free speech. *See* Young v. American Mini Theatres, Inc., 427 U.S. 50, 62-63, 96 S.Ct. 2440, 2448-49, 49 L.Ed.2d 310 (1976) (holding that zoning regulations are a permissible means of restricting certain types of speech to certain locales within a city). The denial of Williams' application for a special exception was not based on the content of his proposed speech, but was an attempt to promote legitimate content-neutral interests. Guschke v. City of Oklahoma City, 763 F.2d 379, 385 (10th Cir.1985).

[7] KC Regarding the second prong, we agree with the district court's determination that there is at least a rational distinction between antennas, which are ordinarily not considered part of a building, and chimneys, spires and other structures, which are integral parts of a building. *See* Bulchis, 671 F.Supp. at 1274 (concluding that there is no basis for the equal protection argument); Howard v. City of Burlingame, 1988 WESTLAW 169074 (holding that distinction between various types of antennas has a rational basis). Therefore, the ordinance is not violative of equal protection.

VI.

For the foregoing reasons, the judgment of the district court is

AFFIRMED.

Copr. (C) West 2007 No Claim to Orig. U.S. Govt. Works C.A.4 (S.C.),1990.
Williams v. City of Columbia
906 F.2d 994, 67 Rad. Reg. 2d (P & F) 1629

END OF DOCUMENT

West Reporter Image (PDF)

Tools

Antenna Restrictions 'How To' Chart

RIB Home · FCC Rules · Antenna Restrictions · RFI · International Operating · U.S. Frequency Allocations · Bandplans · Frequency Coordinators · License Renewal, Changes · Digital Mode Technical Descriptions · Add'l Info · FCC Links · FAQ · Contact Us

IMPORTANT NOTICE:

This brief outline is not a substitute for getting legal advice. ARRL has heard from amateurs who did not obtain legal advice before trying to handle an antenna restriction, and the result was getting a decision that was not to the ham's liking. Amateurs facing zoning difficulties are highly encouraged to 1) contact an attorney and 2) obtain Antenna Zoning for the Radio Amateur. *ARRL Volunteer Counsel -- lawyers who are hams -- are listed on the ARRLWeb. The book,* Antenna Zoning for the Radio Amateur, *is filled with excellent ideas on how to prepare for, and make your presentation and application to a local zoning board. The book is a complete treatise on this subject, and can be ordered on-line or by calling toll free 1-888-277-5289 or by contacting your Amateur Radio book dealer. The cost of the book, which includes a CD-ROM with good examples of zoning presentations, is less than the fee for most zoning applications.* ***Remember: at the hearing, your presentation will be 80% of the battle, and 100% of the basis for any record, if the case ends up going to court.***

LOCAL GOVERNMENT ZONING RESTRICTION "HOW TO" CHART

What is the Type of Antenna Restriction?

- Local Government Zoning Ordinance Restrictions--Continue.
- Covenants, Conditions and Restrictions--Go to the section on Covenant Restrictions.
- Rental/Lease Restrictions--Go to the section on Lease Restrictions.

Is the local government zoning ordinance a "reasonable accommodation," given your residential environment?

If yes, obtain permit and erect antenna. If no, continue.

What is considered to be a "reasonable accommodation?"

It depends on the:

- Antenna desired.
- Size of property/setback limits.
- Height of antenna (generally, a 60-foot antenna might be considered "reasonable" in a single-family residence in a subdivision).
- Other variables.

Must I always obtain a building permit for my antenna installation?

Yes, if the local government requires one, and most do. Never erect an antenna structure without first checking local ordinances and complying with their guidelines or you may face substantial fines ***per day*** by the local government for any violations. The only exception is for antennas not regulated by the ordinance. For example, most wire antennas are exempt from local ordinance regulation, but this is not always the case.

Must I obtain a permit even if the ordinance does not make "reasonable accommodation" for amateur radio communications?

Yes. It is always the responsibility of the amateur to demonstrate why the ordinance is unreasonable and why it should be changed.

How can an unreasonable ordinance be changed?

Follow these steps:

1) Get a copy of the ordinance.

2) Read the ordinance.

3) Follow zoning ordinance requirements.

4) See ARRL PRB-1 Package on-line.

5) For the best advice, obtain *Antenna Zoning for the Radio Amateur.*

6) For local guidance and support, contact local clubs.

7) Contact ARRL Section and Division level officials who may be able to assist.

8) For legal advice contact an ARRL Volunteer Counsel.

9) Make a presentation before local zoning officials:

- Your presentation should emphasize local public service activities.
- Dress appropriately (no radios or call-letter ball caps).

10) When reasonable, obtain the permit and erect the antenna.

For which items may local government planners zone?

Planners must reasonably accommodate amateur communications to accomplish the local government's legitimate purpose such as regulation of:

- Height
- Antenna placement
- Aesthetics
- Setback
- Safety (including RF safety)
- Property value considerations

Has your state codified PRB-1?

If yes, use it in your presentation; Several states have codified PRB-1 as a state statute.

If no:

- PRB-1 is a Federal preemptive regulation, which is binding in all states and supersedes all conflicting local ordinances, although it is intentionally generalized and not specific in its instructions. Much interpretation is left to

Has Your State Codified PRB-1?

If not, and you would like for it to, here are suggestions. (Note:

municipal governments.

PRB-1 does not cover covenant or private land use restrictions.)

- Consider helping to obtain a state statute.
- Contact ARRL Section Manager for guidance in contacting the appropriate Section level officials.
- See this link for examples, especially:
  - Alaska
  - Idaho
  - Nevada
  - Oregon
  - Virginia
  - Wyoming

Does PRB-1 apply only to Amateur Radio?

Yes, it does not apply to commercial antennas or any non-amateur antennas.

Is your area's ordinance reasonable now?

If yes, obtain the permit and erect the antenna.

If no because the ordinance tries to regulate RFI, see the RFI preemption section of the ARRLWeb and see Steps 1-8.

If no because the ordinance requires an excessive fee, see Steps 1-8.

If no because the height limitation is fixed and not subject to a conditional or special use permit process, see Steps 1-8.

If no because setback limits are excessive, see Steps 1-8.

If no because the ordinance requires a conditional use permit or variance for all antennas, which often means obtaining permission from all neighbors and paying a non-refundable fee, see Steps 1-8.

If no because the community zones for other than height, setback, placement, health, property values or aesthetic restrictions, see Steps 1-8.

My community says the ordinance IS "reasonable accommodation" but I don't feel that it is. What's next?

See Steps 1-8; obtain legal advice from an ARRL Volunteer Counsel (an amateur who is a lawyer). Consider contacting an ARRL Volunteer Consulting Engineer (an amateur who is a register professional engineer)

Challenge the ordinance on its face or as it applies to you. This is a legal procedure that is potentially extremely expensive and time consuming, and not at all guaranteed of success.

COVENANT RESTRICTION "HOW TO" CHART

What is the Type of Antenna Restriction?

- Local Government Zoning Restriction--See section on Local Government Restrictions.
- Covenants, Conditions and Restriction (Homeowners Association)--Continue.

- Rental/Lease Restriction--See section on Lease Restrictions.

Will the homeowners association approve a modest antenna?

If yes, erect antenna to their specifics; operate low power.

If no, make presentation before homeowners association:

- Emphasize public service.
- Address concerns about RFI and aesthetics.

Note that PRB-1 *does not* currently cover covenant or private land use regulations.

Why may covenants have no limitations on small DBS dishes and TV antennas, but carry limitations for amateur antennas?

Private land use regulation of Amateur antennas is not preempted by the Telecommunications Act of 1996, but most private land use regulation of DBS dishes and TV antennas is. Congress was interested in promoting competition (and thus lowering costs and improving service) in video delivery services. That legislation had nothing to do with Amateur Radio. ARRL is working to provide extension of the PRB-1 protections for amateurs. Watch ARRL news sources. To help the ARRL effort and for a sample letter you can write your Congressional representatives about providing relief for amateurs see this news story.

RENTAL/LEASE RESTRICTION "HOW TO" CHART

What is the Type of Antenna Restriction?

- Local Government Zoning Restriction--See the section on Local Government Restrictions.
- Covenants, Conditions and Restriction (Homeowners Association)--See the section on Covenants.
- Rental/Lease Restriction--Continue.

Will the landlord permit an amateur antenna?

If yes, erect antenna to the landlord's specifications.

If no, make a presentation before the landlord:

- Emphasize public service.
- Address RFI and aesthetics concerns.

Note that PRB-1 does not cover leases or rental agreements.

Will the landlord still not permit an amateur antenna?

If no, operate mobile or portable. Or move to a less restrictive dwelling. When you review a lease with a landlord, write language into your lease permitting an amateur antenna with the desired specifications.

Note: If you rent a dwelling, you are bound by your lease. PRB-1 does not apply. Landlords are not required to permit your antenna.

Page last modified: 10:34 AM, 16 Jun 2006 ET
Page author: reginfo@arrl.org

Baltimore County
Department of Permits and
Development Management

Code Inspections and Enforcement
County Office Building
111 West Chesapeake Avenue
Towson, MD 21204

Page #1

Code Enforcement: 410-887-3351
Building Inspection: 410-887-3953
Plumbing Inspection: 410-887-3620
Electrical Inspection: 410-887-3960

BALTIMORE COUNTY UNIFORM CODE ENFORCEMENT CORRECTION NOTICE

Citation/Case No.	Property No.	Zoning:
05-5573	17-00-001183	RC-6

Name(s): BENJAMIN A. GOVERNALE
KAYREN P. GOVERNALE

Address: 39 GLENBROOK DRIVE PHOENIX, MD 21131

Violation Location: "SAME AS ABOVE"

DID UNLAWFULLY VIOLATE THE FOLLOWING BALTIMORE COUNTY LAWS:

101°, 102.1°, 1A07°, 426.A - BCZR
32-3-102 - B.C.C

ERECTION OF A RADIO ANTENNA THAT IS CLOSER THAN 100 FT. TO THE NEAREST PROPERTY LINE.
PRESENT LOCATION FAILS TO COMPLY WITH BUILDING PERMIT NO. 551665 IN TERMS OF SIDE YARD SETBACK (102') & REAR YARD SETBACK (103').
FURTHERMORE, ANTENNA FAILS TO COMPLY WITH THE ACTUAL

YOU ARE HEREBY ORDERED TO CORRECT THESE VIOLATION(S) ON OR BEFORE:

On or Before:	Date Issued:

FAILURE TO COMPLY WITH THE DEADLINE STATED IS A MISDEMEANOR. A CONVICTION FOR EACH VIOLATION SUBJECTS YOU TO POTENTIAL FINES OF $200, $500, OR $1000 PER DAY, PER VIOLATION, DEPENDING ON VIOLATION, OR 90 DAYS IN JAIL, OR BOTH.

Print Name

INSPECTOR: _____

STOP WORK NOTICE

PURSUANT TO INSPECTION OF THE FOREGOING VIOLATIONS, YOU SHALL CEASE ALL WORK UNTIL THE VIOLATIONS ARE CORRECTED AND/OR PROPER PERMITS OBTAINED. WORK CAN RESUME WITH THE APPROVAL OF THE DIVISION OF CODE INSPECTIONS AND ENFORCEMENT. THESE CONDITIONS MUST BE CORRECTED NOT LATER THAN:

Not Later Than:	Date Issued:

INSPECTOR NAME: _____
(PRINT NAME)

Copy Distribution: White: Agency Yellow: Violation Site Pink: Defendant Goldenrod: Remains in Book

Rev 5/05

ALL-STATE LEGAL®
EXHIBIT
6

Baltimore County
Department of Permits and
Development Management

Code Inspections and Enforcement
County Office Building
111 West Chesapeake Avenue
Towson, MD 21204

PAGE 1 of 2

Code Enforcement: 410-887-3351
Building Inspection: 410-887-3953
Plumbing Inspection: 410-887-3620
Electrical Inspection: 410-887-3960

BALTIMORE COUNTY UNIFORM CODE ENFORCEMENT CORRECTION NOTICE

Citation/Case No.	Property No.	Zoning:
05-5573		

Name(s):

Address:

Violation Location:

DID UNLAWFULLY VIOLATE THE FOLLOWING BALTIMORE COUNTY LAWS:

drawing of this "monopole radio tower" as submitted at the time of the permit application on 4-6-04.

Either establish an appointment review date with Zoning Review (410-887-3391) to file a variance petition or remove this accessory structure from the property.

YOU ARE HEREBY ORDERED TO CORRECT THESE VIOLATION(S) ON OR BEFORE:

On or Before:	Date Issued:
9-5-05	8-4-05

FAILURE TO COMPLY WITH THE DEADLINE STATED IS A MISDEMEANOR. A CONVICTION FOR EACH VIOLATION SUBJECTS YOU TO POTENTIAL FINES OF $200, $500, OR $1000 PER DAY, PER VIOLATION, DEPENDING ON VIOLATION, OR 90 DAYS IN JAIL, OR BOTH.

Print Name: JAMES H. THOMPSON, SUPERVISOR

INSPECTOR: J. H. Thompson

STOP WORK NOTICE

PURSUANT TO INSPECTION OF THE FOREGOING VIOLATIONS, YOU SHALL CEASE ALL WORK UNTIL THE VIOLATIONS ARE CORRECTED AND/OR PROPER PERMITS OBTAINED. WORK CAN RESUME WITH THE APPROVAL OF THE DIVISION OF CODE INSPECTIONS AND ENFORCEMENT. THESE CONDITIONS MUST BE CORRECTED NOT LATER THAN:

Not Later Than:	Date Issued:

INSPECTOR NAME: _____
(PRINT NAME)

Copy Distribution: White: Agency Yellow: Violation Site Pink: Defendant Goldenrod: Remains in Book

Rev 5/05

APPLICATION FOR PERMIT
BALTIMORE COUNTY MARYLAND
DEPARTMENT OF PERMITS & DEVELOPMENT MANAGEMENT
TOWSON, MARYLAND 21204

DATE: 4/6/04
OEA: ACT

551665
PERMIT #: B
RECEIPT #: A493098
CONTROL #: RL
XREF #:

FEE: 50.00+12.50
PAID: ~~50.00~~ 62.50
PAID BY: cash
INSPECTOR:

I HAVE CAREFULLY READ THIS APPLICATION AND KNOW THE SAME IS CORRECT AND TRUE, AND THAT IN DOING THIS WORK ALL PROVISIONS OF THE BALTIMORE COUNTY CODE AND APPROPRIATE STATE REGULATIONS WILL BE COMPLIED WITH WHETHER HEREIN SPECIFIED OR NOT AND WILL REQUEST ALL REQUIRED INSPECTIONS.

PROPERTY ADDRESS 39 GLENBROOK DRIVE
SUITE/SPACE/FLOOR
SUBDIV: BLENFIELD
TAX ACCOUNT #: 1700001183
HISTORIC DISTRICT/BLDG. ☐ YES ☒ NO ☐ DO NOT KNOW
DISTRICT/PRECINCT 10/4 10 04

OWNER'S INFORMATION (LAST,FIRST)
NAME: BENJAMIN GOVERNALE
ADDR: 39 GLENBROOK DRIVE
PHOENIX MD 21131

DOES THIS BLDG. HAVE SPRINKLERS YES — NO —

APPLICANT INFORMATION
NAME: BENJAMIN GOVERNALE
COMPANY:
STREET 39 GLENBROOK DRIVE
CITY,ST,ZIP PHOENIX MD 21131
PHONE #: 410-666-9189 MHIC # MHBR #
APPLICANT SIGNATURE: B. A. Governale DRC#
PLANS: CONST 2 PLOT 1 PLAT 0 DATA 0 EL 1 PL 2
TENANT
CONTR: owner
ENGNR:
SELLR:

TYPE OF IMPROVEMENT
1. ✓ NEW BLDG CONST
2. ___ ADDITION
3. ___ ALTERATION
4. ___ REPAIR
5. ___ WRECKING
6. ___ MOVING
7. ___ OTHER

DESCRIBE PROPOSED WORK: Construct a 100' High monopole radio tower on rear of property must clear all overhead wires. mfg. specs to be on site or no inspections will be given. Replaces expired permit B 4849-99 2 yrs permit per applicant, cannot be renewed.

TYPE OF USE

RESIDENTIAL
01. ___ ONE FAMILY
02. ___ TWO FAMILY
03. ___ THREE AND FOUR FAMILY
04. ___ FIVE OR MORE FAMILY (ENTER NO UNITS)
05. ___ SWIMMING POOL
06. ___ GARAGE
07. ✓ OTHER Tower

NON-RESIDENTIAL
08. ___ AMUSEMENT, RECREATION, PLACE OF ASSEMBLY
09. ___ CHURCH, OTHER RELIGIOUS BUILDING
10. ___ FENCE (LENGTH HEIGHT)
11. ___ INDUSTRIAL, STORAGE BUILDING
12. ___ PARKING GARAGE
13. ___ SERVICE STATION, REPAIR GARAGE
14. ___ HOSPITAL, INSTITUTIONAL, NURSING HOME
15. ___ OFFICE, BANK, PROFESSIONAL
16. ___ PUBLIC UTILITY
17. ___ SCHOOL, COLLEGE, OTHER EDUCATIONAL
18. ___ SIGN
19. ___ STORE ___ MERCANTILE ___ RESTAURANT SPECIFY TYPE
20. ___ SWIMMING POOL SPECIFY TYPE
21. ___ TANK, TOWER
22. ___ TRANSIENT HOTEL, MOTEL (NO. UNITS)
23. ___ OTHER

TYPE FOUNDATION: 1. SLAB 2. BLOCK 3. CONCRETE
BASEMENT: 1. FULL 2. PARTIAL 3. NONE

TYPE OF CONSTRUCTION
1. ___ MASONRY
2. ___ WOOD FRAME
3. ___ STRUCTURE STEEL
4. ___ REINF. CONCRETE

TYPE OF HEATING FUEL
1. ___ GAS 3. ___ ELECTRICITY
2. ___ OIL 4. ___ COAL

TYPE OF WATER SUPPLY
1. ___ PUBLIC SYSTEM ___ EXISTS ___ PROPOSED
2. ✓ PRIVATE SYSTEM ✓ EXISTS ___ PROPOSED

TYPE OF SEWAGE DISPOSAL
1. ___ PUBLIC SEWER ___ EXISTS ___ PROPOSED
2. ✓ PRIVATE SYSTEM
✓ SEPTIC ___ EXISTS ___ PROPOSED
___ PRIVY ___ EXISTS ___ PROPOSED

CENTRAL AIR: 1. ___ 2. ___
ESTIMATED COST: $ 2200. OF MATERIALS AND LABOR
PROPOSED USE: SFD & Tower
EXISTING USE: SFD

OWNERSHIP
1. ✓ PRIVATELY OWNED 2. ___ PUBLICLY OWNED 3. ___ SALE 4. ___ RENTAL

RESIDENTIAL CATEGORY: 1. ✓ DETACHED 2. ___ SEMI-DET. 3. ___ GROUP 4. ___ TOWNHSE 5. ___ MIDRISE 6. ___ HIRISE
#EFF: ___ #1BED: ___ #2BED: ___ #3BED: ___ TOT BED: ___ TOT APTS/CONDOS: ___
1 FAMILY BEDROOMS
GARBAGE DISPOSAL 1. Y... 2. N... BATHROOMS CLASS 04
POWDER ROOMS KITCHENS LIBER 038 FOLIO 020

BUILDING SIZE		LOT SIZE AND SETBACKS		APPROVAL SIGNATURES	DATE
FLOOR	0	SIZE	1.56 AC	BLD INSP :	:
WIDTH		FRONT STREET		BLD PLAN :	:
DEPTH		SIDE STREET		FIRE :	:
HEIGHT	100'	FRONT SETBK	NC	SEDI CTL :	:
STORIES		SIDE SETBK	102'/102'	ZONING : Zoning [illegible]	4-6-04
LOT #'S		SIDE STR SETBK		PUB SERV :	:
CORNER LOT		REAR SETBK	103'	ENVRMNT : 416 Finish Mtr Sent 4/6/04	:
1. ___ Y... 2. ___ N...		ZONING		:	:
				PERMITS : DAS/ACT	:

MAKE CHECKS PAYABLE TO BALTIMORE COUNTY MARYLAND -- NO PERMIT FEES REFUNDED

PROPERTY ID NUMBER 17-00-001183

105'
103'

102' 102'

HOUSE
GARAGE

105'

ELEVATION VIEW

PROPERTY ID NUMBER: 17-00-014319 (NO. REVERSED LOCATION)

SAME OWNER FOR BOTH PROPERTIES

Section 426A, Radio Operator Antennas [Bill No. 30-1998]

A. A radio operator antenna and related equipment, including any supporting structure, is considered an accessory structure or use and is permitted by right in any zone if the radio antenna and the related equipment meets the requirements of this section.

B. A radio operator antenna shall be operated by an amateur radio operator who is licensed by the Federal Communications Commission and whose domicile is on the lot where the antenna and the related equipment is placed.

C. A supporting structure for a radio operator antenna may not be located within 20 feet of any property line.

D. A radio operator antenna may not extend closer than the front building line to any street on which the lot fronts.

E. A radio operator antenna may not be higher than the lesser of 100 feet or the horizontal distance to the nearest property line above grade level.

BALTIMORE COUNTY, MARYLAND

DEPARTMENT OF PERMITS AND DEVELOPMENT MANAGEMENT

TOWSON, MARYLAND 21204

DIRECTOR

BUILDINGS ENGINEER

Ext

BUILDING PERMIT

PERMIT #: B404929 CONTROL #: RR DIST: 10 PREC: 04
DATE ISSUED: 05/07/~~2002~~ 2004 TAX ACCOUNT #: 1700001183 CLASS: 04

PLANS: CONST 0 PLOT 1 R PLAT DATA ELEC YES PLUM NO
LOCATION: 39 GLENBROOK DR
SUBDIVISION: BI ENVIEW

OWNERS INFORMATION
NAME: GOVERNALE,BENJAMIN
ADDR: 39 GLENBROOK DR,PHOENIX,MD21131

TENANT:
CONTR: BENJAMIN GOVERNALE (OWNER)
ENGNR:
SELLR
WORK: CONSTRUCT A 100' HIGH MONOPOLE RADIO TOWER ON REAR OF PROPERTY. MUST CLEAR ALL OVER-HEAD WIRES. MFG. SPECS TO BE ON SITE OR NO INSPECTIONS WILL BE GIVEN. REPLACES EXPIRED PERMIT B322721.

BLDG. CODE:
RESIDENTIAL CATEGORY: DETACHED OWNERSHIP: PRIVATELY OWNED

PROPOSED USE: SFD + TOWER
EXISTING USE: VACANT

TYPE OF IMPRV: NEW BULDING CONTRUCTION
USE: OTHER - RESIDENTIAL
FOUNDATION: BASEMENT
SEWAGE: PRIV. EXISTS WATER: PUBLIC EXIST

LOT SIZE AND SETBACKS

SIZE: 1.56AC
FRONT STREET:
SIDE STREET:
FRONT SETB: NO
SIDE SETB: 102'/102'
SIDE STR SETB:
REAR SETB 103'

YOUR INSPECTOR COPY

1484 464

10

494929

INSPECTION RECORD

(INSPECTOR'S COPY)

DATE	INSPECTOR	INSPECTION	COMMENTS
5/5/03	RL	Ext / Per	
6.4.04	[illegible]	Ext / Expired	

PLEASE REFER TO PERMIT NUMBER WHEN MAKING INQUIRIES.

Jeffrey L. Peek
19 Dalebrook Drive
Phoenix, Maryland 21131

January 31, 2007

HAND-DELIVERED

Ms. Kathleen C. Bianco, Administrator
County Board of Appeals of Baltimore County
Old Courthouse, Room 49
400 Washington Avenue
Towson, Maryland 21204

RE: Antenna at 39 Glenbrook Drive
Case No.: 06-180-SPHA

Dear Ms. Bianco:

Enclosed herewith for filing on behalf of the Complainants in the above-referenced matter, please find an original Memorandum and three (3) copies.

Thank you in advance for your anticipated assistance in this matter. Naturally, should you have any questions or wish to discuss this matter, please do not hesitate to contact me.

Very truly yours,

Jeffrey L. Peek

JLP/ma

Enclosure(s)

cc: Howard L. Alderman, Esquire
Peter Max Zimmerman, Esquire

P:\JeffP\Antenna.01-31-07.ma

11/1/06

RE: PETITION FOR SPECIAL HEARING AND VARIANCE
39 Glenbrook Drive; E/side Glenbrook Drive, 569' N Blenheim Road
10th Election & 3rd Councilmanic Districts
Legal Owner(s): Benjamin & Kayren Governale
Petitioner(s)

* BEFORE THE COUNTY
* BOARD OF APPEALS
* FOR
* BALTIMORE COUNTY
* 06-180-SPH

* * * * * * * * * * * * *

People's Counsel for Baltimore County's Prehearing Memorandum

This case is scheduled for hearing December 5, 2006. It is before the County Board of Appeals (CBA) on appeals filed by our office and, separately, Jeffrey Peek from the decision appealed of the Zoning Commissioner (ZC) dated December 2, 2005. The ZC decided to grant Petitioners Benjamin and Kayren Governale's petition for special hearing that his radio operator antenna meets BCZR 426A and federal requirements and dismiss the alternative request for variance.

While the case before the CBA is *de novo*, the ZC opinion involves important legal issues. It is helpful to explain the main reasons for our office's appeal and give a preview of the case.

I. The height of the antenna exceeds the BCZR 426A.E standard

Bill 30-98 (record miscellaneous document 9) established the current law relating to wireless transmitting facilities (BCZR 426) and radio operator antennas (BCZR 426A). The first important issue relates to interpretation of BCZR 426A, which governs amateur radio antennas, and in particular BCZR 426A.E. This section allows such antennas in any zone if it meets specified standards. BCZR 426A.E states:

> "A radio operator antenna may not be higher than the lesser of 100 feet or the horizontal distance to the nearest property line above grade level."

The height of the proposed antenna is 99 feet. While the vertical central pole of the proposed antenna is 100 feet away from the nearest property line, the substantial grid or superstructure of the antenna, is within 65 feet. This is an important and integral part of the antenna. Its presence causes the antenna to exceed the standard.

Should there be any doubt about this point, one may review the definition of "antenna." As there is no statutory definition in BCZR 101, the next step is to open Webster's Third New International Dictionary, attached as Exhibit 1, which states in part:

> "**3** *pl usu antennas* **: a** usu. metallic device (as a rod, wire, or arrangement of wires) for radiating or receiving radio waves"

For confirmation, one can consult the Google online dictionary, also attached as Exhibit 2, which includes, among others, the following definitions on the web:

" – device which radiates and/or receives radio signals. www.notepage.net/wireless-messaging-glossary.htm

– A conductor or system of conductors for radiating and/or receiving radio energy. Also called aerial. www.novalynx.com/glossary.html

– A device for transmitting and receiving radio waves. Depending on their use and operating frequency, antennas can take the form of a single piece of wire, a dipole a grid such as a yagi array, a horn, a helix, a sophisticated parabolic-shaped dish, or a phase array of active electronic elements of virtually any flat or convoluted surface. www.spidersat.net/glossary/glossary_a.htm "

Petitioners suggested that the antenna would not work at 65 feet in height. This is irrelevant. Zoning law is not subordinate to the convenience or need of the amateur radio operator. The ZC was wrong to base his opinion (page 5), in part, on the operator's needs.

The ZC was also wrong to dismiss the neighbors' "aesthetic" complaints as irrelevant. The ZC said (Page 7) the only relevant consideration was whether a toppled antenna would fall within Petitioners' property. He continued: "Aesthetics are not a factor that the County Council sought to include in BCZR 426A." But there is no setback exception for antennas designed to collapse or topple within the property.

Visual impact is often an important consideration in zoning cases. One of the core public safety, health, and welfare considerations is to preserve the character of residential neighborhoods. Village of Euclid v. Ambler Realty Co. 262 U.S. 365 (1926). To downplay the visibility problem as an "aesthetic" issue reflects ignorance of basic zoning law. To give just one example, the Court of Appeals sustained the denial of a mobile home special exception because of the adverse visual impact in Board of County Comm'rs v.Holbrook 314 Md. 210 (1986).

Visual impact is a key factor in sign variance cases. See Red Roof Inns v. People's Counsel 96 Md. App. 219 (1993). It is important under the current Baltimore County sign law enacted in Bill 89-97. BCZR 450. Freestanding signs pose some of the same visual problems as towers and antennas. Indeed, the superstructure of the antenna occupies the same sort of space as the main board or structure of a freestanding sign.

The establishment of a setback from a residential area is a basic tool to protect such an area from incompatible use. County Code Sec. 32-3-101(a)(4) includes "setback or distance of any buildings or structures" as one of the core "health, safety, morals, and general welfare of the community" purposes of Baltimore County zoning law.

It is not necessary for the Council to state the reasons for each of the many setback requirements in the BCZR. In any event, it is apparent from the Council's statement of legislative policy in Bill 30-98 that minimization of visibility from residential areas is an important consideration in BCZR 426A. BCZR 426.2 states

> "Legislative policy for siting of wireless telecommunications antennas and towers. It is the intent of Baltimore County that:
>
> A. Antennas should be placed on existing towers, buildings and structures, including those of public utilities, where feasible; and
>
> B. If a new tower must be built, the tower should be:
>
> 1. Constructed to accommodate at least 3 providers;
> 2. Erected in a medium- or high-intensity commercial zone when available; and
> 3. **Located and designed to minimize its visibility from residential and transitional zones**." Emphasis supplied.

While Bill 30-98 places BCZR 426.2 in the section directly applicable to wireless telecommunication facilities, it addresses generally "antennas and towers." It is not necessary to repeat this policy for companion section 426A. To be sure, radio operator antennas are allowed in all zones. But it is the BCZR 426.A.E setback standard which contributes to the goal of minimization of visibility.

The legislative policy does not mention collapse as a factor. This does not connote encouragement of dangerous towers. Rather, it means that proper safety engineering stands on its own and is not an excuse to deviate from the setback requirement.

Petitioners' property, moreover, is in an R.C. 6 Rural Conservation and Residential Zone. BCZR 1A07 (Bill 73-2000). The legislative goals include conservancy areas, rural amenities, recreational open space, scenic views from building lots, and limits on scale and intensity of development. BCZR 1A07.C. The maximum density is .2 lot per

acre. BCZR 1A07.8. This Zone is designed to provide a heightened level of protection. The disregard of visual impact subverts the purpose of the R.C. 6 Zone.

In sum, BCZR 426A.E limits the height of the antenna to the lesser of 100 feet or the horizontal distance from the nearest property line. This distance must be measured with respect to the entire antenna. The Zoning Commissioner usurped the legislative authority by disregarding the antenna's grid for the purpose of this measure. It is not his function to rewrite the law or make the law. The CBA should not repeat this mistake.

II. There is no basis to grant a variance

There is no basis to grant a variance. The property in question is a typical residential property in the north county, with an adequate size of 2.20 acres and a substantial residential use. A core purpose of zoning variance law under BCZR 307.1 is to assure that no unique aspect of the property results in unreasonable denial or hindrance of permitted uses. Riffin v. People's Counsel 137 Md. App. 90 (2001); Cromwell v. Ward 102 Md. App. 691 (1995); Red Roof Inns v. People's Counsel 96 Md. 219 (1993); Easter v. Mayor & City Council 195 Md. 395 (1950). A proposed variance must also be consistent with the spirit and intent of the zoning law and the public safety, health, and welfare. McLean v. Soley 270 Md. 208 (1974). To be sure, a property owner need not prove that the denial amounts to confiscation. On the other hand, variances are not to be granted or handed out to suit the property's owner convenience, desire, or choice.

There is no unique quality of the petitioners' property here which results in practical difficulty. The property is one of many residential properties in the area. The property is just too small to accommodate an antenna with a height of 100 feet. If

property owners may obtain setback variances because the proposed use is otherwise impermissible, then the zoning law would collapse or be like a sieve. It should be underlined that the zoning law is not oppressive. It does not generally prohibit the construction of radio operator antennas. But it does mean that the construction of an antenna 100 feet high must be on a property with enough space to leave a setback of 100 feet to the property line. The petitioners must either acquire adjoining property or find another location which is large enough to accommodate their antenna.

In any event, the core permitted uses in the R.C. 6 Zone are farms and dwellings. The petitioners have apparently resided at this property for many years. The attached SDAT records, Exhibit 3, indicate that they purchased the property in 1975. A radio operator antenna, while permitted, is not a core use. It is a convenience or amenity. Its denial does not constitute a denial of a "reasonable and significant use" in the context of zoning law. Cf. Belvoir Farms v. North 355 Md. 259 (1999). Moreover, to allow such a high antenna on a small rural lot subverts the conservancy and view goals of BCZR 1A07.3.

It should also be kept in mind, as the SDAT record also shows, that the residence on this property was constructed in 1976. This development thus predated the R.C. 6 law. If this area were developed today, it would have to meet the stronger conservancy and density standards of the R.C. 6 Zone. In other words, the development in this area is already, in a sense, nonconforming because it appears to exceed the scale and intensity allowed under current law. It would further undermine the protective purposes of the new zone to allow a setback variance for a large antenna 100 feet high on this residential lot.

III. Federal law does not preempt or justify the allowance of this antenna

The Telecommunications Act of 1996 (TCA), Section 704(a)(7)(a), leaves it to local authorities to decide "... placement, construction, and modification of wireless facilities." The 1997 Planning Report preceding Bill 30-98 highlights the federal policy to defer to local zoning law. Miscellaneous document 8, page 2. There are limitations on local zoning authority set forth in TCA Section 704(a)(7)(b). These forbid unreasonable discrimination among providers, the effective prohibition of services nationally, and regulation of the environmental effects of radio frequency emissions. Taken together, the TCA both assures a nationwide system of telecommunications while giving local authorities the reasonable discretion to regulate the location of specific facilities.

There is no genuine issue in the present case with respect to these limitations. The Baltimore County zoning law neither discriminates among providers nor prohibits radio operator antennas. Nor does it regulate the environmental effects of radio frequency emissions. Indeed, BCZR 427A is relatively liberal. It does provide, however, for a reasonable setback related to the height of the tower. This is a classic land use control.

The nub of the controversy, therefore, involves the substantive implementation of local land use law. Despite the clear congressional decision to retain local control over siting decisions, the Zoning Commissioner (Page 7) suggested that federal law is controlling. He did not cite Section 704 of the TCA. Rather, he relied on 1985 FCC guidelines, opinion PRB-1, to suggest that the county's legitimate purposes "... will be achieved whether the 7MHz antenna is 65 or 91(sic) vertical feet above the ground."

Once again, ZC Wiseman focused exclusively on the issue of the potential collapse of the tower. He disregarded the fundamental zoning concerns relating to the intent of the zoning law, the character of the neighborhood, and visual impact. Again, he downplayed the concerns of the neighbors as "based solely on aesthetic considerations." (pages 7-8). The gist of his opinion is that federal guidelines either support or require the approval of this antenna. Ibid. This false reasoning led to a false conclusion.

The County Board of Appeals has recognized the primacy of the local zoning function in the Sprint PCS case on Back River Neck Road. CBA opinion attached as Exhibit 4. Eventually, this case made its way to the Court of Special Appeals, which addressed the issue in detail in Sprint PCS v. Baltimore County at page 31, attached as Exhibit 5:

> "Sprint argues that the Board's denial of its petition for variance violates the Telecommunications Act of 1996 ("the Act"). See 47 U.S.C. § 332(c)(7)(B)(iii). It argues that "a zoning body's denial of wireless telecommunications facility must be supported by substantial evidence in the record," citing the statute, and *New Par v. City of Saginaw*, 161 F. Supp. 2d 759, 764 (E.D. Mich. 2001) *aff'd*, 301 F.3d 390 (6th Cir. 2002). We reject this argument largely for the reasons explained in the previous section.
>
> The ML zone permits cellular towers by right, subject to a 200 foot setback requirement "from any other owner's residential property line." BCZR § 426.6(A)(1). Because the setback requirement could not be met, it was necessary for Sprint to prove grounds for a variance. Sprint does not contend that the Act overrides local setback requirements. Indeed, it states that "except as provided in this paragraph, nothing in this chapter shall limit or affect the authority of a State or local government or instrumentality thereof over decisions regarding the placement, construction . . . of personal wireless service facilities." 47 U.S.C. § 332(c)(7)(A). See also *Voicestream Minneapolis, Inc. v. St. Croix County*, 342 F.3d 818 (7th Cir. 2003) ("'The [Act's] substantial evidence test is a procedural safeguard which is centrally directed at whether the local zoning authority's decision is consistent with the applicable [local] zoning requirements'") (citations omitted). This decision is supported by substantial evidence in the record.
>
> The standard for review of a zoning authority's decision under the Act mirrors administrative agency standards under Maryland law. See *Am. Tower LP v. City of Huntsville*, 295 F. 3d 1203, 1207 (11th Cir. 2002) ("The 'substantial evidence' standard

> envisioned by Section 332 is the traditional substantial evidence standard used by courts to review agency decisions. The usual standard defines 'substantial evidence as a reasonable mind might accept as adequate to support a conclusion")."

The federal courts have also consistently sustained the denial of wireless telecommunications facilities based on a variety of public welfare concerns, including the violation of zoning setback limitations on a structure's proximity to neighboring lots. 360 degrees Communications Co. v. Board of Supervisors of Albemarle County 211 F.3d 79 (4th Cir. 2000); Petersburg Cellular P'ship v. Board of Supervisors of Nottoway County 205 F.3d 688 (4th Cir. 2000); AT&T Wireless PCS v. City Council of Virginia Beach 155 F.3d 423 (4th Cir. 1998). Remarkably, in USCOC of Virginia RSA #3 v. Montgomery County Board of Supervisors 343 F.3d 262 (4th Cir. 3003), attached as Exhibit 6, the 4th Circuit appellate court both sustained the denial of a tower and reversed the district court's judgment that the denial was unfounded because based on aesthetics.

The 1996 TCA land use provisions governing wireless telecommunications facilities govern radio operator antennas as well as towers for cell phone systems. They are within the same statutory framework. The case should be decided based on local land use law. The federal law does not support or require this particular zoning variance.

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CERTIFICATE OF SERVICE

I HEREBY CERTIFY that on this 1st day of November, 2006, a copy of the People's Counsel for Baltimore County's Prehearing Memorandum was mailed to Howard B. Alderman, 502 Washington Avenue, Towson, MD 21204, attorney for Petitioners, Bruce E. Doak, Gerhold, Cross & Etzel, Ltd, 320 E Towsontown Blvd, Towson, MD 21286, Representative for Petitioners, and Jeffrey Peek, Esq,, 19 Dalebrook Drive, Phoenix, MD 21131.

Peter Max Zimmerman

PETER MAX ZIMMERMAN
People's Counsel for Baltimore County

contrariety of *conflicting forces* or tendencies (alleged ween *religion and science*) **2** : opposition in physio- action: **a** : contrariety in the effect of contraction *of* s (as the extensors and flexors *of a part*) **b** : inter- of two or more substances such that the action of any them on *living cells* or tissues is modified (as by inter- with the uptake or by an opposing physiological reac- — opposed to *synergism* **3** : the sum of the mutual ence between *dissimilar organisms* occupying or at- g to occupy the same ecological niche **syn** see ENMITY

o·nist \-nəst\ *n* -s [LL *antagonista*, fr. Gk *antagō- fr. antagōnizesthai*] **1 a** : one that *contends* with or another (as in a fight, *conflict*, or other contest) ENT, ADVERSARY (*completely* vanquishing his ~) *principal* opponent or foil of the main character in a or narrative (the crook was the ~ to the *detective hero*) ed to *protagonist* **2** : an *agent* that acts in physio- opposition (contact between a tooth and its ~ in the g jaw): as **a** : a muscle that contracts with and limits on of an agonist with which it is paired **b** : a *drug* that the action on the organism *of another drug* by a gical, chemical, or *competitive* mechanism

·nis·tic \ˌ=ˌnistik, -ˈ=-, -ēk\ *also* **an·tag·o·nis·** \-takə\, -ēk-\ *adj* **1** : characterized by or resulting nagonism : marked by or arising from *opposition*, , antipathy, or discord (*slaves* — *to* their *master*) (~ s) : marked *by counter* tendencies : OPPOSING (mo- *and free trade are* ~) **2** *of colors* : complementary or **syn** see ADVERSE

·nis·ti·cal·ly \-ək(ə)lē, -ēk-, -li\ *adv* : *in an* antago- y : with antagonism

stic cooperation *n* : the suppression of minor dif- *by two* or more persons or groups to achieve a major interest

stic symbiosis *n* : PARASITISM 2

·nize *or* **an·tag·o·nize** \an'tagəˌnīz, aan-\ *vb* **-ED/** [Gk *antagōnizesthai*, fr. *anti-* \anti- + *agōnizesthai* to fr. *agōn* contest — more at AGONY] *vt* **1 a** *archaic* : to with : OPPOSE (stormed the castle *and antagonized* the pitched battle) **b** : COUNTERACT (the coldness of *antagonizing the warmth* of the metal) ; act in op- *to (these* effects are *antagonized* by atropine —*Ernest* & Harry Most) **2** : to make antagonistic : *incur* or the hostility of (~ *his friends* by open criticism of ions) ~ *vi* : to *arouse* antagonism against oneself *ility that* ~s almost immediately) **syn** see CONTEST

·na *usu cap, var of* ANTIMERINA

dacral \ˌant-, ˌaant-+\ *adj* [*\anti-* + *ambulacral*] l away from the ambulacra) region

t·a·ri·va \ˌantəˌnanəˈrēˌvə\ *adj, usu cap* [fr. *riva* (Tananarive), Madagascar] : TANANARIVE

\(ˈ)an·+ *n, pl* **antapexes** *or* **antapices** [*\anti-* + e point of the celestial *sphere from* which the solar moving — *compare* SOLAR APEX

\an'tarə *n* -s [AmerSp, fr. Quechua *antara*] : a panpipe

t·arc·tian \ˌant-ˌärkˈtēlyən, -ˈtēən *also* -ˌtik-\ *adj, usu Antarctalia*, the *antarctic* marine realm (fr. L *ant-* *ntarctic* + NL *-alia*) + E *-an*] : of, relating to, or *marine* biogeographic realm that comprises *all re-* th of a line at which mean temperatures approximate

\(ˈ)anˌ=, (ˈ)aant- +\ *also* **-n(ˈ)tik-** *or* **-n(ˈ)tā-** *adj, [alter.* (influenced by L *antarcticus*) of earlier *ant-* AE *antartik*, fr. ML *antarticus*, alter. of L *antarcticus*, *tarktikos*, fr. *anti-* \anti- + *arktikos* arctic] **1** : op- the north pole : relating to the south pole or to the *ar it* **2** *obs* : ANTIPODAL, OPPOSED, CONTRADICTORY **·ca** \(ˈ)ant-ˌärktika, -ˈärt-, -ˈäkt-, -ˈät-, -ˈätd- *also* **·n(ˈ)tā-** *adj, usu cap* [fr. *Antarctica*, the continent, fr. *antarcticus*] : of or *relating* to the continent of **a** : ANTARCTIC

beech *n* : any of various plants of the genus *Nothofagus* : an evergreen tree. (*N. antarctica*). common in lons of extreme *southern So. America*

circle *n, often cap A&C* : the parallel of latitude that ximately 66½° south of the equator and that *circum-* he southern frigid zone — see ZONE *illustration*

to·gaea·an *or* **ant·arc·to·ge·an** \(ˈ)antˌärktəˈjēən \ˌär-\ *adj, usu cap* [NL *Antarctogaea, Antarctogea*, ographic *realm* (fr. L *antarcticus* + NL *-o-* + *-gaea*, *-gea*, n.] : of, relating to, or being a *biogeographic* that comprises New Zealand and the Antarctic continent ...da — compare NOTOGAEAN

\ˈ=ˌ= *n* **1** : a So. American mammal (*Myrmecophaga* order Edentata that is about *four feet* in length the long tail, has long *shaggy gray* fur with a black white *stripe* on the shoulder, and is toothless slender tongue with which it licks up ants *and* with which it tears up logs *and* anthills — *eater, tamandúa*; *see* ANTEATER **2** : AARD- **3** *any* of numerous birds believed to feed a member of the family *Formicariidae* tropical America *that* is small or me- black-and-white or brown, and of retiring *thrush*

... lice or aphids tended by ants *for* the ...ld from which *ants* obtain honeydew ...*dy or prep* [*ante-*] : BEFORE ...poker stake usu. arbitrarily fixed and *usu.* ...to build the pot (the dealer called for a ...mount paid in advance esp. as a share in a ...mount charged each entrant or ...of these shareholders —*Atlantic*) ...to raise the ~ —*Amer. Fabrics*)

...tinate; antiing; antes [*\ante*] *vt* : to put ...PRODUCE (~ *the* dollar bills for the next ...) (they *anted* up $1,000,000 to ...Network) (~ up ideas in a *general* ...Riddle) ~ *vi* : to pay *up* — usu. used ...into the *street* —*Time*)

...ante [ME, fr. L, fr. *ante* before, in ...OE and-, on-against, OHG *ant-*, *int-*, ...and-] Gk *anti* before, *against*, Skt *anti* ...*itself* in front — *more* at END]

...earlier, prior (*antenatal*) (*antepast*) (*ante-* ...*room*) : forward (*antiflexion*) (*ante-* ...) : earlier than (*anteclassical*) (*ante-* ...) : in front of (*anteorbital*) (*antetemple*)

... of several *mammals* that feed largely ...*ter* of certain edentates or related ...modified for this purpose and *having* ...long tongue with which *they* lick up the ...developed *salivary* glands (as the ant ...*bear*, the pangolins) **b** : ECHIDNA

...AARDVARK 2 : ANTBIRD

...-tə-, ˌaan- *adj* [L *ante bellum* ...) before the *war* (*the four* ~ years from ...*bridger*) *at esp.* the Civil War (1861–65)

...-ˈbrā-ki-əl, or an·ti·brach·i·al \ˈ=\ *adj* ...*brachium* + E *-al*] : relating to the ...

...ar *an·ti·bra·chi·um* \ˈ=\ *n, pl* ...*brachia* [NL, fr. *ante-*, *\anti-* + *brachium* or forelimb between the *brachium* ...

...-ˈkā-bə-nət, -ˌnāt *or prep* [*ante-*] : BEFORE ...

... \ˌ=ˈkabəˌnet\ *n* [*ante-* + *cabinet*] : an ante- ...cedence room

...CARDIUM

...LATE \ˌ=ˈsesəˌdāt\ *-ED/-ING/-S* [L *antecedere*, fr. ...*cēd-* — *more at* CEDE] *vt* : to go before ...(thinkers who *anteceded* the rise *of* ...Rock) ~ *vi, obs* : to come *before*

...ˈsēdᵊnt *n* -s [L *antecedentia*] **1** : PRI- ...*of* certain institutions) **2** : a ...tectonic and orogenic events resulting ...an antecedent river or drainage system

an·te·ced·ence \-ˈsēdᵊnsē, -sī\ *n* -ES [L *antecedentia*, neut. pl. of *antecedent-*, *antecedens*, pres. part. *of antecedere* to go before — more at ANTECEDE] **1** : *the* condition of being antecedent : PRIORITY **2** *antecedencies pl* : antecedent events

an·te·ced·ent \ˌantəˈsēdᵊnt, ˌaan-\ *n* -S [ME, fr. ML & L; ML *antecedent-*, *antecedens* grammatical) antecedent, logical antecedent, fr. L *antecedent-*, *antecedens* logical antecedent, lit., one that goes *before*, fr. neut. of *antecedent-*, *antecedens*, pres. part. *of antecedere*] **1 a** : a substantive *word*, phrase, or clause referred to by a pronoun, *typically* by a following pronoun (as *John* in "I saw *John and* spoke to him" or *that he is ill* in "I hear *that* he is ill and it worries me") **b** : any *word* or *group of words* replaced and referred to by a *substitute* (as *at the meeting* in "I looked for him *at the meeting* but he wasn't there") **2** *logic* **a** (1) : the *conditional* element in a proposition (as *if A* in the *proposition* "if A, then B") (2) : *either* premise *in a* categorical syllogism **b** : the *condition* upon *which* truth depends **3** : the first *term of a* mathematical ratio (as *a* in the ratio *a* : *b*) **4 a** : *an* event, condition, situation, circumstance, *or complex* preceding and often influencing or conditioning *an occurrence* or issue — usu. used in *pl.* (~s *and consequences* of the war) **b antecedents** *pl* : the *significant* events, conditions, *principles*, *traits*, or activities of one's earlier life **5 a** : a *predecessor* in a series; *esp* : one that may serve as a *model or stimulus* for later developments in *the* series (*a stringed instrument* believed to be an ~ *of the banjo*) **b antecedents** pl : ANCESTORS, FOREFATHERS, PARENTS (of English and Scotch-Irish ~s) **6 a** *in canon and fugue* : the subject or opening theme *restated* by the consequent **b** : a proposing *phrase or section* of a musical passage as *distinguished from* the following responding phrase or *section* **syn** see CAUSE

²antecedent \ˌ=ˈ=\ *adj* [ME, *fr. L antecedent-*, *antecedens*, pres. part. of *antecedere*] **1** : existing or occurring before in time or *order often* with consequential effects : PRIOR, ANTERIOR, PRECEDING (a synthesis of much ~ *thought* —H.O. Taylor) (rights ~ to government —*Time*) **2** *logic* : prior to investigation, further knowledge, or setting up of conditions : a priori : PRESUMPTIVE (an ~ probability) **3** : established before the *deformation* of a surface and persisting *after* the *deformation* has taken place and in spite *of it* — used of drainage, a stream, or a valley; *compare* ²CONSEQUENT 5 — **an·te·ced·ent·ly** *adv*

an·te·ce·den·tal \ˌ=ˌsēˈdent°l\ *adj* : of or relating *to an antecedent*

an·te·ces·sor \ˌ=ˈsesə(r), -ˌsē\ *n* -S [ME *antecessour*, fr. L *antecessor* — more *at* ANCESTOR] **1** : one that goes before (as in office *or the* possession of property) : previous *incumbent or owner* : PREDECESSOR **2** *obs* : ANCESTOR, PROGENITOR

an·te·cham·ber \ˈantēˌ-, ˈaan-, -tē-\ *n* [alter. (influenced by *ante-*) of earlier *antichamber*, fr. F *antichambre*, fr. MF (part trans. of It *anticamera*, fr. *anti-* — fr. L *ante-* ante- — + *camera room*), fr. It *anti-* + MF *chambre room* — more at CHAMBER] : a room or foyer placed *before* and leading into a chief apartment and serving *as* a waiting room

an·te·chap·el \ˈ=ˌ=\ *n* [*ante-* + *chapel*] : a vestibule or anteroom *to a chapel*

ant·echi·no·mys \ˌant-ᵊkīnəˌmis\ *n, cap* [NL, fr. *¹anti-* + *Echinomys*] : a genus of small *faseciliverous* marsupials (family Dasyuridae) *comprising* the Australian jerboa pouched mice

ant·echi·nus \-ˈkīnəs\ *n, cap* [NL, fr. *¹anti-* + L *echinus* hedgehog, sea urchin — more *at* ECHINUS] : a genus of Australian marsupial mice

an·te·choir \ˈantēˌ-, ˈaan-, -tē-\ *n* [*ante-* + *choir*] **1** : a space enclosed *or reserved* for the clergy and choristers at the entrance to a choir **2** : the division *of a divided* choir that is farther away from the sanctuary

an·te·church \ˈ=ˌ=\ *n* [*ante-* + *church*] : a portico *or* narthex at the main entrance of a church

an·te·clyp·e·us \ˌ=ˈ=\ *n, pl* **anteclyp·ei** [NL, fr. *ante-* + *clypeus*] : the lower or anterior *portion* of the clypeus of certain insects

an·te·col·ic \ˌ=ˈkälik\ *adj* [*ante-* + *colic*] : situated *in front* of *the colon*

an·te·com·mun·ion \ˌ=ˌ=ˈ=\ *n, usu cap A&C* [*ante-* + *communion*] : the part *of the* Anglican or Episcopal service of Holy *Communion* up to or including the prayer for *the whole state of* Christ's church that is used separately with a blessing when there is no Communion

an·te·con·se·quent \ˌ=ˌ=ˈ=\ *adj* [*ante-* + *consequent*] : consequent in *the earlier* and antecedent in the later stages *of erosional history* (an ~ river)

an·te·con·so·nan·tic \ˌ=ˌ=ˌ=ˈ=\ *adj* [*ante-* + *consonantic*] : immediately preceding a *consonant* : PRECONSONANTAL

an·te·cor·nu \ˌ=ˈ=\ *n* [NL, fr. *ante-* + *cornu*] : the anterior cornu *of either* lateral ventricle of the brain

an·te·cos·ta \ˈantēˌ-, -tē-\ *n, pl* **antecos·tae** *or* **anteocostas** [NL, fr. *ante-* + *costa*] : *the internal* ridge that is externally manifested as a groove, *that* appears near the anterior margin of the (typical) *dorsal* or ventral plate of the primitive *segment of an arthropod*, and that provides attachment *for* the longitudinal muscles

an·te·cu·bi·tal \ˌ=ˈ=\ *adj* [*ante-* + *cubital*] : of or relating to the inner or *front surface* of the forearm

anted *past of* ANTE

an·te·date \ˈantəˌdāt, ˈaan-, -tē-\ *n* [*earlier antidate*, prob. fr. MF, fr. *anti-* \anti- + *date*] : *a prior* date; *esp* : a date assigned to an event or *affixed* to a document that is earlier than the *actual date of* the event or document (*recognition of prior military* service to establish the ~ *of seniority* in certain civilian categories)

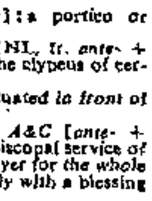
²antedate \ˌ=ˈ=, ˌ=ˈ=, *usu -ād-* +V\ *vt* [earlier *antidate*, prob: fr. MF *antidater*, fr. *antidate*, n.] **1 a** : to date (as a check *or deed*) as of a time prior to that of execution **b** : to assign (an event) to a date prior to that of *actual* occurrence (archeological discoveries may show *that* the coming of man to this continent *has not been antedated*) **2 a** : to transfer to an *earlier date or period* **b** : to cause to occur earlier *than* expected : ACCELERATE **3** *archaic* : ANTICIPATE **4** : to precede in time : come before in *date* (*his death antedated* his brother's)

¹an·te·di·lu·vi·an \ˌantēdəˈlüvēən \ˌaan-, -tēd-, -dīˈ-, -vyən\ *also* **an·te·di·lu·vi·al** \-vēəl, -vyəl\ *adj* [*antediluvian fr. ante-* + L *diluvium* flood + E *-an*; *antediluvial* fr. *ante-* + *diluvial* — more at DELUGE] **1** : *of or* relating to the period before the *flood described* in the Bible (~ man) **2** : ANTIQUATED : *made*, evolved, or developed a long time ago (an ~ automobile) **syn** see OLD

²antediluvian \ˌ=ˈ=\ *n* -S **1** : one *that* lived before the Flood described in the *Bible* **2** : *one* that is very old or behind the times

an·te·don \anˈtēdᵊn, -ˌdän\ *n, cap* [NL, perh. *irreg.* fr. Gk *Anthedōn*, nymph associated with the *ancient* city Anthedon on the northern coast of *Boeotia*) : a large genus of recent and fossil comatulid *crinoids* having 10 or more arms

an·te·fix \ˈantəˌfiks, -tē-\ *n* -ES [L *antefixum*, fr. neut. *of antefixus*, past part. of *antefigere* to fasten *before*, fr. *ante-* + *figere* to fasten — *more* at DIKE] **1** *classical archit* : *an* ornament at the eaves concealing *the* ends of the joint tiles of the *roof* **2** *classical archit* : an ornament of *the* cymatium of a classic cornice that *is sometimes* pierced for the escape *of water* — **an·te·fix·al** \ˌ=ˈfiksəl\ *adj*



antefix 2

an·te·fixa \ˌ=ˈfiksə\ *n pl* [L, pl. of *antefixum*] : ANTEFIXES

an·te·flex·ion \ˌ=ˈ=\ *n* [ISV *ante-* + *flexion*] : a displacement *forward* of an organ (as the *uterus*) so that its axis is bent upon itself

an·te·fur·ca \ˌ=ˈ=\ *n, pl* **antefurcae** [NL, fr. *ante-* + *furca*] : a forked chitinous process projecting into the thoracic cavity from the *sternal* wall of the anterior thoracic segment of *certain insects* — **an·te·fur·cal** \ˌ=ˈ=\ *adj*

ant egg *n* : one of the white egglike *pupae* or cocoons of ants that are often dried *and sold* for food for captive turtles, fish, and birds

an·te·hy·poph·y·sis \ˌantēˌ-, -tə-\ *n, pl* **antehypophyses** [NL, fr. *ante-* + *hypophysis*] : *the anterior* lobe of the pituitary body

anteing *pres part of* ANTE

an·te·ju·ra·men·tum \ˌantē-, -tə-\ *n, pl* **antejuramenta** [ML, fr. L *ante-* + *juramentum* oath — *more at* JURAMENT] : *the* preliminary oath required of *the accuser* and accused in a trial by compurgation

an·te·la·bi·um \ˌ=ˈ=\ *n, pl* **antelabia** [NL, fr. *ante-* + L *labium* lip — more at LIP] : the exterior or *protruding* margin *of a lip*

an·te·lope \ˈantᵊlˌōp, ˈaan-, -təˌlōp\ *n, pl* **antelope** *or* **antelopes** [ME, *fabulous* beast represented in heraldic devices, prob. *fr. MF antelop* savage animal with *sawlike* horns believed to live near the Euphrates, *fr.* ML *anthalopus*, fr. LGk *anthalop-*, *anthalops*] **1 a** : any of various Old World ruminant mammals of *the family* Bovidae that are esp. abundant in Africa, that differ from the true oxen by *lighter racier build*, horns directed upward and backward, and great variability in size, and that range *from the* ox-sized eland to forms scarcely larger than *rabbits* — see ADDAX, BLACK BUCK, DIK-DIK, GAZELLE **b** : any of various ruminant mammals *chiefly of the family* Bovidae that in appearance or behavior resemble *true* antelopes — compare PRONGHORN **2** : leather made from the hide of an antelope **3** : DUST 11

antelope brush *or* **antelope bitterbrush** *n* [so called *fr. its* use as browse] : BITTERBRUSH

antelope horn *n* : a spreading perennial (*Asclepiodora decumbens*) of the family Asclepiadaceae *resembling* milkweed and having greenish *white flowers* and curved greenish pods — usu. used *in pl.*

antelope jack rabbit *n* : a very large pale *jack rabbit* (*Lepus alleni*) of the Arizona and western *Mexican deserts* having long ears and whitish sides *suggesting* the antelope's white rump when in motion

antelope squirrel *also* **antelope chipmunk** *n* : a small ground squirrel (*Citellus leucurus*) of the western *U.S. having* a white undersurface of the tail that when *displayed* over the back suggests the white rump *of* the American antelope; *also* : any of several *similar* and closely related rodents

an·te·lu·pi·an \ˌ=ˈlüpēən\ *or* **an·te·lu·pine** \-ˌpīn, -ˌpēn\ *adj* : resembling or relating to antelopes

an·te·lu·can \ˌantəˈlükən\ *adj* [L *antelucanus*, fr. *ante-* + *luc-*, *lux* light + *-anus* *-an* — more at LIGHT] *archaic* : before dawn (~ *worship*)

antemask *var of* ANTIMASQUE

an·te·me·rid·i·an \ˌantēməˈridēən, -tə-\ *adj* [L *antemeridianus*, fr. *ante-* + *meridianus of* noon — more at MERIDIAN] : occurring before *noon* : of or relating to the forenoon (~ *chores*) (at 9 o'clock ~) — compare ANTE MERIDIEM

an·te·me·rid·i·em \-ˈridēəm, -ˌem\ *adj* [L, before noon] : being before noon — *abbr. A.M.* or *a.m.*

an·te·mor·tem \-ˈmȯrtəm\ *adj* [L] : before death (~ *diagnosis*)

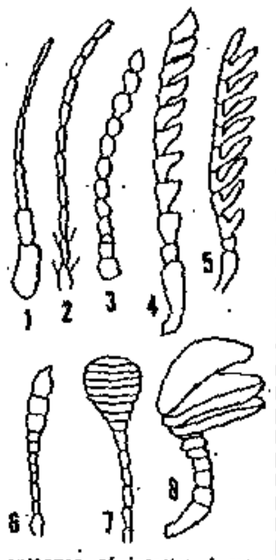
an·te·na·tal \ˌantēˌ-, -tə-\ *adj* [*ante-* + *natal*] : of or relating to an unborn child (~ injury) : occurring during pregnancy (~ care) — compare *INTRANATAL*, NEONATAL, POSTNATAL

an·te·na·tus \ˌ=ˈnād-əs\ *n, pl* **antenati** \-ˌī\ [ML, *firstborn son*, ancestor, predecessor, fr. L *ante-* + *natus*, past part. of *nasci* to be born — more at NATION] : a person born before a certain time or event esp. with reference to the existence of political rights (*as a person* born in one of the 13 American *colonies before* the Declaration of Independence) — usu. used *in* pl. (eligibility of *antenati to hold* office); opposed to *postnatus*

an·te·nave \ˈantēˌ-, -tə-\ *n* [*ante-* + *nave*] : a church porch leading *into* the nave only or a part of a *porch* that leads *directly* into the nave

an·te·ni·cene \ˌ=ˈ=\ *also* **an·te·ni·cae·an** \ˌ=ˌ=ˈ=ən\ *adj, usu cap N* [*ante-* + *Nicene, Nicaean*] : of or relating to *the* Christian *church* or era before the first council *of Nicaea* (A.D. 325)

an·ten·na \anˈtenə, aan-\ *n, pl* **anten·nae** \-(ˌ)nē *also* -ˌnī\ *or* **antennas** [ML, fr. L *antemna, antenna sail yard*] **1** : *one* of the paired movable sensory appendages of the head of *certain arthropods* (two *pairs being* present in *most* crustaceans, one in insects and myriapods) consisting typically of *basal* scape, *intermediate* pedicel, *and* elongated multisegmented terminal flagellum, the last often much specialized and *bearing numerous sensilla that* function chiefly as touch and olfactory receptors — called also *feeler* **2** : an organ on certain *lower* invertebrates *(as* rotifers) that is similar to the antenna of arthropods **3** *pl usu antennae* : a usu. metallic device (as a *rod*, *wire*, or arrangement of wires) for radiating or receiving radio waves



antennae of insects: *1* setaceous, *2* filiform, *3* moniliform, *4* serrate, *5* pectinate, *6* clavate, *7* capitate, *8* lamellate

antenna array *n* : a radio *antenna* consisting of numerous parallel wires arranged to transmit or receive substantially more *in some* directions *than* in others — called also *beam antenna*

antenna circuit *n* : the complete electric circuit *of which* the radio *antenna* is a part

antennae sword *n* : a sword of the late Bronze Age or early Iron Age whose *hilt* ends in a pair *of ornaments* suggesting antennae

antenna inductance *n* **1** : the inductance *of an antenna*, its value varying at different frequencies *as* evidenced by the current distribution **2** : the inductor or loading coil in an antenna circuit

an·ten·nal \(ˈ)anˈtenᵊl, (ˈ)aan-\ *adj* : of or *relating to* an *antenna* (~ senses of insects)

antennal gland *n* : GREEN GLAND

an·ten·nar·ia \anˌtenˈnaˌ(a)rēə\ *n, cap* [NL, fr. ML *antenna* + NL *-aria*; *fr.* the resemblance of the pappus of *the staminate flowers* to the antennae of certain insects] : a *genus* of woolly or hoary herbs (family Compositae) *that* are natives mostly of temperate regions and *have* small whitish discoid flower heads and a *pappus* formed of club-shaped bristles — see CAT'S-FOOT

an·ten·na·ri·i·dae \anˌtenəˈrīəˌdē\ *n pl, cap* [NL, fr. *Antennarius*, type genus (*fr. ML antenna* + L *-arius* -ary) + *-idae*; fr. the *antennary* process on the head] : a family *of fishes* (*order* Pediculati) that have an elongated *somewhat compressed* body, a short head deeper *than* broad, a large nearly vertical mouth with *protrusible* premaxillaries, rather large pectoral *fins with* elongated carpal bones forming a wrist, a *first dorsal* fin consisting of separate spines *of which the first* is usu. elongated and provided *with* a membranous flap that projects forward over *the mouth* and functions as a bait, that scramble *about among* seaweeds, and that include the frogfishes *and* sargassum fishes — compare ANGLER

an·ten·na·ry \(ˈ)anˈtenərē, -rī\ *adj* : of, *relating* to, or like an antenna : bearing antennae (*the* ~ *segment* of the head of an insect)

antennary gland *n* : GREEN GLAND

antenna switch *n* : LIGHTNING SWITCH

an·ten·na·ta \ˌantəˈnādə\ *n pl, cap* [NL, fr. ML *antenna* + NL *-ata*] *in some classifications* : a primary division of Arthropoda *comprising* the arthropods with antennae or *less broadly* the true insects and the myriapods

an·ten·nate \(ˈ)anˈtenˌāt, -(ˌ)nət\ *adj* : having antennae

an·ten·ni·fer \anˈtenəfə(r)\ *n* -S [NL, fr. ML *antenna* + NL *-i-* + *-fer*] *zool* : the pivotal process that supports the *base of an antenna* — **an·ten·nif·er·ous** \ˌan-ˌtenəˈnif(ə)rəs\ *adj*

an·ten·ni·form \anˈtenəˌfȯrm\ *adj* : shaped like antenna

an·ten·nu·la \anˈtenyələ\ *n, pl* **antennu·lae** \-ˌlē, -ī\ [NL, dim. of ML *antenna*] : ANTENNULE

an·ten·nu·lar \(ˈ)anˈtenyələ(r)\ *or* **an·ten·nu·lary** \-ˌlerē\ *adj* : *of*, relating, to, or bearing *antennules*

an·ten·nule \anˈte(ˌ)nyül\ *n* -S [F, *dim*, of *antenna* antenna, fr. ML *antenna* — more *at* ANTENNA] : a small antenna or similar appendage; *specif* : one of the anterior pair of *antennae of crustaceans*

an·te·num·ber \ˈantēˌ-, -tə-\ *n* [*ante-* + *number*] : a number immediately preceding *another*

an·te·nup·tial \ˌ=ˈ=\ *adj* [*ante-* + *nuptial*] : preceding marriage (*an* ~ contract)

an·te·o·per·cu·lum \ˌantēəˈpərkyələm\ *also* **an·te·o·per·cle** \-ˈpərkəl\ *n, pl* **anteopercu·la** \-lə\ *or* **anteopercula** *also* **anteopercles** [NL *anteopercutum*, fr. *ante-* + *operculum*] : PREOPERCLE

an·te·or·bit·al \ˌ=ˈ=\ *adj* [*ante-* + *orbital*] *anat* : situated in front of the eye or orbit

ante over *sometimes cap A, var of* ANTONY OVER

an·te·pag·ments \ˌantēˈpagmənts, -tə-\ *or* **an·te·pag·men·ta** \-ˌpagˈmentə\ *n pl* [L *antepagmenta*, pl. of *antepagmentum*, fr. *ante-* + *pag-* (stem of *pangere to make* fast) + *-mentum* -ment — more at FANG] : trimmings added to a building esp. on the jambs of a *door*; *also* : a jamb so trimmed

an·te·pal·a·tal \ˌ=ˈ=\ *adj* [*ante-* + *palatal*] : articulated *against* the front half of the palate as a *whole* : articulated against the hard palate : PALATAL

an·te·par·tum \ˌ=ˈpärdəm\ *adj* [L *ante partum* before birth, fr. *ante* before + *partum*, acc. of *partus* birth, fr. *partus*, past part. of *parere* to bear offspring — more at ANTE-, PARE] : relating to the period before parturition : *before* childbirth (~ infection)

an·te·past \ˈantəˌpast, -tē-\ *n* -S [*ante-* + *-past* (as in *repast*)] *archaic* : FORETASTE; *specif* : a first course to whet the appetite

an·te·pen·di·um *also* **an·ti·pen·di·um** \ˌantəˈpendēəm, ˌantē-\ *n, pl* **antependiums** *or* **antependia** *also* **antipendia** \-dēə\ [ML *antependium*, fr. (assumed) *antependere* to hang in front, fr. L *ante-* + *pendēre* to hang — more at PENDANT] : a *hanging* for the front of an altar, pulpit, or *lectern*

an·te·pe·nult \ˌ=ˈ=\ *also* **an·te·pe·nul·ti·ma** \ˌ=ˈ=\ *n* -S [LL *antepaenultima*, fem. of *antepaenultimus* preceding the next to last, *fr. L ante-* + *paenultimus* next to last — *more at* PENULTIMATE] : the third syllable of a word *counting* from the end : the syllable preceding the *next-to-last* syllable (as *cu* in *accumulate*)

¹an·te·pe·nul·ti·mate \ˌ=ˈ=\ *adj* [*ante-* + *penultimate (after LL antepaenultimus)*] **1** : of or relating to an antepenult **2** : coming before the next to last in any series

²antepenultimate \ˌ=ˈ=\ *n* -S : something that is antepenultimate; *specif* : an *antepenultimate* syllable

ant·ep·i·rrhe·ma \(ˌ)antˌepəˈrēmə\ *n* [Gk *antepirrhēma*, fr. *anti-* \anti- + *epirrhēma* — more at EPIRRHEMA] : a continuation of an epirrhema following *an antistrophe*

anteport *n* [alter. (influenced by *ante-*) of earlier *antiport*, fr. It *antiporta*, *fr. anti-* \anti- (fr. L) + *porta* gate, fr. L — *more at* PORT (gate)] *obs* : an outer port, gate, *or door*

an·te·po·si·tion \ˌantēˌ(ˌ)-, -tē-\ *n* [*fr. L antiponere* to place before, after such *pairs as L. ponere* to place: B *position* — more at POSITION] : the placing of one word or word *group* before *another* or esp. before one which by usual *usage* would *precede* it (as in *fiddlers three*)

an·te·post \ˈantēˌpōst\ *adj* [*ante-* + *post*] *Brit, of a horse-racing bet* : made *before the* racers' numbers are posted

an·te·predicament \ˌ=ˈ=\ *n* [*ante-* + *predicament*] : a prerequisite to a clear understanding of *philosophical* predicaments or categories (as the *definition* of equivocal, univocal, and denominative terms) — **an·te·predicamental** \ˌ=ˈ=\ *adj*

an·te rem \ˌantēˈrem, ˌän-\ or **ante res** \-ˈrās\ *adv* [*ML, lit., before the thing*] : prior in reality or existence to particulars (philosophical disputes over the *proposition* that universals exist *ante rem*) — see AVICENNISM

an·te·rev·o·lu·tion·ary \ˌantēˌ=ˌ=ˈ=\ *adj* [*ante-* + *revolutionary*] : of or relating to the time before a *revolution* (as the American Revolution)

ant·er·gic \(ˈ)anˈtərjik\ *adj* [*anti-* + *-ergic* (as in *synergic*)] *of muscles* : ANTAGONISTIC — **ant·er·gism** \ˈantərˌjizəm, anˈtər-\ *n* -S

an·te·ri·ad \anˈtirēˌad\ *adv* [*anterior* + *-ad*] : toward the anterior part of the body

an·te·ri·or \(ˈ)anˈtirēə(r), -tir-, (ˈ)aan-\ *adj* [L, comp. of *ante* before — *more* at ANTE-] **1 a** : situated toward *the front* : *before* in place — opposed to *posterior* **b** : relating to or situated near or toward the head or *in* headless animals the end most nearly corresponding *to* bot : ABAXIAL, INFERIOR **2 a** : before in *time* : ANTECEDENT **b** : logically prior or antecedent **3** *anat* : VENTRAL — used in ref. to man because of his upright position — **an·te·ri·or·ly** *adv*

anterior crural nerve *n* : FEMORAL NERVE

anterior horn *n* **1** : *either* of the ventral gray columns of the spinal cord **2** : the cornu of the lateral ventricle *that curves outward* and forward

anterior inferior spine *n* : the forward lower projection of the iliac crest

an·te·ri·or·i·ty \(ˌ)anˌtirēˈȯrədē\ *n* -ES [prob. fr. F *antériorité*, fr. ML *anteriorita-*, *anteriortias*, fr. L *anterior* + *-itas*, *-tias* -ity] : the quality or *state of* being anterior : PRIORITY

anterior lingual gland *n* : any of the nonserous or mixed glands near the *tip* of the tongue secreting mucus

anterior nasal spine *n* : the nasal spine *formed* by the union of processes of the two premaxillaries and projecting upward between the anterior *nares*

anterior superior spine *n* : the forward upper *projection of the iliac* crest

anterior tibial nerve *n* : PERONEAL NERVE

antero- *comb form* [NL, fr. L *anterior*] : anterior (*anteroparietal*) : *anterior and* (*anterolateral*) : from front to (*anteroposterior*)

an·ter·o·grade \ˈantəˌ(ˌ)rōˌgrā, -ˌrə-\ *adj* [*antero-* + *grade*] : effective for a period immediately following a shock or seizure; *sometimes* : effective for and in effect during the period *from* the time of seizure to the present — used esp. of *amnesia*

an·te·room \ˈantēˌ-, -tə-, ˈaan-\ *n* [*ante-* + room] **1** : a room placed before or *forming* an entrance to another and *often* used as a *waiting* room **2** *Brit* : a sitting room in *an officers' mess*

¹an·tes \ˈanˌtēz\ *n pl* : ANTAE

²antes *pl of* ANTE, *pres 3d sing of* ANTE

an·te·script \ˈantēˌskript\ *n* -S [*ante-* + *-script* (as in *postscript*)] : a passage (as a note affixed to a *lection*) written before or above — opposed to *postscript*

an·te·ster·num \ˌ=ˈ=\ *n, pl* **antesterna** [NL, fr. *ante-* + *sternum*] : the median underpart of an insect's prothorax

an·te·tem·ple \ˌ=ˈ=\ *n* [*ante-* + *temple*] : NARTHEX

an·te·type \ˈ=ˌ=\ *n* [*ante-* + *type*] : an *earlier* type : PROTOTYPE

an·te·ver·sion \ˌ=ˈ=\ *n* -S [*ante-* + *version* (condition of the uterus)] : a condition of being anteverted — used *esp. of* the *uterus*

an·te·vert \ˈantəˌvərt, ˌ=ˈ=\ *vt* **-ED/-ING/-S** [L *antevertere*, *anteverti* to come *before*, prevent, prefer, fr. *ante-* + *vertere* to turn — *more* at WORTH] : to displace (a body organ) so *that* the whole axis is directed farther forward *than* normal

an·te·vo·cal·ic \ˌ=ˌ(ˌ)=ˈ=\ *adj* [*ante-* + *vocalic*] : immediately preceding a vowel : PREVOCALIC

¹anth- *or* **antho-** *comb form* [L *anth-*, fr. Gk *anth-*, *antho-*, fr. *anthos* — more at ANTHOLOGY] **1** : flower (*anthecology*) (*anthocyanin*) **2** : flowerlike (*Anthozoa*)

²anth- — see ¹ANTI-

anth *abbr anthology*

ant heap *n* : ANTHILL

ant·he·li·on \(ˈ)anˈthēlyən, (ˈ)an(ˌ)thē-, -ēən\ *n, pl* **anthe·lia** \-yə, -ēə\ *or* **anthelions** [Gk *anthélion*, fr. neut. of *anthélios*, alter. of *antíllios* opposite the sun, fr. *anti-* \anti- + *hēlios sun* — more at SOLAR] : the brightish white halolike spot appearing occas. on the parhelic circle opposite the sun — called also *antisun*, *countersun*

anthelix *var of* ANTIHELIX

Exhibit 1

Web

Related phrases: parabolic antenna antenna gain dish antenna omnidirectional antenna dipole antenna directional antenna antenna pattern whip antenna yagi antenna patch antenna

Definitions of **Antenna** on the Web:

- device which radiates and/or receives radio signals.
  www.notepage.net/wireless-messaging-glossary.htm

- (antennae, pl.): A pair of segmented appendages located on the head above the mouth parts; usually sensory in function. (Fig. 1)
  www.sdvc.uwyo.edu/grasshopper/ghnmglos.htm

- A conductor or system of conductors for radiating and/or receiving radio energy. Also called aerial.
  www.novalynx.com/glossary.html

- An antenna (plural antennae) is a conductor that can transmit or receive radio waves. Radio telescopes are antennae (or a series of antennae). ANTIMATTER Antimatter is matter that is composed of the counterparts of ordinary matter. For example, positrons are the antimatter counterpart of electrons; positrons have a positive charge instead of a negative charge. The existence of an antimatter version of the electron was predicted by Paul Dirac in 1930. ...
  www.allaboutspace.com/subjects/astronomy/glossary/

- The vertical rods (normally white and red) mounted near the edges of the net. The antennas are mounted directly above the sidelines and are not-in-play. Antennas are not usually used on outdoor nets.
  www.volleyball.com/learn_the_terms.shtml

- A device for transmitting and receiving radio waves. Depending on their use and operating frequency, antennas can take the form of a single piece of wire, a di-pole a grid such as a yagi array, a horn, a helix, a sophisticated parabolic-shaped dish, or a phase array of active electronic elements of virtually any flat or convoluted surface.
  www.spidersat.net/glossary/glossary_a.htm

- An antenna is a device used for transmitting, sending and receiving radio signals.
  www.glossary-of-terms.net/glossary-cell-phone-terms-definitions.html

- RFID system component that radiates the radio frequency energy to and receives energy from the tag or transponder.
  pffc-online.com/tapes/rfid_glossary_0305/

- A device used for radiating or receiving electromagnetic waves (especially microwaves and radio waves).
  www.spaceforspecies.ca/glossary/a.htm

- Equipment that sends and/or receives signals from a satellite.
  www.novastars.com/vsat/vsat-glossary%20.htm

Exhibit 2

- One of a pair of "feelers"on an insect's head. (plural: antennae)
  www.thetech.org/exhibits/online/robotzoo/guide/glossary.html

- A conductive physical device designed to radiate RF energy from a transmitter, or to capture RF energy for application to a receiver.
  www.kareoke.com/glossary/microphone_glossary_of_terms.htm

- A device for transmitting or receiving signals. The size and shape of antennas are determined primarily by the frequency of the signal they are designed to receive. A high gain antenna is highly focused, whereas a low gain antenna receives or transmits over a wide angle.
  www.acmehowto.com/howto/hometheater/glossary/glossarya.php

- A structure or device used to receive or transmit electromagnetic waves.
  www.bcapa.com/about/glossary.php

- A conductor by which electromagnetic waves are transmitted or received.
  www.psrd.hawaii.edu/PSRDglossary.html

- An antenna is a device that transmits and/or receives electromagnetic waves. Electromagnetic waves are often referred to as radio waves. Most antennas are resonant devices, which operate efficiently over a relatively narrow frequency band. An antenna must be tuned to the same frequency band that the radio system to which it is connected operates in, otherwise reception and/or transmission will be impaired.
  radioproshop.com/antennaconcepts.htm

- An array of metal rods or wires used to intercept radio waves and convert them into electrical currents. An antenna is a specialised transducer that converts radio frequency fields into alternating current or vice-versa. ...
  www.voiceanddata.com.au/vd/admin/glossary.asp

- A device for transmitting and/or receiving electromagnetic waves, which is attached to a tower or other structure.
  www.vapda.org/bylaw/gloss.htm

- Device used to couple electromagnetic energy into the ground. Sometimes called a transducer
  www.sensoft.ca/services/glossary.html

- (more than one = antennae) Main sense organ on insects, crustaceans, and some other animals. Antennae are used to collect information from the environment, including the location of food sources and possible dangers.
  www.fcps.k12.va.us/StratfordLandingES/Ecology/mpages/glossary.htm

- A transmitter has an antenna which is either a whip or a loop. A whip antenna should be as long as possible to give the maximum range, without interfering with the animal´s behaviour. In most applications, antennae are 150mm to 300mm long. Sometimes a loop antenna is more practical, but it reduces the range by 30-40% and is directional. The loop can be enclosed within the package eg for implantation, or it can form the collar for attaching to the animal.
  www.sirtrack.com/glossary.asp

- type of antenna with strainght elements
  fwie.fw.vt.edu/tws-gis/glossary.htm

- [ann-TEN-ah] a pair of jointed appendages located on the head of an insect above the mouthparts, which are used for feeling (touching), smelling, and hearing.
  members.aol.com/YESedu/glossary.html

- A metallic rod or wire for sending and receiving radio waves or microwaves
  www.mmfai.org/public/glossary.cfm

- A device used to send or receive electromagnetic radiation. An antenna is said to be omnidirectional if it does not radiate in any particular direction, at least on one plane.
  www.swisscom-mobile.ch/scm/wir_glossar-en.aspx

- an electrical device that sends or receives radio or television signals
- sensitivity similar to that of a receptor organ; "he had a special antenna for public relations"
- one of a pair of mobile appendages on the head of e.g. insects and crustaceans; typically sensitive to touch and taste
  wordnet.princeton.edu/perl/webwn

- Antenna is the eleventh studio album by American blues-rock band ZZ Top, released in 1994 (see 1994 in music).
  en.wikipedia.org/wiki/Antenna_(album)

- Antennae (singular antenna), are the paired appendages connecting to the first (and in crustaceans also to the second) segment of the head of the members of all subphyla of the arthropods except Chelicerata. Also the members of the order protura lack them.
  en.wikipedia.org/wiki/Antenna_(biology)

- Most simply, an antenna (U.S.) or aerial (UK) is an electronic component designed to transmit or receive radio waves. The words "antenna" and "aerial" are used throughout this article with precisely the same meaning.
  en.wikipedia.org/wiki/Antenna_(radio)

Find definitions of **Antenna** in: **English** Italian Portuguese all languages

define:Antenna Search

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Maryland Department of Assessments and Taxation
BALTIMORE COUNTY
Real Property Data Search

Go Back
View Map
New Search
Ground Rent

Account Identifier: **District -** 10 **Account Number -** 1700001183

Owner Information

Owner Name:	GOVERNALE BENJAMIN A GOVERNALE KAYREN P	**Use:**	RESIDENTIAL
		Principal Residence:	YES
Mailing Address:	39 GLENBROOK DR PHOENIX MD 21131	**Deed Reference:**	1) / 5573/ 483 2)

Location & Structure Information

Premises Address
39 GLENBROOK DR

Legal Description
2.199 AC WS GLENBROO
3711 NE JARRETTSVILLE RO
BLENVIEW

Map	Grid	Parcel	Sub District	Subdivision	Section	Block	Lot	Assessment Area	Plat No:
43	18	130					13	2	Plat Ref: 38/ 20

Special Tax Areas **Town** **Ad Valorem** **Tax Class**

Primary Structure Built	Enclosed Area	Property Land Area	County Use
1976	2,492 SF	2.19 AC	04

Stories	Basement	Type	Exterior
2	YES	STANDARD UNIT	1/2 BRICK FRAME

Value Information

	Base Value	Value As Of 01/01/2005	Phase-in Assessments As Of 07/01/2005	As Of 07/01/2006
Land:	78,330	167,850		
Improvements:	208,260	228,070		
Total:	286,590	395,920	323,033	359,476
Preferential Land:	0	0	0	0

Transfer Information

Seller:	BLENHEIM INCORPO RATED	**Date:**	10/08/1975	**Price:**	$20,500
Type:	IMPROVED ARMS-LENGTH	**Deed1:**	/ 5573/ 483	**Deed2:**	
Seller:		**Date:**		**Price:**	
Type:		**Deed1:**		**Deed2:**	
Seller:		**Date:**		**Price:**	
Type:		**Deed1:**		**Deed2:**	

Exemption Information

Exhibit 3

Partial Exempt Assessments	Class	07/01/2005	07/01/2006
County	000	0	0
State	000	0	0
Municipal	000	0	0

Tax Exempt: NO

Exempt Class:

Special Tax Recapture:

* NONE *

Maryland Department of Assessments and Taxation
BALTIMORE COUNTY
Real Property Data Search

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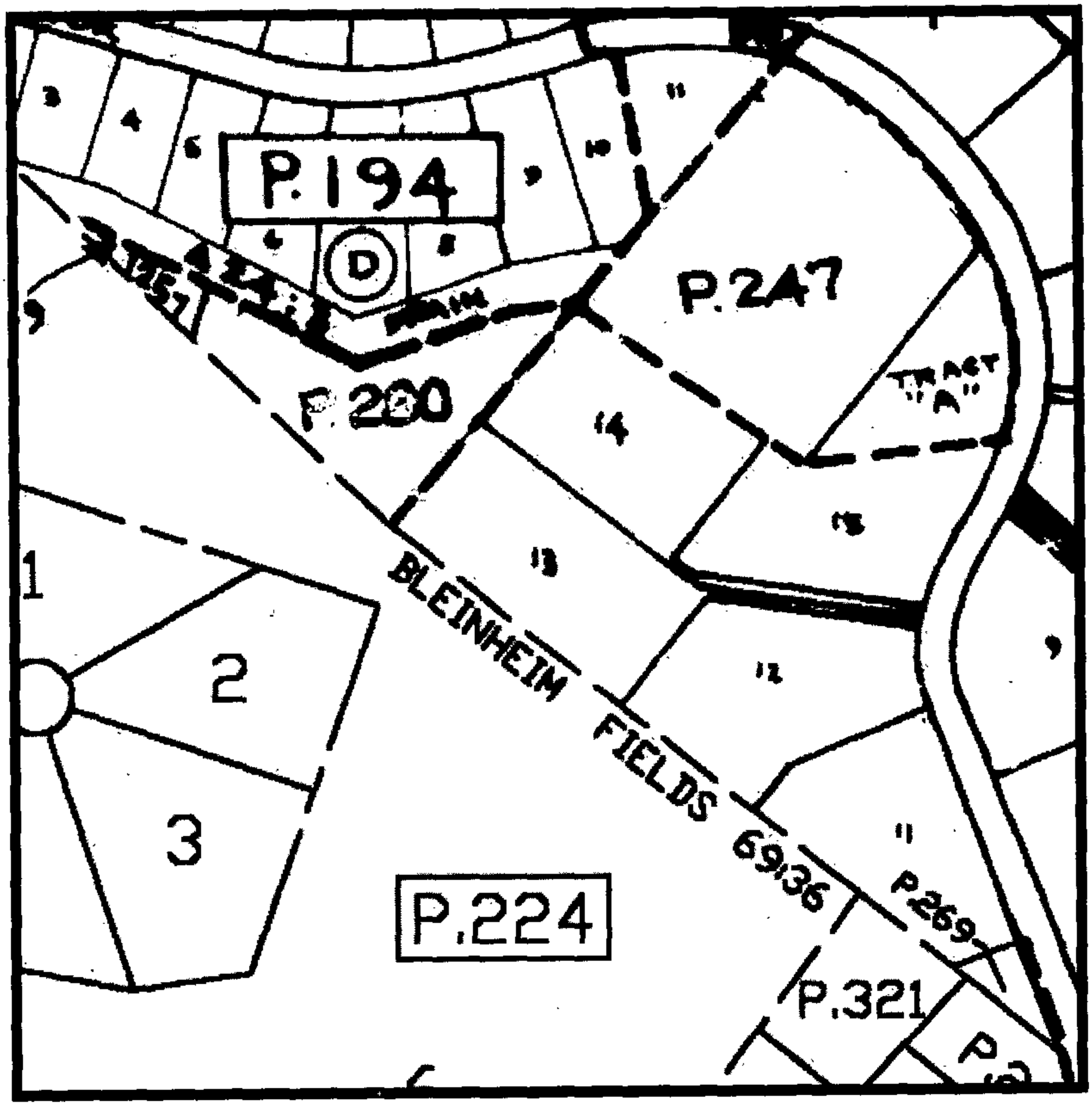
District - 10**Account Number** - 1700001183



IN THE MATTER OF THE APPLICATION OF BACK RIVER LLC, BUCK JONES. PRESIDENT - LEGAL OWNER; SPRINT PCS – C.P. - PETITIONERS FOR VARIANCE ON PROPERTY LOCATED ON THE SW/S BACK RIVER NECK ROAD, 330' SE OF POTTERY FARM RD (810 BACK RIVER NECK RD) 15TH ELECTION DISTRICT 5TH COUNCILMANIC DISTRICT	* BEFORE THE * COUNTY BOARD OF APPEALS * OF * BALTIMORE COUNTY * CASE NO. 02-159-A	

* * * * * * * * * *

OPINION

This matter is before the Board on an appeal from a decision of the Zoning Commissioner in which the Commissioner granted variances from various setback requirements to accommodate the construction of a 115-foot tall wireless communications tower. The Petition was filed by the Property Owner, Back River LLC, by Buck Jones, President, and the Contract Lessee, Sprint PCS, by Howard Leger, through their attorney. An appeal was filed by the Office of People's Counsel on January 14, 2002. The Back River Peninsula Community Association, Inc., also filed its appeal on January 31, 2002.

A hearing was held on September 25, 2002 and January 21, 2003. The Petitioner was represented by G. Scott Barhight, Esquire, and Jennifer S. Busse, Esquire, of the law firm of Whiteford, Taylor & Preston. The Protestants /Appellants were not represented by counsel. People's Counsel, Peter Max Zimmerman, participated on behalf of the Office of People's Counsel. Public deliberation was held on March 20, 2003.

Facts

Back River Neck LLC is the owner of 4.3 acres zoned M.L. (manufacturing light) at the northern gateway to the Back River Peninsula. Mr. Buck Jones, the builder and owner of the company, purchased the site in early 1999. It is currently improved with two buildings that house Mr. Jones' contracting business and approximately seven other commercial operations. It also has a parking lot which accommodates these uses.

Exhibit 4

Before the Zoning Commissioner, Petitioners initially sought relief from § 426.6A.3 of the *Baltimore County Zoning Regulations* (BCZR) to permit setbacks of 75 feet from the south and west property lines and 148 feet from the north property line in lieu of the required 200 feet each. In addition, the Petitioners sought relief from § 426.6A.4 to permit setbacks of 40 feet each to the south and west property lines in lieu of the required 120 feet each for proposed equipment cabinets to support the proposed tower.

On May 7, 2002, subsequent to the decision of the Zoning Commissioner, Mr. Keith Kelly of the Baltimore County Department of Environmental Protection & Resource Management (DEPRM), issued a letter to the property's owner, Mr. Jones, informing him that the tower's proposed location would have to be revised due to the location of an existing stream. The additional setback requirements were not identified by DEPRM in the Zoning Advisory Committee Comments as part of the Zoning Commissioner's case. In accordance with DEPRM's request, Petitioners revised the site plan to relocate the tower 60 feet in an easterly direction. This was approved by a letter dated August 29, 2002 from Joseph C. Merry of the Baltimore County Department of Permits & Development Management when he issued a zoning verification letter. Petitioners then erected a 120-foot high wireless communication tower on the subject property.

The variances sought before the Board are as follows:

1. A variance from BCZR § 426.6A.1 to:

   a. Allow a setback of 75 feet at the southern property line (a side setback) in lieu of the required 200 feet for a wireless telecommunications tower.

   b. Allow a setback of 135 feet to the western property line (the rear setback) in lieu of the required 200 feet for a wireless telecommunications tower.

   c. Allow a setback of 148 feet to the northern property line (a side setback) in lieu of the required

200 feet for a wireless telecommunications tower.

2. A variance from BCZR § 426.6A.2 to:

a. Allow a setback of 40 feet to the southern property line in lieu of the required 125 feet for equipment cabinets for a wireless telecommunications tower.

Petitioners contended that the setbacks for the equipment cabinets were not legally necessary since they did not qualify as "structures." They were approximately 5 feet in height and ranged from 22 inches to 30 inches in width and depth. They could not be entered by a person, and technicians simply opened the panels in order to work on the equipment.

In support of its case, Petitioners submitted the testimony of William Bafitis, the representative from the Holly Neck Conservation Association which had voted unanimously to support the Petition, since the Association felt there was a need for telecommunications in the area. They reasoned that it was a matter of safety since it was difficult at times, during emergency situations, for regular telephone communications to be operative, and the telecommunications in the area at the present time were not very good due to lack of a strong signal. The tower would remedy that situation. Additionally, the Petitioners submitted a Memorandum from the County Planning Office indicating that the site in question would be an excellent location for a wireless telecommunications tower due to its size and tree growth on the property.

Petitioners also submitted the testimony of Peter Fastnacht, President of Integrated Wireless Alliance, who was accepted as an expert in wireless site acquisition, and Hassan Khalil, an expert in wireless solutions in the field of radio frequency engineering. The testimony indicated that, based upon complaints received from customers and related studies of Sprint's coverage in the area, Sprint generated a search ring outlining the area in which Sprint needed to locate a wireless telecommunications facility to improve its service by increasing its network coverage. The search ring shown on Petitioner's Exhibit

3 was an oval-shaped area that was bounded by Turkey Point Road to the north and Cherry Garden Road to the south, with Back River Neck Road running in a north/south direction through the middle. The area encompassed by the search ring extended approximately one mile north to south and approximately ¼ mile east and west of Back River Neck Road. The testimony indicated that Sprint has researched whether its need for coverage could be satisfied by locating the antennas on any existing towers or buildings or any other existing structure. The answer to this question was "no." Sprint next looked for a piece of property in a medium or high-intensity zone where such a tower could be located as a matter of right. The subject property appeared to fill all of the requirements. The tower at 810 Back River Neck Road is on currently on property zoned M.L. Sprint reviewed three other properties in the area that were zoned medium to high-intensity and theoretically could accommodate the tower as a matter of right, but the subject property appeared to be the most appropriate location.

People's Counsel presented Jack Dillon, an expert in planning and zoning, who testified that he had reviewed cases involving wireless communication towers and looked at 15 to 20 sites in the Baltimore Metropolitan Area. Mr. Dillon testified that he could see nothing unique about the subject property. He stated that it was zoned M.L. because, in the past, a cement plant had been located on the property. Mr. Dillon admitted that there were three other properties in the area that were zoned M.L., but they would probably all require variances in order to have the tower built upon the property. Mr. Dillon felt that the property was located at the entrance to the Back River Neck Peninsula and Back River Neck Road was a scenic area as set forth in the Master Plan of Baltimore County. Mr. Dillon, and the citizens who opposed the construction of the tower at the present site, discussed other sites in the immediate area that would be more suitable for the location of the tower, such as Chesapeake High School property, Baltimore Recreation Park across Back River Neck Road, and some other large wooded parcels. There was a suggestion that some of the properties where the tower could be located might require special

exception relief but that might be more practical and within the spirit and intent of the law than the location of the tower at the present site.

Decision

The Baltimore County Council, in enacting the zoning regulations with respect to the erection of wireless telecommunications towers, has stated that any variances that were necessary to locate the towers on a property should be presented in accordance with § 307 of the BCZR. BCZR 307.1 states that the Board of Appeals may grant variances:

> ...only in cases where special circumstances or conditions exist that are peculiar to the land or structure which is the subject of the variance request and where strict compliance with the zoning regulations of Baltimore County would result in practical difficulty or unreasonable hardship.

This section of the zoning law has been interpreted in many cases, the most prominent case being *Cromwell v. Ward*, 102 Md. App. 691, 651 A.2d 424 (1995). The Court established a standard which requires that an individual seeking a variance prove:

1. That the land or structure is "unique";
2. That the uniqueness results in practical difficulty;
3. That there is true practical difficulty; and
4. That the practical difficulty is not self-created.

The Court also states:

> "Uniqueness" of a property for zoning purposes requires that the subject property has an inherent characteristic not shared by other properties in the area, i.e., its shape, topography, subsurface condition, environmental factors, historical significance, access or non-access to navigable waters, practical restrictions imposed by abutting properties (such as obstructions) or other similar restrictions.. In respect to structures, it would relate to such characteristics as unusual architectural aspects and bearing or party walls.

If the property cannot be demonstrated to be unique within the meaning of *Cromwell v. Ward*, the Board need not go any further with respect to the practical difficulty or unreasonable hardship.

As to the uniqueness of this particular property, the property is rectangular and flat; there is no unique subsurface conditions, historical significance, or environmental factors to take into consideration. There is no access or non-access to navigable waters and there are no obstructions or abutting properties. The fact that there are trees on the property does not make it unique, since there are numerous properties in the area that possess trees. While this may be the only M.L. property within the "search ring" established by Sprint, this does not make the property unique. The search ring is an artificial area established by Sprint and does not necessarily indicate that there are not other properties in the area where a tower could be located through the granting of a special exception. The fact that a piece of property is zoned M.L. and therefore would allow a tower to be erected on that property as a matter of right does not make the property "unique." *Umerley v. People's Counsel*, 108 Md. App. 497 (1996).

Finally, the Board considers that there is no violation of the Federal Telecommunications Act of 1996 by the denial of the variance in the instant case. While the Telecommunications Act may restrict local jurisdictions from denying wireless telecommunications carriers' permit applications where the effect is a prohibition of the provision of personal wireless services, the Board does not consider that that is the case before us. The Board is not denying Sprint the right to erect a telecommunications tower in the Holly Neck area. It is only saying that there may be a more appropriate piece of property where the tower could be erected and not require the variances that would be necessary on the instant property.

ORDER

THEREFORE, IT IS THIS 14th day of May, 2003 by the County Board of Appeals of Baltimore County

ORDERED that Petitioners' request for a variance from BCZR § 426.6A.1 to allow a setback of 75 feet at the southern property line (a side setback) in lieu of the required 200 feet, a setback of 135 feet to the western property line (the rear setback) in lieu of the required 200 feet, and a setback of 148 feet to

the northern property line (a side setback) in lieu of the required 200 feet for a wireless telecommunications tower and a variance from BCZR § 426.6A.2 to allow a setback of 40 feet to the southern property line in lieu of the required 125 feet for equipment cabinets for a wireless telecommunications tower be and the same is hereby **DENIED**.

Any petition for judicial review from this decision must be made in accordance with Rule 7-201 through Rule 7-210 of the *Maryland Rules*.

COUNTY BOARD OF APPEALS
OF BALTIMORE COUNTY

C. Lynn Barranger, Panel Chair

Lawrence S. Wescott

Melissa Moyer Adams

UNREPORTED

IN THE COURT OF SPECIAL APPEALS

OF MARYLAND

No. 0047

September Term, 2004

SPRINT PCS, ET AL.

v.

BALTIMORE COUNTY, MARYLAND

Eyler, James R.,
Adkins,
Barbera,

JJ.

Opinion by Adkins, J.

Filed: August 3, 2005

Exhibit 5

3C03005849

Sprint PCS and Back River, LLC,[1] appellants, petitioned Baltimore County zoning authorities for setback variances so that they could build a wireless telecommunications tower. The Baltimore County Zoning Commissioner granted the variances on the ground that the subject property is "unique" in that the setback requirements for such a tower preclude this permitted use of the property due to the narrow width of the property. On de novo appeal, however, the Baltimore County Board of Zoning Appeals (the Board) denied the variances on the ground that the property is not unique. The Board's decision was affirmed by the Circuit Court For Baltimore County. Sprint asks us to overturn the circuit court's affirmance of the Board's decision.

FACTS AND LEGAL PROCEEDINGS

Back River LLC owns the subject property, which is a 4.31 acre parcel located at 810 Back River Neck Road on the Back River Peninsula in eastern Baltimore County, near the intersection of Pottery Farm Road. The parcel has a long rectangular shape. Its width, the frontage on Back River Neck Road, is 223 feet. Its length is approximately 850 feet on the northern boundary and 763 feet along the southern.

The property is designated by the Baltimore County Master Plan 2010 as a "gateway" to the peninsula. It is zoned Manufacturing Light (ML) and has been the site of commercial uses for more than

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[1]Back River LLC owns the subject property, and leases a portion of it to Sprint PCS. For convenience, we shall refer to both appellants collectively as Sprint.

60 years. There are currently two one-story commercial buildings, one of which is a strip business center housing the owner's construction business, a dry cleaner, landscaper, beauty salon, and carpet store. The other building is a storage facility.

These buildings, along with a macadam parking lot, are located in the "front" half of the parcel nearest the road. Across the street is a medic station and a former elementary school that has most recently been used as a community center. Along the northern boundary in that portion of the lot is a private drive serving three residential properties with existing dwellings. The "rear" part of the parcel is not developed, except that a large part of it is graveled so that it can be used for storage of construction vehicles, boats, etc. This portion of the property is bordered on the north by three vacant and wooded lots, all of which are zoned Rural Conservation 20 (RC20). The southern boundary is bordered by RC20 property on which there is a residence.

Sprint seeks to improve network coverage for its cellular services, due to customer complaints and company studies suggesting that Sprint's service is unreliable in this area. Studies showed that, in order to bridge the gaps in network service, Sprint would have to add wireless facilities within a "search ring" determined by its radio frequency engineers. This search ring measures approximately one mile north to south and 1/4 mile east to west along Back River Neck Road.

Sprint proposed to build a monopole and related equipment cabinets in the rear of the property, farthest from the road. Sprint identified this as the most suitable location within the search ring because it has a medium or high intensity zoning classification that allows a wireless telecommunications tower as a matter of right, and the depth of the property allows the monopole to be located far from the road in an area with surrounding tree cover.[2]

Sprint's plan was consistent with that of Baltimore County's Community Planner for the Fifth District, whose 1998 study identified this site as

> an excellent location for a wireless communication tower. It is deep enough to minimize the visibility of the tower from the road. Existing tree growth would buffer much of the tower from the view of the residential dwellings that are located northwest from the anticipated tower location.

Sprint contracted to lease this portion of the parcel from Back River LLC, then proceeded to obtain administrative approvals from various county agencies and authorities with jurisdiction over the proposed monopole. Pursuant to Baltimore County Zoning Regulation (BCZR) section 426, the company obtained a favorable

---

[2]Under BCZR section 426.2, Baltimore County zoning policy favors placement of new antennas "on existing towers, buildings and structures, including those of public utilities, where feasible." "If a new tower must be built," however, it should accommodate "at least three providers," be located "in a medium- or high-intensity commercial zone when available," and be "designed to minimize its visibility from residential and transitional zones." *Id.*

recommendation from the Baltimore County Tower Review Committee (TRC), whose members represent the Office of Planning, the Office of Budget and Finance, and the community. The TRC concluded that Sprint "provided ample documentation that the 115-foot monopole . . . is indeed required for the network." It recommended that the construction be approved if Sprint agreed that two other carriers could also use the tower and appropriate landscaping was installed as a buffer for the tower and equipment cabinets.

On May 14, 2001, the Baltimore County Development Review Committee (DRC), "which is composed of each of those departments involved in land-use decisions[,]" issued an administrative order finding the proposed facility "meets the requirements of a limited exemption under Section 26-171(A)(7)" of the Baltimore County Code. The DRC authorized Sprint to "proceed with building permit application."

With these in hand, Sprint petitioned for setback variances on October 19, 2001. In support of its application, Sprint asserted that the shape of the parcel and its location in the midst of surrounding vegetation distinguishes this parcel from other properties in the area. Sprint presented evidence that one of the other parcels is zoned Business Light and is located immediately northeast of this site, approximately 165 feet deep and 221 feet wide. Another parcel is zoned ML and located on the east side of Back River Neck Road to the south of the subject property, but it

is "probably less than 50 feet wide along the frontage and extends about 500 feet deep," widening out to 260 feet in the back. A third property is zoned BL and is approximately 200 feet wide and 200 feet deep. Thus, construction of a wireless communications tower on any of these alternative sites would also require variances. And the subject property is the deepest and widest of the four.

After a public hearing, the Baltimore County Zoning Commissioner granted the variances on January 4, 2002. The Commissioner noted that the neighbors along the northern boundary of the property submitted letters supporting the proposal, while a representative of the Back River Neck Peninsula Community Association opposed the project. He cited evidence that there were no existing towers or tall buildings that could accommodate Sprint's need, as well as the approvals and recommendations by the TRC and the Office of Planning. Considering the two prongs of the applicable test for an area variance, the Zoning Commissioner specifically found that "the narrowness of the lot" makes it "unique" and prevents satisfaction of the setback requirements for wireless telecommunications towers and related equipment.

Sprint then applied for a building permit application based on the Zoning Commissioner's decision. While that application was pending, the Baltimore County Department of Environmental Protection and Resource Management (DEPRM) completed an

environmental impact review. DEPRM advised that the proposed facility would have to be moved due to Chesapeake Bay Critical Area setback requirements from an existing stream. Sprint revised the site plan to relocate the facility 60 feet to the east. As revised, Sprint's variance needs are as follows:

- A variance from BCZR § 426.6.A.1 to allow a side setback of 75 feet from the southern property line in lieu of the required 200 feet;

- A variance from BCZR § 426.6.A.1 to allow a rear setback of 135 feet from the southern property line in lieu of the required 200 feet;

- A variance from BCZR § 426.6.A.1 to allow a side setback of 148 feet from the northern property line in lieu of the required 200 feet;

- A variance from BCZR § 426.6.A.1 to allow a setback of 40 feet for the related equipment cabinets from the southern property line in lieu of the required 125 feet.[3]

On August 29, 2002, the Baltimore County Department of Permits and Development Management issued a "Zoning Verification" letter stating that, in "the opinion of this Office, . . . moving the subject tower 60 ft. in an easterly direction . . . is within the spirit and intent of the" Zoning Commissioner's order granting the variances. Sprint proceeded to erect a 120 foot high monopole on the property.

The People's Counsel for Baltimore County, however, filed a

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[3]Sprint contends alternatively that no variance is necessary for the equipment cabinets since they are not "structures." The proposed cabinets measure approximately five feet high and 22-30 inches in width and depth.

timely administrative appeal of the Zoning Commissioner's grant of the variances. On May 14, 2003, after a de novo hearing and public deliberation before the Baltimore County Board of Zoning Appeals, the Board overturned the Zoning Commissioner's order and denied the variances. The Board ruled that (1) the property does not have "special circumstances or conditions" that justify variance relief, and (2) the denial of the variances does not violate the Federal Telecommunications Act of 1996, codified at 47 U.S.C. § 332.

Nevertheless, the Board assured Sprint that it was

> not denying Sprint the right to erect a telecommunications tower in the Holly Neck Area. It is only saying that there may be a more appropriate piece of property where the tower could be erected and not require the variances that would be necessary on the instant property.

Sprint petitioned for judicial review of the Board's decision. The Circuit Court for Baltimore County affirmed. Sprint noted this timely appeal and presents five questions, which we restate as two:

> I. Did the Board err in finding that the property is not unique without acknowledging that the narrow width of the parcel prevents this permitted use unless setback variances are granted?
>
> II. Did the Board's decision violate the Telecommunications Act, either because it is not supported by substantial evidence and has the effect of prohibiting wireless telecommunication services?

We answer "no" to both questions, and affirm the judgment of the circuit court.

DISCUSSION

Setbacks And Variances For Wireless Telecommunications Towers

Baltimore County Zoning Regulations (BCZR) establish front, rear, and side setbacks based primarily upon three factors: (1) the use for the subject property, (2) the zoning classification of the subject property, and (3) the zoning classifications of neighboring properties. For ML sites surrounded by residentially zoned properties, the standard rear and side setback is 50 feet. *See* BCZR § 255.1, § 243.2, § 243.3. But a wireless telecommunications tower on such a site must satisfy a greater setback requirement – at least 200 feet from any residential boundary. *See* BCZR 426.6.A.1. And "[a] structure housing equipment for a tower" must be set back 120 feet from "any other owner's property or zone line."

Relief from these setbacks is available via an area variance. Under BCZR section 426.6.11 governing setbacks for wireless telecommunications towers, "[t]he Zoning Commissioner, and Board of Appeals upon appeal, may grant a variance to a[n] . . . area requirement, including any setback[.]" "A variance refers to administrative relief which may be granted from the strict application of a particular development limitation in the zoning ordinance (*i.e.*, setback, area and height limitations, etc.)." *Mayor and Council of Rockville v. Rylyns Enterprises, Inc.*, 372 Md.

514, 537 (2002). A variance authorizes the property owner "to use his property in a manner forbidden'" by applicable zoning restrictions. *See Cromwell v. Ward*, 102 Md. App. 691, 700 (1995). In contrast to special exceptions, which "contemplate a permitted use . . . [once] the prescribed conditions are met[,]'" a variance "contemplates a departure from the terms of the [zoning] ordinance in order to preclude confiscation of the property[.]'" *Id.* at 699-700 (citations omitted).

The test that governs variance requests generally also governs tower variance requests:

> The zoning commissioner of Baltimore County and County Board of Appeals, upon appeal, shall have and they are hereby given the power to grant variances from height and area regulations . . . only in cases **where special circumstances or conditions exist that are peculiar to the land or structure which is the subject of the variance request** and where strict compliance with the Zoning Regulations for Baltimore County would result in practical difficulty or unreasonable hardship. . . . [A]ny such variance shall be granted only if in strict harmony with the spirit and intent of said . . . area . . . regulations, and only in such manner as to grant relief without injury to public health, safety and general welfare. They shall have *no* power to grant other variances. . . .

BCZR § 307.1 (emphasis added); *see* BCZR § 426.11 (area setback for wireless telecommunications tower and related equipment may be granted "in accordance with Section 307").

"The burden of showing facts to justify . . . [a] variance rests upon the applicant[.]" *Easter v. Mayor and City Council of*

Baltimore, 195 Md. 395, 400 (1950). Both the "special circumstances or conditions" requirement, which is typically referred to as the "uniqueness" element, and the "practical difficulty" element of the two-pronged test must be satisfied. "[T]he law in Maryland and in Baltimore County under its charter and ordinance remains as it has always been--a property's peculiar characteristic or unusual circumstances relating only and uniquely to that property must exist in conjunction with the ordinance's more severe impact on specific property because of the property's uniqueness before any consideration will be given to whether practical difficulty or unnecessary hardship exists." *Cromwell*, 102 Md. App. at 721. Here, the Board did not reach a decision regarding practical difficulty because it concluded that Sprint failed to prove uniqueness. Our focus, therefore, is on the Board's factual finding that the property is not unique.

Judicial Review Of The Board's Decision

In reviewing the denial of an area variance request, we examine whether the Board, "as an administrative agency, correctly reached the conclusions required by the Zoning Ordinance for the [denial] of a variance[,]" which means that "we must review the administrative decision itself." *Mastandrea v. North*, 361 Md. 107, 133 (2000); *see also Stansbury v. Jones*, 372 Md. 172, 182 (2002)(standard of appellate review is "the same whether the agency grants or denies" the variance). This means that our role is "to

repeat the task" performed by the circuit court. *See Red Roof Inns, Inc. v. People's Counsel for Baltimore County*, 96 Md. App. 219, 224 (1993).

We may "uphold the decision of the Board only 'on the basis of the agency's reasons and findings." *Umerley v. People's Counsel for Baltimore County*, 108 Md. App. 497, 504, *cert. denied*, 342 Md. 584 (1996). For factual findings, "the correct test . . . is whether the issue before the administrative body is 'fairly debatable,' that is, whether its determination is based upon evidence from which reasonable persons could come to different conclusions." *White v. North*, 356 Md. 31, 44, 50 (1999); *see Stansbury*, 372 Md. at 182. If we find evidence to support the Board's action, we may not substitute our judgment even if the evidence also supports different factual inferences. *See Mastandrea*, 361 Md. at 133.

Consequently, we must decide whether the Board erred in concluding that the parcel has no special circumstances or conditions that make it unique for variance purposes.

Special Circumstances Or Conditions

As we noted above, the "special circumstances or conditions" prong of the variance test is commonly referred to as a "uniqueness" requirement, even though it is not necessary for the applicant to show truly unique circumstances. Uniqueness has a "rather specialized meaning" in zoning law. *See Umerley*, 108 Md.

App. at 506. As Judge Cathell explained when he was a member of this Court,

> **"[u]niqueness" of a property for zoning purposes requires that the subject property have an inherent characteristic not shared by other properties in the area, i.e., its shape,** topography, subsurface condition, environmental factors, historical significance, access or non-access to navigable waters, practical restrictions imposed by abutting properties (such as obstructions) or other similar restrictions. . . .
>
> An example of uniqueness is found in the use variance case of *Frankel v. Mayor and City Council*, 223 Md. 97, 104 (1960), where the Court noted: "[H]e met the burden: the irregularity of the ... lot ... that it was located on a corner of an arterial highway and another street, that it is bounded on two sides ... by parking lots and public ... institutions, that immediately to its south are the row houses...."
>
> In some zoning ordinances, the specialness or uniqueness requirement is more explicitly set out. The Court of Appeals, in *Ad + Soil, Inc. v. County Comm'rs*, 307 Md. 307, 339 (1986), quoted from the Queen Anne's County ordinance:
>
> "**Where by reason of the exceptional narrowness,** shallowness, or unusual shape **of a specific ... property ...,** or by reason of exceptional topographic conditions or other extraordinary situation or special condition of ... property ... **the literal enforcement ... would make it exceptionally difficult ... to comply** ... and would cause unwarranted hardship and injustice...."

The general thrust of the meaning of special features or uniqueness of property for variance purposes relates to the type of uniqueness discussed by the Court in *Ad + Soil, Inc.*

North v. St. Mary's County, 99 Md. App. 502, 514-15, *cert. denied sub nom. Enoch v. North*, 336 Md. 224 (1994)(emphasis added). *See also Lewis v. Dep't of Natural Resources*, 377 Md. 382, 434 (2003)(adopting this standard).

Thus, "the initial and essential first step in the determination of appropriateness of an area variance" is whether "the subject property is so inherently unique that the ordinance's impact thereon would be disproportionate when compared to other lands in the district." *Chester Haven Beach P'ship v. Bd. of Appeals for Queen Anne's County*, 103 Md. App. 324, 338 (1995); *see also Umerley*, 108 Md. App. at 506 ("the zoning authority must determine whether the subject property is unique and unusual in a manner different from the nature of the surrounding properties such that the uniqueness or peculiarity of the property causes the zoning provision to have a disproportionate impact on the property").

The Court of Appeals has recognized that special conditions may exist when "'property, due to unique circumstances applicable to it, cannot reasonably be adopted to use in conformity with the restrictions of the zoning ordinance[.]'" *Salisbury Bd. of Zoning Appeals v. Bounds*, 240 Md. 547, 554 (1965)(citation omitted).

Thus, the fundamental issue in an area variance petition is "whether the property owner . . . is being denied a reasonable use of property" if the variance is denied. *Lewis*, 377 Md. at 419. In such cases, the grant of a variance may be appropriate relief. *See Bounds*, 240 Md. at 554.

Our review of Maryland case law reveals a number of appellate cases addressing uniqueness. In many cases denying a variance on this ground, the petitioner did not satisfy its burden of proof because the unique circumstances were caused by the plight of the property owner rather than by a characteristic of the land itself. *See Cromwell*, 102 Md. App. at 719.

For example, in *Ad + Soil, Inc. v. County Comm'rs*, 307 Md. 307, 339 (1986), the petitioner sought setback variances for four acres it had purchased to develop as a sludge storage and distribution facility, but later learned of local restrictions on where the facility could be situated within the parcel. The setback variances were denied because the lot was large enough to comply fully with the mandatory setbacks simply by relocating the proposed facility on the property. The Court of Appeals agreed with the Queen Anne's County Board of Appeals that the need for the variance did not result from exceptional or extraordinary characteristics of the land itself. *See id.* at 340-41.

Similarly, in *Umerley*, the applicants sought setback variances so that they could continue to operate their trucking facility,

which pre-dated Baltimore County zoning regulations prohibiting such facilities within certain distances of residential zones, wetlands, and a major road. This Court held that the Board of Appeals erred in failing to consider whether the property was unique, but proceeded to determine as a matter of law that there was insufficient evidence to support a finding of uniqueness. *See Umerley*, 108 Md. App. at 506-08. Because neither the long-term violation of the zoning laws, nor the importance of the business to the county and state economy, could be considered "'an inherent characteristic[,]'" there was no evidence from which a uniqueness finding could be made. *See id.* at 508.

In *Evans v. Shore Communications, Inc.*, 112 Md. App. 284 (1998), we affirmed the denial of a height variance necessary to build a wireless telecommunications tower in Talbot County. We specifically rejected the applicant's arguments that the property was unique because it satisfied the technological requirements for wireless service and because it had an elevation that reduced the need for a higher tower on that property or elsewhere. *See id.* at 308.

There are, however, Maryland cases in which courts have acknowledged a showing of uniqueness for purposes of a variance petition. In *Alviani v. Dixon*, 365 Md. 95, 121 (2001), the Court of Appeals affirmed the grant of area variances enabling construction of a automotive service facility in Anne Arundel

County. The 1.2 acre property in question was circular and surrounded by roads and access ramps along US Route 50, as a result of the State having previously obtained portions of that same parcel in order to construct those adjacent roadways. The Court approved the Board's finding that a seven-foot variance from the required 150 feet of road frontage was justified, because "the Petitioners cannot change their amount of lot frontage" given that the parcel "is surrounded on all sides by either unbuildable road rights-of-way or actual road bed[.]" *See id.* at 104.

Writing for the Court, Judge Cathell also pointed to substantial evidence supporting the Board's grant of a 25-foot variance from the 60-foot setback requirement for structures on a highway. *See id.* at 10506. Specifically, the Court agreed that the variance was justified because

> the circular shape of the property and its proximity to Route 50 and its service ramps would leave [the petitioners] with "no reasonable possibility of developing the lot with a canopy over the pump islands which meets the requirements of the Zoning Regulations."

Id. at 105-06.

In *Stacy v. Montgomery County*, 239 Md. 189, 193 (1965), the Court of Appeals affirmed the grant of a *de minimis* side setback variance that allowed the applicant to operate a child care home within 25 feet of the property line. That property was a "surveyor's nightmare" in that its front and side boundaries

changed course several times, and the rear property line was approximately 46 feet narrower than the front property line. The Court of Appeals agreed with the Board that "there is no doubt that the shape of the subject property presented the hardship" justifying a setback variance. *Id.* at 194.

Two cases involving the critical area law are of interest. Most recently, in *Lewis*, the Court of Appeals found substantial evidence of uniqueness that would support a critical area variance.[4] The applicant owned an island on which he wished to build a hunting lodge, but critical area setbacks limited the buildable area of the island to three small, irregularly-shaped, non-contiguous, and heavily vegetated areas. The original building plans were disapproved due to their environmental impact on these buildable areas. Wicomico County zoning authorities concluded that less damage would be done by building within the critical area buffer zone. The property owner began construction of the lodge in critical areas without obtaining the necessary variances, but later applied for them. The County denied the variance requests.

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[4]Variance requirements for critical buffer areas differ in some respects from those in non-critical areas. *See Mastandrea*, 361 Md. 107, 139-40 (2000). But an applicant for a setback variance from a 100 foot critical area buffer must show that "strict implementation" of the setback would impede the proposed use due to "the features of the site or other circumstances other than financial considerations[.]" *See id.* at 141-42.

The Court of Appeals vacated that decision and remanded for further administrative proceedings. Writing for a majority of the Court, Judge Cathell explained that, for purposes of the variance application, the material issue was the uniqueness of this property, rather than the applicant's unauthorized construction on it.

> [T]he issue of petitioner's construction of his six hunting camp buildings prior to his applying for a variance request is a "red herring." As previously mentioned, under the County Code and, more importantly, **because of the physical characteristics of Phillips Island, petitioner needed a variance to build any camp on the island** regardless of whether he had started construction before applying for the variance **due to the small, irregular, non-contiguous shape of the non-Buffer area on Phillips Island. . . . Essentially, his claim is that his property has unique physical characteristics which entitle him to receive a variance in order to avoid an unwarranted hardship.** The Board should have analyzed petitioner's request in this light and not in the context of a self-created hardship. . . . **[H]is hardship was a result of the unique physical features of his property** and not because of actions taken by petitioner[.]

Lewis, 377 Md. at 425-26 (emphasis added).

In *Mastandrea v. North*, 361 Md. 107 (2000), the Court affirmed the grant of a critical area setback variance allowing construction of a brick pathway for the owners' wheelchair-bound daughter to enjoy the waterfront. The petitioners offered evidence that the heavy clay soil substantially inhibited wheelchair travel along the shoreline. The Court of Appeals held that the Talbot

County Board of Appeals "did not have to consider whether denying the variance would have denied the [petitioners] a reasonable and significant use of the 'entire' lot." *Id.* at 136-37. "Rather, the Board was required to (and did) consider whether the property owners, in light of their daughter's disability, would be denied a reasonable and significant use of the waterfront of their property without the access that the path provided." *Id.* at 136. The Board properly "recognized that a literal application of the [setback requirements] would deprive [the daughter] of an ability to enjoy the property on which she resides as others in the area similarly situated may enjoy theirs without the need for a similar path." *Id.* at 138. These facts supported the Board's conclusion "that there was a special condition or circumstance unique to the lot." *Id.* at 137.

Unlike other cases, in *Mastandrea*, the Court found at least part of the uniqueness related to a family member's individual disability that created special needs with respect to the land, rather than the land itself. But it also found that the soil near the river was uniquely unsuited for wheelchair travel because it was "'one of the heaviest clay soils' [the Mastandreas'] expert 'had ever tested[.]'" *Id.* at 136. It did not require that the Mastandreas prove that the soil conditions on neighboring properties were better, largely because the "Commission neither offered any evidence to the contrary nor questioned the

Mastandreas' expert witness on this point[.]" *Id.* at 136-37. Moreover, in reaching its decision, the Court placed paramount emphasis on the daughter's disability and public policy favoring accommodation of disabilities. *See id.* at 137-38. This case may be limited in its application to situations involving special needs for enjoyment of property arising from disabilities.

The Board's Decision

Baltimore County Zoning Regulations permit both the Zoning Commissioner and the Board to grant setback variances. *See* BCZR § 307.1 (Zoning Commissioner and, upon appeal, the Board have "power to grant variances"); BCZR § 426.11 (Board "may grant a variance . . . in accordance with Section 307"). Here, the Zoning Commissioner found that the narrow shape of the parcel is an inherent and unchangeable characteristic of the property that makes it unique within the meaning of Baltimore County's zoning ordinances. In his memorandum decision, the Commissioner stated:

> **it is clear that the subject site is a unique property. The uniqueness is driven by the narrowness of the lot.** Although the property contains in excess of 4.0 acres in area, it is but 223 feet wide. Section 426.6 of the B.C.Z.R. requires a 200-foot setback from the nearest property line to the tower. In view of the width of the property, this setback cannot be maintained. That is, any site must be a minimum of 400 feet in width to provide appropriate setbacks on all sides. E75-76. (Emphasis added.)

On appeal, the Board disagreed with the Zoning Commissioner's determination that the property is unique:

> As to the uniqueness of this particular property, the property is rectangular and flat; there is no unique subsurface conditions, historical significance, or environmental factors to take into consideration. There is no access or non-access to navigable waters and there are no obstructions or abutting properties. The fact that there are trees on the property does not make it unique, since there are numerous properties in the area that possess trees. While this may be the only M.L. property within the "search ring" established by Sprint, this does not make the property unique. The search ring is an artificial area established by Sprint and does not necessarily indicate that there are not other properties in the area where a tower could be located through the granting of a special exception. The fact that a piece of property is zoned M.L. and therefore would allow a tower to be erected on that property as a matter of right does not make the property "unique." E280

Sprint argues:

> [T]he subject property is rectangular in shape and only 233' wide at its widest point and, therefore, so narrow that no matter where the telecommunications facility is placed on the property, the setbacks required under the County Zoning Ordinance cannot be satisfied. The record also shows that nearby residentially zoned adjacent properties are shaped wider and are large enough to accomodate the required setbacks, *albeit* a special exception would be required if the facility were to be placed on such properties. . . . This undisputable fact renders the Property unique, as compared to its neighboring properties. The Board, however, completely ignored this evidence[.]

Because we think the issues of whether the Board made sufficient factual findings to support its decision, and whether the property is "undisputabl[y]" unique, are intertwined, we address them

together.

The problem with Sprint's argument is that this property is not especially narrow.[5] The property has a width of 223 feet in the area selected for the monopole, which is 140% of the width of a college football field. Residences and businesses are commonly built on properties less than half of this width. *See, e.g.,* V. Woener, Annotation, *Validity and Construction of Zoning Regulations Prescribing a Minimum Width or Frontage For Residence Lots,* 96 A.L.R.2d 1367, § 4 (1964)(citing cases involving various minimum lot frontage or width requirements). Although the length of the property is 3.8 times its width (850 along the northern boundary and 768 along the southern boundary), there was no showing or contention that the length was problematic. As the Board found, it is "currently improved with two buildings that house [a] contracting business and approximately seven other commercial operations[,]" as well as "a parking lot which accomodates these uses." The record reveals that, even with these existing uses in the front, there was also space available for another ML use in the rear of the property.

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[5]BCZR §307.1 does not specifically identify narrowness or shallowness as a "special circumstance or condition." We assume, but do not decide, that narrowness could also be considered in support of a variance in the absence of explicit mention in the ordinance. As Judge Cathell pointed out with respect to a St. Mary's County ordinance that did not refer explicitly to narrowness or shallowness, "[t]he general thrust of the meaning of special features or uniqueness of property for variance purposes relates to the type of uniqueness discussed by the Court [of Appeals] in *Ad + Soil, Inc.*" *See North*, 99 Md. App. at 515.

Although the standard for uniqueness is not whether there is any other reasonable use for the property, an applicant for a variance must still show "special circumstances or conditions" not shared by other properties in the area, which would cause him unwarranted hardship. *See Lewis*, 377 Md. at 417, 421; *Umerley*, 108 Md. App. at 506. "[A] property's peculiar characteristic or unusual circumstances relating only and uniquely to that property must exist in conjunction with the ordinance's more severe impact on the specific property because of the property's uniqueness[.]" *Cromwell*, 102 Md. App. at 721.

Sprint failed to show that the so-called narrowness of this property differed from other properties in the area. When Marianne Kiernan, an engineer who was Sprint's expert on the zoning criteria, was asked what was unique about the property, she replied:

> The property itself is unique in the narrowness of the property itself. It's a long, rectangular parcel approximately 850 feet deep, 223 wide, plus or minus. That makes the property unique in itself.
>
> The setting of the property is unique in this area also. It is surrounded by woodland on the northern, western and southern boundaries. There are two existing structures located on the very front of the property.
>
> The property itself is primarily graveled in the southwestern corner of the property where the subject site is located. There's an open gravel area.
>
> So the property is unique in it[s]

> narrowness and in the setting itself basically with the existing structure on the front, near Back River Neck Road, and the open area towards the rear of the parcel.

Thus, Ms. Kiernan gave three reasons for the property's uniqueness: 1) its narrowness; 2) that it was surrounded by woodland on the north, west and south, and 3) the location of the existing structures in the front, with the open area in the back. None of these reasons meets the legal requirement for establishing a variance.

She did not explain why a property that was 223 feet wide was unique in its narrowness. When asked on cross what other properties in the area she compared in order to decide this width was unique, she pointed to no other properties in the area that were any wider. Indeed, she pointed to no other properties at all. Moreover, she acknowledged that she was **not** saying that "there's no other piece of property in Baltimore County designated M.L. that's shaped like a rectangle that's 200-some feet wide[.]" The following colloquy occurred on cross:

> Q: This property is unique compared to what other properties? That's what I meant to ask you.
>
> [Ms. Kiernan]: Okay. If I could explain, I am also bounded within the search ring area that's issued by Sprint PCS. Their intent is to place a telecommunication tower in a particular area.
>
> That area is defined by Sprint RF engineers. Mr. Hassan who testified prior explained how the area itself was defined to

> meet Sprint's coverage objective. Within that particular search ring, this subject parcel is unique.

When asked if she was saying: "just because Sprint has identified a [search ring], that makes this piece of property unique compared to other properties in Baltimore County[,]" she simply repeated her mantra, "Yes, I believe the property is unique."

Ms. Kiernan's second and third reasons for calling the property unique related not to a limiting aspect of the property, but rather to factors that made the property a good one for a Sprint tower - that it was surrounded by woodlands, and there was plenty of space in the back of the property. Neither of these factors make it "exceptionally difficult to comply" with the setback, cause unwarranted hardship, or cause the setback to have a "disproportionate impact" on the property. Rather, these are **positive** factors about the site because the woodlands and the buildings on the front provide screening to hide the unappealing visual appearance of the tower. Such positive factors do not support a claim for uniqueness in this context.

By itself, the fact that a property cannot accommodate an otherwise permitted use without an area variance generally does not **require** the grant of a variance.[6] A contrary result would permit "the exception to swallow the rule," because zoning authorities

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[6]If the permitted uses in a particular zone were quite limited, we might apply an exception to this rule. That is not the case in this ML zone.

would be obligated to grant a setback variance simply because the setback requirements would prevent a permitted use. Yet, this appeal rests almost solely on Sprint's theory that the property is unique because it was not wide enough to meet the setback requirements for the monopole.

In its brief, Sprint asserts that "[t]he record also shows that nearby residentially zoned adjacent properties are shaped wider and are large enough to accommodate the required setbacks, *albeit* a special exception would be required if the facility were to be placed on such properties." We have reviewed the three record extract pages Sprint identifies as support for this assertion. None of the pages contains any evidence that adjacent residentially zoned properties could accommodate the required setbacks.

Extract page 392 is a site plan of the subject property, showing seven adjacent residential lots, two of which are shown to be improved with dwellings. The site plan contains dimensions for the subject property, but none for these adjacent lots. Sprint points to no testimony about the dimensions of these lots, and we have found none. There is no indication about whether these lots are drawn to scale,[7] so there was no way for the Board to visually

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[7]They appear not to be, and two different site plans in the record depict these lots in different sizes relative to the subject property. In other words, in one site plan they appear to be narrower than the subject property, and in another, they appear
(continued...)

compare the sizes from the site plans. Finally, Sprint points to no place in the record where it asked the Board to compare these lots to the subject property for the purposes of determining uniqueness. The memorandum submitted for Sprint in lieu of closing argument contained no such request and never mentioned that these residential lots were larger or that they would suffer less impact from this setback requirement. Sprint cannot complain, on appeal, about the Board's failure to make a factual finding that they never asked the Board to consider.

Extract page 519, an exhibit introduced by Sprint, is a map that depicts the area of the "search ring." It was introduced through the testimony of the president of a site acquisition firm "contracted by Sprint to do site acquisition work and zoning work[.]" He explained that he was given a map by Sprint, showing the search area, and the exhibit was "a blow-up of the map[.]" He explained why the subject property was desirable for purposes of a cellular tower. He did not testify about the size of any other properties depicted on the map, and did not compare the size of other properties with the subject property. Again, this map is not drawn to scale.

Sprint has pointed to no other testimony, and we have found none, about other nearby properties, wider then the subject

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[7](...continued)
broader. In both site plans, the subject properties are drawn to scale.

property, that could accommodate the monopole because of enhanced width. In its closing memorandum submitted to the Board, Sprint claimed that the testimony of People's Counsel's land use expert, Jack Dillon, "supports the uniqueness of the property." His testimony does not support this claim. Dillon said that there were four sites within Sprint's "search ring" on which cellular towers were permitted by right, subject to setback requirements. E. 649. When asked, "are any of those sites at least 400 feet wide and deep at the same time," Dillon answered:

> The B.L. to the north is about 300 feet wide, 250 deep. This site is 200 feet wide and 600 feet deep [sic]. The M.L. down further, it's very narrow along the frontage, actually looks like it's probably less than fifty feet wide along the frontage, and extends about 500 feet deep, and widens out in the back to maybe 250 feet, and the B.L. further down is only approximately 200 feet wide and roughly 200 feet deep.

In its closing memorandum, Sprint claimed that the following question and answer by Dillon established uniqueness:

> Q: But those four sites [i.e, the three mentioned above plus the subject property] are various shapes and configurations?
>
> A. That's true.

The varying sizes of the four properties does not establish uniqueness because there was no showing that **any** of them could meet the setback requirement for cellular towers without a variance. As we have explained before, uniqueness is established when the owners of one property suffer a disproportionate impact from the setback

requirement than other nearby owners. *See Umerley*, 108 Md. App. at 505 (for variance, "zoning authority must determine whether the subject property is unique and unusual in a manner different from the nature of the surrounding properties").

Further, the parcel cannot be characterized as unique based solely upon Sprint's search ring.[8] As *Evans* teaches, the fact that this parcel falls within a geographic area selected by Sprint for technological reasons is not a characteristic that is inherent to the property. *See Evans*, 112 Md. App. at 308.

In short, Sprint points to no evidence, and we are aware of none, that would permit the inference that the alleged narrowness of the subject property means that Sprint suffers a disproportionate impact from the setback requirements, as compared to other nearby property owners. For this reason, we reject Sprint's complaint that the Board erred by not making a factual finding about whether the subject property's alleged narrowness made it unique. Unlike the zoning board's opinion in *Lewis*, in which it failed to say whether the property was unique, here the

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[8]In support of its uniqueness claim, Sprint also argues that "the [p]roperty is the largest parcel located within the Search Ring, upon which a telecommunications facility is permitted by right under the BCZR." Further, they contend that "location of Sprint's facility on the [p]roperty also satisfies Sprint's coverage objectives in the area and fulfills a much-needed service in the area[.]"

Board explicitly found that it was not unique.[9]

Additionally, the Board described the variances that were requested, indicating the setbacks required:

> 75 feet at the southern property (a side setback) in lieu of the required 200 feet, a setback of 135 feet to the western properly line (the rear setback) in lieu of the required 200 feet, and a setback of 148 feet to the northern property line (a side setback) in lieu of the required 200 feet for a wireless telecommunications tower and a variance from BCZR § 426.6A.2 to allow a setback of 40 feet to the southern property line in lieu of the required 125 feet for equipment cabinets for a wireless telecommunications tower[.]

Thus, it clearly considered the width of the property, since the width determined the necessity and extent of the side setbacks. Although it did not write a lengthy analysis of why a width of 223 feet was not unique, under these circumstances, that was not necessary. Without any witnesses or other evidence that provided factual support for any legally viable theory for how a 223 foot wide property is uniquely narrow, the Board was not required to concoct its own "straw man" theory, and then knock it down.

The Board, knowing the property's undisputed dimensions, must only decide whether those dimensions make it unique. The Board found no uniqueness. As we said before, if we were to hold that a

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[9]Moreover, the unique aspect to the Lewis property was the shape of the buildable area of the property, which consisted of three small, irregularly-shaped, non-contiguous and heavily vegetated areas. *See Lewis*, 377 Md. at 425.

variance **must** be granted, simply because a property cannot accommodate one otherwise permitted use without an area variance, we would be permitting "the exception to swallow the rule." Moreover, for all the reasons set forth previously, had the Board found that the property's "narrowness" made it unique, we would not uphold that finding because the evidence was not sufficient to establish that.

The Telecommunications Act of 1996

Sprint argues that the Board's denial of its petition for variance violates the Telecommunications Act of 1996 ("the Act"). *See* 47 U.S.C. § 332(c)(7)(B)(iii). It argues that "a zoning body's denial of wireless telecommunications facility must be supported by substantial evidence in the record," citing the statute, and *New Par v. City of Saginaw*, 161 F. Supp. 2d 759, 764 (E.D. Mich. 2001) *aff'd*, 301 F.3d 390 (6th Cir. 2002). We reject this argument largely for the reasons explained in the previous section.

The ML zone permits cellular towers by right, subject to a 200 foot setback requirement "from any other owner's residential property line." BCZR § 426.6(A)(1). Because the setback requirement could not be met, it was necessary for Sprint to prove grounds for a variance. Sprint does not contend that the Act overrides local setback requirements. Indeed, it states that "except as provided in this paragraph, nothing in this chapter shall limit or affect the authority of a State or local government

or instrumentality thereof over decisions regarding the placement, construction . . . of personal wireless service facilities." 47 U.S.C. § 332(c)(7)(A). *See also Voicestream Minneapolis, Inc. v. St. Croix County*, 342 F.3d 818, 830 (7th Cir. 2003)("'the [Act's] substantial evidence test is a procedural safeguard which is centrally directed at whether the local zoning authority's decision is consistent with the applicable [local] zoning requirements'")(citations omitted). This decision is supported by substantial evidence in the record.

The standard for review of a zoning authority's decision under the Act mirrors administrative agency standards under Maryland law. *See Am. Tower LP v. City of Huntsville*, 295 F.3d 1203, 1207 (11th Cir. 2002)("The 'substantial evidence' standard envisioned by Section 332 is the traditional substantial evidence standard used by courts to review agency decisions. The usual standard defines 'substantial evidence' as 'such relevant evidence as a reasonable mind might accept as adequate to support a conclusion").

For the reasons stated in the previous section, Sprint failed to prove grounds for the variances requested here, and therefore the Board's denial of its petition did not violate the Act.

Conclusion

For the foregoing reasons, we affirm the judgment of the

circuit court affirming the Board's denial of the variance petition.

JUDGMENT AFFIRMED. COSTS TO BE PAID BY APPELLANTS.

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2003 U.S. App. LEXIS 18682,*;343 F.3d 262

USCOC OF VIRGINIA RSA# 3, INCORPORATED, a Virginia Corporation; ERNIE R. MARSHALL, Plaintiffs-Appellees, v. MONTGOMERY COUNTY BOARD OF SUPERVISORS, Defendant-Appellant. HENRICO COUNTY; FAUQUIER COUNTY; LOCAL GOVERNMENT ATTORNEYS OF VIRGINIA, INCORPORATED, Amici Supporting Appellant. CELLULAR TELECOMMUNICATIONS AND INTERNET ASSOCIATION, Amicus Supporting Appellees. USCOCOF VIRGINIA RSA# 3, INCORPORATED, a Virginia Corporation; ERNIE R. MARSHALL, Plaintiffs-Appellants, v. MONTGOMERY COUNTY BOARD OF SUPERVISORS, Defendant-Appellee. HENRICO COUNTY; FAUQUIER COUNTY; LOCAL GOVERNMENT ATTORNEYS OF VIRGINIA, INCORPORATED, Amici Supporting Appellee. CELLULAR TELECOMMUNICATIONS AND INTERNET ASSOCIATION, Amicus Supporting Appellants.

No. 03-1322, No. 03-1341

UNITED STATES COURT OF APPEALS FOR THE FOURTH CIRCUIT

343 F.3d 262;2003 U.S. App. LEXIS 18682

June 5, 2003, Argued

September 10, 2003, Decided

PRIOR HISTORY: [*1] Appeals from the United States District Court for the Western District of Virginia, at Roanoke. Jackson L. Kiser, Senior District Judge. (CA-02-1065-7).

USCOC of Va. RSA # 3, Inc. v. Montgomery County Bd. of Supervisors, 245 F. Supp. 2d 817, 2003 U.S. Dist. LEXIS 2586 (W.D. Va., 2003)

COUNSEL: ARGUED: Kevin Philip Oddo, FLIPPIN, DENSMORE, MORSE & JESSEE, Roanoke, Virginia, for Appellant.

James Robert Creekmore, WOODS, ROGERS & HAZLEGROVE, Roanoke, Virginia, for Appellees.

ON BRIEF: Joseph M. Rainsbury, FLIPPIN, DENSMORE, MORSE & JESSEE, Roanoke, Virginia; Martin M. McMahon, MONTGOMERY COUNTY ATTORNEY'S OFFICE, Christiansburg, Virginia, for Appellant.

Frank K. Friedman, WOODS, ROGERS & HAZLEGROVE, Roanoke, Virginia, for Appellees.

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JUDGES: Before WILKINSON, LUTTIG, and SHEDD, Circuit Judges. Judge Shedd wrote the opinion, in which Judge Wilkinson and Judge Luttig joined.

OPINIONBY: Shedd

OPINION: SHEDD, Circuit Judge:

USCOC of Virginia RSA # 3, Inc. ("U.S. Cellular") and Ernie Marshall applied for a special use permit to construct a wireless telecommunications transmission tower on Marshall's land in Montgomery County, Virginia. The Montgomery County Board of Supervisors ("Board") denied [*2] the application but, in its stead, approved a permit for a shorter, less obtrusive tower. U.S. Cellular and Marshall (collectively, "U.S. Cellular") brought suit under the Telecommunications Act of 1996 ("TCA"), alleging that the Board's decision had "the effect of prohibiting the provision of personal wireless services," in violation of **47 U.S.C. § 332(c)(7)(B)(i)(II)**, and that the Board's decision was not based upon substantial evidence, in violation of **47 U.S.C. § 332(c)(7)(B)(iii)**. U.S. Cellular also asserted a claim under Virginia law. On cross-motions for summary judgment, the district court granted the Board's motion as to the prohibition of service claim but granted U.S. Cellular's motion as to the substantial evidence and Virginia law claims. Because the district court found that the Board had violated the TCA on the substantial evidence claim, it ordered the Board to issue the permit for the taller tower. For the reasons set forth below, we affirm on the

http://www.lexisone.com/lx1/caselaw/freecaselaw?action=FCLRetrieveCaseDetail&caseID=1&f... 12/12/2005

Exhibit 6

prohibition of service claim, reverse on the substantial evidence claim, and reverse on the Virginia law claim.

I.

U.S. Cellular sought to erect a tower near the town of Riner [*3] in Montgomery County, Virginia, to fill a coverage gap along a nine-mile stretch of Route 8. After conducting engineering studies, U.S. Cellular identified a parcel of Marshall's property on Pilot Mountain as the ideal location for a tower. Thereafter, U.S. Cellular and Marshall entered into an agreement to locate the tower on Pilot Mountain.

On May 1, 2002, U.S. Cellular applied for a special use permit from the Board to construct a 240-foot (plus a nine-foot lightning rod) wireless telecommunications tower. The proposed design called for the tower to be lighted and lattice in structure. Because of its height and location on Pilot Mountain, the tower would be visible along the ridge line, extending 170 feet above the tree canopy.

The proposed tower implicates Montgomery County's land use policies. For example, Marshall's property is zoned as exclusively agricultural, and it is designated by the Montgomery County Comprehensive Plan as a "Conservation Area." In addition, the Regional Approach to Telecommunications Towers, incorporated into the Comprehensive Plan, provides guidelines for the county's consideration of new tower requests. n1 First, the Regional Approach encourages the [*4] provision of new service capacity by locating new antennas on pre-existing telecommunications towers or other structures, a practice known as co-location. Second, the Regional Approach encourages the use of monopole stealth towers in lieu of the more intrusive lattice structures. Monopole stealth towers consist of hollow metal tubes and are designed to blend into the surroundings. Third, the Regional Approach directs that towers be constructed in areas "that will provide the least negative impact to the citizens of each jurisdiction." To help alleviate the negative impacts associated with towers, the Regional Approach provides a preferred hierarchy of lands on which to construct new towers. Ridge line property zoned as agricultural or conservation, such as the property at issue here, ranks as one of the least preferred categories of land for the construction of telecommunications towers. n2

- - - - - - - - - - - - - - Footnotes - - - - - - - - - - - - - -

n1 Staff members representing Montgomery and Pulaski Counties, as well as the cities of Radford, Blacksburg, and Christiansburg, developed the Regional Approach in an effort to create "a uniform approach toward analyzing and processing telecommunication tower siting requests from a land use perspective." [*5]

n2 The Regional Approach ranks, from most to least preferable, the categories of land on which to build new telecommunications towers. The list is as follows:

A. Industrial parks

B. Industrial zoned lands

C. Commercially zoned lands

D. High density residential lands

E. Agriculture/Conservation zoned lands-non-ridge, wooded

F. Agriculture/Conservation zoned lands-non-ridge, open

G. Medium density residential lands

H. Agriculture/Conservation zoned lands-ridge line

I. Low density residential lands.

(Emphasis added.)

- - - - - - - - - - - - End Footnotes- - - - - - - - - - - - -

Hearings on the request for the tower were held before the Montgomery County Planning Commission and the Board. In support of its application, U.S. Cellular introduced a petition signed by approximately 100 people in favor of the proposed tower. The individuals who signed the petition, however, were not all residents of Riner. In fact, a significant number of signatures were supplied by people who lived outside Riner but traveled through the area to be served by the tower. The only letter received in opposition was [*6] submitted by the resident who owned property adjacent to the proposed site.

After a first round of hearings, the Board authorized the county's consultants, Strategic Communication Services ("SCS") and Tradewinds, to evaluate the signal strengths that would be generated by both the proposed tower and an alternative height of 195-feet. n3 The Board also directed the consultants to determine whether any colocation opportunities would obviate the need for a new tower.

- - - - - - - - - - - - - - Footnotes - - - - - - - - - - - - - -

n3 Federal regulations require lighting for structures that exceed 199 feet. This alternative height, therefore, would not require lighting.

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The consultants' reports were generally favorable to U.S. Cellular. For example, the SCS report found that U.S. Cellular selected the "optimum site to provide maximum coverage along Route 8." It also determined that a shorter tower of 195-feet would result in a coverage loss of approximately 33% and that none of the existing co-location sites presented valid opportunities. The Tradewinds report reached substantially [*7] similar results and noted that, due to the proposed height of the tower, the county should consider granting a variance from the Comprehensive Plan's preference for monopole towers. The Tradewinds report did note, however, that a single 240-foot tower was not the only option that would provide the desired coverage. Equivalent coverage would be realized if multiple, shorter towers were built.

After the completion of the consultants' studies, Steve Sandy, the county zoning administrator, recommended to the Planning Commission and to the Board that the permit be granted for a 195-foot (plus a four-foot lightning rod), unlighted, monopole stealth tower. Sandy noted that while the shorter tower would not provide optimal coverage, it would provide service for a large portion of the target area and would more closely conform to the Comprehensive Plan.

The Planning Commission and the Board conducted a second round of hearings, and on August 14, 2002, the Planning Commission adopted Sandy's recommendation and referred it to the Board. On August 26, 2002, the Board considered U.S. Cellular's application, along with Sandy's proposed compromise, and conducted extended debate. The transcript [*8] of the proceedings indicates that numerous issues were discussed, including (1) the taller tower's failure to conform to the Comprehensive Plan and the Regional Approach; (2) the visual intrusiveness of the taller tower; (3) the option of building multiple, shorter towers; (4) the substantial coverage that would be provided by the shorter tower; and (5) the possibility that, even with the taller tower, additional sites would be necessary to fill gaps in coverage. At the conclusion of the debate, the Board voted on both the 240foot and the 195-foot towers. By a vote of four to three, the Board rejected the 240-foot tower. Immediately thereafter, the Board approved the 195-foot tower by the same margin.

Subsequently, U.S. Cellular brought an action in the district court, alleging that the Board violated the TCA because the denial of the permit had the effect of prohibiting the provision of personal wireless services and because the denial of the permit was not supported by substantial evidence in a written record. U.S. Cellular also brought a claim under Virginia law, alleging that the Board acted arbitrarily and unreasonably. On cross-motions for summary judgment, the district court [*9] granted the Board's motion as to the denial of service claim but granted U.S. Cellular's motion as to the substantial evidence and Virginia law claims. Because the court determined that the Board had violated the TCA on at least

one of the claims, the court ordered the Board to approve the special use permit for the 240-foot tower. Both parties appeal.

II.

The TCA preserves the power of local governments to regulate the construction of wireless telecommunications facilities but imposes several restrictions on local authority. See **47 U.S.C. § 332(c)(7)**. n4 Among these limitations, a local government may not engage in regulation that prohibits or has "the effect of prohibiting the provision of personal wireless services." **47 U.S.C. § 332(c)(7)(B)(i)(II)**. In addition, a local government's denial of a request to construct a wireless service facility must be supported by "substantial evidence in a written record." **47 U.S.C. § 332(c)(7)(B)(iii)**. The TCA provides for a cause of action to enforce these limitations on local control. **47 U.S.C. § 332(c)(7)(B)(v)**. n5

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n4 Section 704(a)(7) of the TCA, codified as **47 U.S.C. § 332 (c)(7)**, provides, in pertinent part:

> (A) General authority
>
> Except as provided in this paragraph, nothing in this chapter shall limit or affect the authority of a State or local government or instrumentality thereof over decisions regarding the placement, construction, and modification of personal wireless service facilities.
>
> (B) Limitations
>
> (i) The regulation of the placement, construction, and modification of personal wireless service facilities by any State or local government or instrumentality thereof. . .
>
> (II) shall not prohibit or have the effect of prohibiting the provision of personal wireless services. . .
>
> (iii) Any decision by a State or local government or instrumentality thereof to deny a request to place, construct, or modify personal wireless service facilities shall be in writing and supported by substantial evidence contained in a written record.
> . . .

[*10]

n5 For ease of reference, the relevant sections of the TCA will also be referred to by their subsections. Thus, **47 U.S.C. §**

332(c)(7)(B)(i)(II) will be referred to as a (B)(i)(II) and 47 U.S.C. § 332(c)(7)(B)(iii) will be referred to as (B)(iii).

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A.

We first address the district court's determination that the Board's action did not prohibit or have the effect of prohibiting personal wireless services. On cross-appeal, U.S. Cellular maintains that, even though the Board approved a 195-foot tower in lieu of a 240-foot tower, the resultant coverage would be so inadequate as to create a prohibition of service along portions of Route 8. We conclude that U.S. Cellular has not met the burden required in this circuit for prevailing on a prohibition of service claim.

To be entitled to relief under a (B)(i)(II) prohibition of service claim, the plaintiff's burden is substantial. In **AT&T Wireless PCS, Inc. v. City Council of Virginia Beach, 155 F.3d 423, 428-29 (4th Cir. 1998)**, we held that a telecommunications provider could not prevail [*11] in a challenge to an individual zoning decision absent a general ban or policy to reject all applications. *See also* **360 oCommunications Co. v. Board of Supervisors of Albemarle County, 211 F.3d 79, 88 (4th Cir. 2000)** ("The burden for the carrier invoking this provision is a heavy one: to show from language or circumstances not just that *this* application has been rejected, but that further reasonable efforts are so likely to be fruitless that it is a waste of time to try."). In determining that an individual zoning decision could not form the basis for a prohibition of service claim, we reasoned that because subsection (B)(iii) specifically preserves the authority of local governments to reject applications for wireless facilities, a reading of the statute that prohibited local governments from rejecting individual applications would effectively eliminate local control. To preserve local authority and to reconcile subsections (B)(i)(II) and (B)(iii), we determined that the statute should be interpreted to provide relief only upon a showing of a blanket ban of wireless facilities. **Virginia Beach, 155 F.3d at 429**. We have since recognized, [*12] however, the theoretical possibility that the denial of an individual permit could amount to a prohibition of service if the service could only be provided from a particular site, but we noted that such a scenario "seems unlikely in the real world." **Albemarle County, 211 F.3d at 86**. n6

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n6 The Second and Third Circuits have developed a less stringent test for prohibition of service claims. Under this test, the denial of a permit would violate the TCA if the proposed facility is "the least intrusive means to close a significant gap in service." **Sprint Spectrum, L.P. v. Willoth, 176 F.3d 630, 643 (2d Cir. 1999)**; **APT Pittsburgh Ltd. P'ship v. Penn Township, 196 F.3d 469, 480 (3d Cir. 1999)**. In *Albemarle County*, however, we specifically declined to adopt this approach, noting that it would unnecessarily interfere with the fact-specific nature of the inquiry and would effectively create a presumption, shifting the burden to the local government to explain its actions. **Albemarle County, 211 F.3d at 87**.

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Applying this test, we find that U.S. Cellular has failed to meet its burden of demonstrating that the Board's action resulted in a prohibition of service. Although the Board did not approve the 240-foot tower sought by U.S. Cellular, it did approve the construction of a 195-foot tower, which would provide wireless capabilities to a significant area of the county currently without quality wireless service. Moreover, the Board's careful consideration of the application does not provide any indication that future tower requests would be "fruitless." Far from seeking to prohibit service, Board members indicated a willingness to ensure coverage for the entire target area. For example, Board members discussed the option of building several shorter towers to make up for the areas unreached by the 195-foot tower. Furthermore, the Board's willingness to approve a tower at all, on a piece of land disfavored by the Comprehensive Plan and Regional Approach, indicates that the Board was not hostile to the construction of new towers. Given these facts, we conclude that the district court correctly granted summary judgment to the Board on U.S. Cellular's prohibition of service claim.

B. [*14]

We turn next to the district court's determination that the Board's rejection of the 240-foot tower was not based upon "substantial evidence in a written record." **47 U.S.C. § 332(c)(7)(B)(iii)**. In conducting the substantial evidence analysis, the district court employed a comparative approach and determined that the Board's decision to grant a permit for a 195-foot tower in lieu of a 240-foot tower was premised solely upon aesthetic considerations, in violation of Virginia law. Because the district court concluded that the Board's decision failed to comply with Virginia law, it held that the decision was not based upon substantial evidence, as required by the TCA, and granted judgment to U.S. Cellular. We hold that the district court incorrectly applied Virginia law and erred in employing a comparative approach in its substantial evidence analysis. Accordingly, we reverse on the substantial evidence claim.

1.

We first address the district court's determination that the Board's actions were based solely upon aesthetic

considerations in violation of Virginia law. In **Board of Supervisors of James City County v. Rowe, 216 Va. 128, 216 S.E.2d 199 (1975),** [*15] the Supreme Court of Virginia held that a zoning practice based solely upon aesthetics was impermissible under Virginia law. At issue in *Rowe* was the validity of a local ordinance that, among other things, required building permit applicants to submit their plans to an Architectural Design Review Board. The Review Board would determine whether the designs were "in good taste" and in "reasonable harmony with the existing buildings in the surrounding area." **Id. at 145**. As authority for this requirement, the James City County Board relied upon a Virginia statute that provided localities with the power to adopt zoning ordinances that "facilitate the creation of a convenient, attractive and harmonious community." The Supreme Court of Virginia, however, concluded that the statute did not delegate to the Board the broad authority to impose architectural design restrictions that were solely aesthetic in nature. **Id. at 145-146**.

The district court here, noting that the record was replete with references to the "visual intrusiveness" of the taller tower, determined that the fundamental difference between the two towers was aesthetic in nature. As the court put it, the [*16] shorter tower "looked better." Accordingly, the court held that the Board engaged in impermissible aesthetics-only zoning.

We conclude that the Board's actions are not analogous to the architectural design restrictions prohibited by **Rowe.** In reaching this conclusion, we need not determine the precise meaning of the word "aesthetics," nor is it necessary to outline the exact contours of what constitutes aesthetics-only zoning under Virginia law. It is sufficient to say that Virginia law provides, in a statute not at issue in **Rowe,** that local governments may regulate the "size, height, area, bulk, location, erection, construction, reconstruction, alteration, repair, maintenance, razing, or removal of structures." **Va. Code Ann. § 15.2-2280** (emphasis added). No matter what zoning practices are actually prohibited because of an undue emphasis on aesthetic values, Virginia law specifically authorizes the consideration of factors such as size, height, and bulk. The Board's consideration of the height of the proposed tower, therefore, is proper. In addition, the Board's consideration of the more visually intrusive lattice design, which implicates the size and bulk of [*17] the proposed tower, is also proper. Because the consideration of these factors is authorized by Virginia law, the district court erred in concluding that the Board engaged in an invalid zoning practice.

2.

As we have noted, the district court concluded that the sole difference between the 195-foot and the 240-foot towers was aesthetic in nature because it applied a comparative test in assessing the substantial evidence claim. The First Circuit has

employed this test in conducting a substantial evidence analysis but has expressly refused to adopt it. See **ATC Realty, LLC v. Town of Kingston, New Hampshire, 303 F.3d 91, 95 (1st Cir. 2002)**. We conclude that the district court's use of this approach was error.

In *ATC Realty*, the First Circuit considered whether a local Planning Board's decision to grant one company's application for a wireless facility over that of another company was supported by substantial evidence. This analysis, however, does not comport with the directive of subsection (B)(iii), which states that a local government's decision "to deny" a provider's request must be supported by substantial evidence. **47 U.S.C. § 332(c)(7)(B)(iii)**. [*18] The statute does not direct us to consider the question whether the 195-foot tower should have been approved in lieu of the 240-foot tower. It only requires the existence of substantial evidence to support the *denial* of the 240-foot tower.

By engaging in a direct comparison between the two towers, the district court heightened the scrutiny, above that required by the TCA, that a reviewing court applies to the decisions of local governments. Such an approach leads to the perverse result of imposing a stricter standard of review precisely because the Board approved a tower at all. Under this comparative standard, if the Board had rejected the application for the 240-foot tower outright, the review would be less exacting. This approach would discourage local governments from accommodating carrier requests to build towers in non-preferred areas, thereby slowing the roll-out of wireless services. The TCA simply does not require this result. Accordingly, we reject the comparative test employed by the district court and hold that the proper approach is to determine whether substantial evidence exists to support the denial of U.S. Cellular's application for the 240-foot tower. n7

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n7 We note that while the substantial evidence inquiry should focus on the denial of a particular application, the approval of an alternative tower is a relevant consideration for a reviewing court insofar as it demonstrates that a local government is not acting out of an anti-tower motivation and, hence, lacks substantial evidence for its decision. Here, the approval of the shorter tower, although it is by no means dispositive, strengthens the Board's argument that its decision was based upon substantial evidence rather than upon a general hostility to the construction of new towers.

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3.

Having rid the substantial evidence analysis of any

comparative framework, we now proceed directly to the substantial evidence claim. The Supreme Court has defined "substantial evidence" to mean "such relevant evidence as a reasonable mind might accept as adequate to support a conclusion." **Universal Camera v. NLRB, 340 U.S. 474, 477, 95 L. Ed. 456, 71 S. Ct. 456 (1951)**. It requires more than a mere scintilla but less than a preponderance. **360o Communications Co. v. Board of Supervisors of Albemarle County, 211 F.3d 79, 83 (4th Cir. 2000)**. In reviewing the decision of an elected body, we consider the "reasonable mind" to be that of a reasonable legislator, **AT&T Wireless PCS, Inc. v. City Council of Virginia Beach, 155 F.3d 423, 430 (4th Cir. 1998)**, and we do not substitute our judgment for the legislature's but must uphold the decision if it has "substantial support in the record as a whole." *Id.* (quoting **NLRB v. Grand Canyon Mining Co., 116 F.3d 1039, 1044 (4th Cir. 1997)**). Our inquiry, therefore, is to ask whether a reasonable legislator would accept the evidence in the record as adequate to support [*20] the denial of the application for the 240-foot tower.

The Board argues that its decision was based upon the proposed tower's inconsistencies with Montgomery County's zoning ordinances and land use guidelines. The location and design of the tower, for example, did not conform to the Comprehensive Plan or to the Regional Approach. According to the Board, the proposed tower's failure to adhere to the applicable zoning requirements provides substantial evidence to justify the rejection of the tower. We agree.

In *360o* **Communications Co. v. Board of Supervisors of Albemarle County, 211 F.3d 79 (4th Cir. 2000)**, a telecommunications provider applied for a special use permit to build a tower on Dudley Mountain in Albemarle County, Virginia, and the local board denied the application. The rejection of the proposed tower was based in part on the tower's failure to comply with the county's Comprehensive Plan, the Open Space Plan, and Zoning Ordinance. Both the Comprehensive Plan and Open Space Plan discouraged the construction of structures that would modify ridge lines and that would contribute to erosion in mountainous areas. In addition, the proposed tower violated [*21] the Zoning Ordinance's limitations on a structure's proximity to neighboring lots. The provider brought suit under the TCA, claiming that the denial of the permit was not based on substantial evidence. Upon review, we upheld the local board's decision. Although the tower's inconsistency with zoning laws was not the only evidence presented to justify the denial of the application, we found it to be a significant factor in our substantial evidence analysis.

Under the rationale of **Albemarle County**, the failure of U.S. Cellular's proposed tower to comply with Montgomery County's zoning ordinances and land use guidelines is a significant evidentiary factor that was properly considered by the Board. The question left unresolved by *Albemarle County*, however, is

whether this evidence alone is sufficient to establish substantial evidence. We conclude that, under the facts of this case, the proposed tower's inconsistency with local zoning requirements is sufficient to establish substantial evidence for the denial of the permit.

We find several zoning issues to be particularly relevant here. First, the land is zoned as "Agricultural" and designated by the Comprehensive Plan as "Conservation. [*22] " The use of the land for the construction of a telecommunications tower is neither agricultural nor does it appear to have any particular connection with conservation goals. Second, the Comprehensive Plan and Regional Approach discourage the construction of new towers on ridge line lands designated as Agricultural or Conservation, precisely the type of land in question here. Third, the Regional Approach disfavors the use of lattice towers such as that proposed by U.S. Cellular, encouraging instead the construction of monopole stealth towers.

Additionally, there was evidence in the record indicating that multiple, shorter towers would provide a viable alternative to the 240-foot tower. This option was supported by the Tradewinds report, which noted that multiple tower sites would provide comparable coverage to the proposed tower. Such an alternative would conform more closely to the Comprehensive Plan and Regional Approach. Furthermore, Sandy, the county zoning administrator, informed the Board that, even if the 240-foot tower were approved, coverage gaps would still exist, resulting in the need for additional towers anyway.

We believe that the aforementioned evidence regarding the [*23] proposed tower's inconsistencies with Montgomery County zoning ordinances and guidelines provides ample support for a reasonable legislator's decision to deny the application for U.S. Cellular's proposed tower. The evidence presented to the Board certainly amounts to more than a mere scintilla. Accordingly, we conclude that the Board's denial of the 240-foot tower application was based upon substantial evidence in a written record. n8

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n8 U.S. Cellular argues that the Board's decision cannot be justified in light of the scientific evidence that was presented in support of the proposed tower and the "virtually unanimous community support" for the tower. U.S. Cellular's arguments are without merit. While there is no question that this evidence strongly supports U.S. Cellular's application and would in its own right qualify as substantial evidence, the Board may still deny the application based upon other evidence, as long as it amounts to more than a "mere scintilla." See **AT&T Wireless PCS, Inc. v. City Council of Virginia Beach, 155 F.3d 423, 431** (explaining that although there was more than sufficient evidence for the city

council to approve the application for a telecommunications tower, which may even have amounted to a preponderance of the evidence, the council's rejection of the application was *nevertheless supported by substantial evidence*). *Upon review* of the evidence relied upon by U.S. Cellular, we cannot say that it is so overwhelming as to wholly obliterate the *evidentiary value of the proposed tower's incompatibility with* local zoning law, which as we have determined was properly relied upon by the Board.

Moreover, public opinion does not mandate local zoning decisions under the TCA. To be sure, we have held that widespread public opposition to the construction of a telecommunications tower *provides substantial evidence to* support a local government's denial of a permit. *See* **AT&T Wireless PCS, Inc. v. City Council of Virginia Beach, 155 F.3d 423, 431 (4th Cir. 1998)**. *See also* **Petersburg Cellular P'ship v. Board of Supervisors of Nottoway County, 205 F.3d 688, 695-696 (4th Cir. 2000)**(noting that *public opposition, if based upon rational concerns,* provides substantial evidence to deny a permit); **360 degrees Communications Co. v. Board of Supervisors of Albemarle County, 211 F.3d 79, 83-84 (4th Cir. 2000)** (determining that public opposition was a factor that contributed to a finding of substantial evidence); **AT&T Wireless PCS, Inc. v. Winston-Salem Zoning Board of Adjustment, 172 F.3d 307, 315-316 (4th Cir. 1999)** (same). In *Virginia Beach*, for example, we determined that widespread public opposition to the proposed towers, based *upon their visual impact on the surrounding residential area,* provided the city council with substantial evidence to reject the application. We did not hold in **Virginia Beach**, however, *nor have we ever held, that public opinion mandated that the* city council reject the application.

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III.

The district court granted summary judgment to U.S. Cellular *on its claim that the Board's actions were arbitrary and* unreasonable under Virginia law. The court reasoned that because the Board's decision was based on aesthetic *considerations only, in violation of* **Board of Supervisors of James City County v. Rowe, 216 Va. 128, 216 S.E.2d 199 (1975)**, it acted unreasonably. Because we have determined *that the Board's decision did not run afoul of* **Rowe**, *we* reverse the judgment granted in favor of *U.S. Cellular on its* claim under Virginia law.

IV.

For the foregoing reasons, we reverse the judgment of the *district court on the subsection (B)(iii) and Virginia law claims*

and order summary judgment in favor of the Board. We affirm the judgment of the district court in favor of the Board on the subsection (B)(i)(II) claim.

REVERSED IN PART AND AFFIRMED IN PART

12/2/05

IN RE: PETITIONS FOR SPECIAL HEARING & VARIANCE – W/S Glenbrook Drive, 569' N of the c/l Blenheim Road **(39 Glenbrook Drive)** 10th Election District 3rd Council District

Benjamin A. Governale, et ux
Petitioners

* BEFORE THE
* ZONING COMMISSIONER
* OF BALTIMORE COUNTY
* Case No. 06-180-SPHA
*

* * * * * * * * * * *

FINDINGS OF FACT AND CONCLUSIONS OF LAW

This matter comes before the Zoning Commissioner for consideration of Petitions for Special Hearing and Variance filed by the owners of the subject property, Benjamin A. Governale, and his wife, Kayren P. Governale. The Petitioners request a special hearing, pursuant to Section 500.7 of the Baltimore County Zoning Regulations (B.C.Z.R.), seeking an interpretation of Section 426.A.E of the B.C.Z.R. and approval of: 1) the configuration, height and location of the existing radio operator antenna, 2) giving full consideration and pre-emptive weight and authority to the Federal Communication Commission (FCC) statutes, rules, regulations, policies and interpretations applicable to the radio operator antenna, its height and location on the subject property. In the alternative, variance relief is requested from Section 426.A.E of the B.C.Z.R. to permit the existing radio operator antenna, in its present configuration and location and at its present height: 1) with an existing height as is determined by the Zoning Commissioner's interpretation of Section 426.A.E as applied to the antenna; or, 2) with a height of 99 feet, each in lieu of 65 feet, which is the horizontal distance from the closest point of the array from the nearest property line above grade level. The subject property and requested relief are more particularly described on the site plan submitted which was accepted into evidence and marked as Petitioner's Exhibit 1.

Appearing at the requisite public hearing in support of the request were Benjamin and Kayren Governale, property owners, Bruce Doak, the Surveyor who prepared the site plan for

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this property, and Howard L. Alderman, Jr., Esquire, attorney for the Petitioners. Also appearing were a number of amateur radio operators from the locale, namely H. Arthur Brown, Martin J. Green, Jr., Jack C. Hammett, Jr., John V. Evans, Stanley S. Siuta, James M. Green, and Theodore M. Provenza. Appearing as Protestants in the matter were Anne-Marie Hudak, Jason Hardebeck and Jeffrey L. Peek, Esquire, nearby residents of the area.

Testimony and evidence offered revealed that the subject property is an irregular shaped parcel located on the west side of Glenbrook Drive, north of Blenheim Road in Phoenix, not far from the Jacksonville community in northern Baltimore County. The property contains a gross area of 2.20 acres, more or less, zoned R.C.6, and is improved with a two-story single-family dwelling, known as 39 Glenbrook Drive, and a 99-foot tall radio operator tower/antenna that is the subject of the instant request. The Petitioners also own an adjacent unimproved parcel to the rear of the subject property. That parcel is identified on the site plan as Parcel 280 and contains approximately 1.652 acres in area also zoned R.C.6.

The instant Petitions were filed in response to a complaint registered with the Code Enforcement Division of the Department of Permits and Development Management relative to the "horizontal reach" of the antenna that are located on the tower. Essentially, relief is requested seeking a determination that the subject antenna meets the requirements of Section 426.A.E of the B.C.Z.R. relative to its distance to the property line. A resolution of the violation (Case No. 05-5573) is pending the outcome of the special hearing/variance relief.

Mr. Governale testified relative to his experience as an amateur radio operator, his work history, and the efforts he and his wife put into finding the subject property in furtherance of his hobby. After receiving a Bachelor of Science Degree in electronic engineering, Mr. Governale served in the United States Coast Guard, rising in rank from Radioman to Commander. His entire career continued in the radio transmitting and electronic circuitry field, spending some 32 years with the Black & Decker Corporation, and additional years with Bendix Radio until retirement. Mr. Governale is a member of three amateur radio organizations, and

testified to his involvement with the National Weather Service reporting stations and rescue of small boats that use the emergency frequency Band No. 14312 for distress calls.

Mr. Governale testified that he and his wife, using topographical maps, searched for property that would be positioned for optimal transmitting and receiving radio transmitted communications without interference from other sources. The Glenbrook Road property, which was purchased in 1975, proved to be high in elevation with gentle slopes and the R.C. zone permitted operator towers as a matter of right. Mr. Governale applied for and obtained the requisite building permit to construct a radio operator antenna tower and continued to renew the permit for years. Throughout this period of time, the Petitioner maintained his amateur radio license, including the amateur extra feature (see Petitioner's Exhibit 3), which allows him to operate on any band. Upon his retirement, Mr. Governale constructed the subject 99-foot tall tower, without guy wires (see Petitioner's Exhibit 5). As shown on the site plan, the subject 99-foot tall, three-legged, freestanding, lattice-type metal tower is located in the rear, central portion of the property, 254 feet from the nearest adjacent dwelling.

In this regard, Mr. Bruce Doak testified relative to the setback requirements of Section 426.A.E of the B.C.Z.R. As illustrated on the "tower detail" depicted on Petitioner's Exhibit 1, three radio antennae sit atop the tower structure, extending its total height to 99 feet. Each antenna has a separate or different function. The top two antennae (144 MHz at 95 feet and 432 MHz at 99 feet) extend horizontally 8½ feet from the tower. These two antennae broadcast on VHF and UHF antenna bands, referred to as "line of sight" bands, meaning the signal is attenuated, or reduced, by any obstruction in its path, such as trees or structures. The third antenna is a 91-foot high, 7 MHz antenna with an array that extends outward a distance of 34 feet. It is this antenna that is the source of controversy before me. This high frequency short-wave radio band transmits to the ionosphere and bounces back to earth as opposed to the "line of sight" antenna located above it. This 7 MHz antenna is designed to operate at a height of 140 feet, however, due to the topographical characteristics of the Petitioner's property, operates marginally at 91 feet. If the regulations are interpreted to require that this antenna array be

lowered to a height of 65 feet, its capability would be severely limited, according to Mr. Governale, as signals would no longer interact with the atmosphere and return to earth.

Given this backdrop, the "height" of the radio operator antenna and its "appearance" are the key issues in this case. Messrs. Doak and Governale both relate the height of an antenna and its proximity to the nearest property line to safety considerations. Mr. Peek, Mr. Hardabeck and Ms. Hudak (Protestants) relate the height to its appearance from their respective properties.

BCZR Section 426A.E cannot be read in a vacuum. There are three (3) provisions of Section 426A dealing with measurements. Those provisions are:

BCZR Section 426A.C: The "supporting structure for a radio operator antenna may not be located within 20 feet of any property line." (Emphasis added.)

BCZR Section 426A.D: A "radio operator antenna may not extend closer than the front building line to any street on which the lot fronts." (Emphasis added.)

BCZR Section 426A.E: A "radio operator antenna may not be higher than the lesser of 100 feet or the horizontal distance to the nearest property line above grade level." (Emphasis added.)

Thus, these provisions deal, in reverse order, with the height of the antenna, the extension of the antenna and the distance that the supporting structure is located from any property line. Protestants and, apparently, certain personnel in the Code Enforcement Division of the Department of Permits and Development Management utilize the extension of an antenna in determining its height. They suggest that if, as in the instant case, the horizontal distance from any portion of an antenna to the nearest property line is 65 feet, the maximum height permitted is 65 feet. Thus, Protestants consider the "extension" of an antenna in a horizontal plane as the determining factor in its "height".

To apply BCZR Section 426A as suggested by the Protestants would mean that the frequency in use controls the height of the antenna. A whip antenna -- that is an antenna with no "extension" whatsoever for 'non-directional' VHF frequencies -- mounted at the top of a supporting structure could extend to 100 feet in height above the ground, provided that it was a

minimum of 100 feet from all property lines. Conversely, that same analysis for the Governale 7MHz antenna for VHF/short wave frequencies which, as indicated above, 'extends' outward 34 feet from the supporting structure, would result in a limitation in "height" to 65 feet -- a height that, based on Mr. Governale's undisputed testimony renders communications at these frequencies completely inadequate. Thus, the application of Section 426A suggested by the Protestants would mandate maximum heights for different frequencies, an intent that is neither expressly nor implicitly implied in the law.

The relationship between antenna height and property lines as discussed by the Petitioner complies with the overriding standard of the protection of the health, safety and general welfare of the community outlined throughout the BCZR. The monopole antenna located 99 feet from the property line discussed above is limited to 99 feet in height and will not fall on adjoining property possibly jeopardizing the health and/or safety of neighbors. For a homeowner installation, this provision makes sense and no advanced expertise is necessary to locate a radio operator antenna in a fashion to protect the public safety. Applying the Peek *et al* "extension" analysis to the Governale antenna would result in the 7MHz antenna lowered to 65 vertical feet from the ground. Mr. Governale applied his "high school" geometry and the Pythagorean Theorem with respect to the horizontal extension of the antenna at their present height. Applying that geometric principle to each of the three antenna, Mr. Governale's undisputed testimony was that if the supporting structure were to literally snap at its base and fall to any side, the supporting structure and all antenna would fall on the Governale property and not that of adjoining neighbors. Thus, with respect to the issue of determining height and the welfare and safety of the community, the horizontal "extension" is without meaning.

Prior to the enactment of County Council Bill No. 30-1998, antenna associated with resident amateur radio operations were permitted as of right, provided that if it was a "rigid-structure" antenna, it could be no higher than 100 feet or the horizontal distance to the nearest property line, whichever was less, above the grade level. BCZR Section 1A01.2B.7.g [RC-2], 1A02.2B.31 [RC-3], 1A03.3B.14 [RC-4], and 1A04.2B.21 [RC-5]. This "rigid-structure"

antenna height language restricted radio operator antenna in two ways. The first was a *maximum* height of 100 feet. The second was that no matter what the actual height of the antenna was, it could not be closer to the nearest property line than its height. If such a rigid structure were to fall, it would fall within the property boundaries.

At the request of the County Council, the Baltimore County Planning Board issued a Final Report, dated November 20, 1997, to the County Council, in response to two Council resolutions regarding potential updates to the BCZR. In that report, the Planning Board made recommendations for both wireless telecommunication antenna and amateur radio antenna. The County Council, in Bill No. 30-1998 adopted the recommendations of the Planning Board into BCZR Sections 426 and 426A [the Board had recommended this as Section 427]. The specific recommendation of the Planning Board with respect to amateur radio antenna was to enact a new section of the BCZR and "provide references to it in all zones where amateur radio antennas are permitted, deleting duplicative text in each zone; this does not change the substance of the current regulations." *Final Report of the Baltimore County Planning Board - Proposed Amendments to the Baltimore County Zoning Regulations Regarding Wireless Telecommunications Facilities;* adopted November 20, 1997; p.8. (Emphasis added.) Thus, the legislative history of what is now BCZR Section 426A is clear that there was no intent to modify, substantively, the prior "rigid antenna" regulations.

It is the height of the antenna that is of prime import in this case. Nowhere in the BCZR is the term "height" defined. Section 101 of the BCZR - Definitions provides that any "word or term not defined in this section shall have the ordinarily accepted definition as set forth in the most recent edition of Webster's Third New International Dictionary of the English Language, Unabridged." In reviewing the "Webster's" definition of height, a variety of definitional phrases are set forth, including but not limited to "the highest part of something material"; "the distance extending from the bottom to the top of something standing upright"; and the "extent of elevation above a level". Clearly, height is not measured horizontally but vertically from the ground upward.

An additional legal factor in this analysis is the interrelationship of and potential preemption by the applicable provisions of federal law and regulation. State and local regulation of an amateur station antenna structure must not preclude amateur service communications. Rather, such regulation must reasonably accommodate such communications and must constitute the minimum practicable regulation to accomplish the state or local authority's legitimate purpose. 47 C.F.R., Section 97.15 The reasonable accommodation of the radio operator by the County is further described in the September, 1985 *Memorandum Opinion and Order in Private Radio Bureau (PRB-1)*, issued by the FCC.

More recently, in its consideration of a Petition for Rulemaking the FCC denied the Petition, holding that its findings articulated in *PRB-1* afforded local governments and zoning authorities ample guidance in regulating amateur radio operators and antennas used by those operators. The FCC found that *"PRB-1*'s guidelines brings to a local zoning board's awareness that the very least regulation necessary for the welfare of the community must be the aim of its regulations so that such regulations will not impinge on the needs of amateur operators to engage in amateur communications." *In the Matter of Modification and Clarification of Policies and Procedures Governing Siting and Maintenance of Amateur Radio Antennas and Support, Structures, and Amendment of Section 97.15 of the Commission's Rules Governing the Amateur Radio Service*, Case No. RM-8763, Para. II.9 (Emphasis added.)

In consideration of the Governale evidence and testimony, it is undisputed that the County's legitimate purpose of protection of health, safety and general welfare -- ensuring that a toppled antenna will remain within the boundaries of the Governale property -- will be achieved whether the 7MHz antenna is 65 or 91 vertical feet above the ground. It is also clear from Petitioner's Exhibit 1 that the extension of the 7MHz antenna at either height does not bring it closer to Glenbrook Drive than the front building line of the subject property.

Aesthetics are not a factor that the County Council sought to include in BCZR Section 426A. According to each Protestant their testimony and objections were based solely on aesthetic considerations without regard to regulation for safety considerations. Mr. Peek testified

that he believes that if the 7 MHz antenna were lowered to 65 vertical feet from the ground it might be shielded from his view by the trees planted by Mr. and Mrs. Governale. The supporting structure for the VHF antenna and the VHF antenna themselves would still be visible from the Peek property. Moreover, if for some reason Mr. & Mrs. Governale decided to remove the trees that they planted, the 7MHz antenna if shielded would again be visible from the Peek property, even if that antenna was located no more than 65 vertical feet from the ground. The position of the Protestants, none of whom are directly adjoining owners, apparently is that the 7MHz antenna required for effective communication by Mr. Governale must be aesthetically more consistent with the views from their respective properties. Clearly, this is a physical impossibility and a result not contemplated by the BCZR, the FCC, or the Courts. See *Evans v. Shore Communications, Inc., et al*, 112 Md. App. 284 (1996) and *AT&T Wireless Services v. Mayor and City Council of Baltimore*, 123 Md. App. 681 (1998) where the Court held that alleged adverse aesthetic effects of an antenna tower did not justify denial of a permit.

Applying a "plain language" reading to the height issue presented, if asked how tall a building was would anyone ask "How wide is the building?" This plain language approach, together with the definition of height incorporated into the BCZR and the legislative history of Section 426A persuade me to enter a finding that the height of a radio operator antenna is measured from the ground/base of the supporting structure to the antenna located furthest away in a vertical plane.

Accordingly, upon due consideration of all of the testimony and evidence presented, I am persuaded to grant the special hearing relief requested, allowing the radio operator antenna as presently configured and at its present height and location, to remain on the subject property. However, at such time as the tower and antennae cease to be used for telecommunication purposes, the Petitioners shall have one year from the date thereof to remove the structure(s).

Pursuant to the advertisement, posting of the property, and public hearing on these Petitions held, and for the reasons set forth above, the Petition for Special Hearing shall be granted, and the Petition for Variance dismissed as moot.

THEREFORE, IT IS ORDERED by the Zoning Commissioner for Baltimore County this 2nd day of December 2005 that the configuration, height and location of the existing radio operator antenna meets the requirements of Section 426.A.E of the B.C.Z.R. and the Federal Communication Commission (FCC) statutes, rules, regulations, policies and interpretations applicable to the radio operator antenna, its height and location on the property, as shown on Petitioner's Exhibit 1, and as such, the Petition for Special Hearing, be and is hereby GRANTED; and,

IT IS FURTHER ORDERED that the Petition for Variance seeking relief from Section 426.A.E of the B.C.Z.R. to permit the existing radio operator antenna, in its present configuration and location and at its present height; 1) with an existing height as is determined by the Zoning Commissioner's interpretation of Section 426.A.E as applied to the antenna; or, 2) with a height of 99 feet, each in lieu of 65 feet, which is the horizontal distance from the closest point of the array from the nearest property line above grade level, be and is hereby DISMISSED AS MOOT.

IT IS FURTHER ORDERED that any appeal of this decision must be entered within thirty (30) days of the date hereof.

WJW:bjs

WILLIAM J. WISEMAN, III
Zoning Commissioner
for Baltimore County

ORDER RECEIVED FOR FILING
Date 12/2/05
By BJS

BALTIMORE COUNTY
MARYLAND

JAMES T. SMITH, JR.
County Executive

December 2, 2005

WILLIAM J. WISEMAN III
Zoning Commissioner

Howard L. Alderman, Jr., Esquire
Levin & Gann
502 Washington Avenue, 8th Floor
Towson, Maryland 21204

RE: **PETITIONS FOR SPECIAL HEARING & VARIANCE**
W/S Glenbrook Drive, 569' N of the c/l Blenheim Road
(39 Glenbrook Drive)
10th Election District – 3rd Council District
Benjamin A. Governale, et ux - Petitioners
Case No. 06-180-SPHA

Dear Mr. Alderman:

Enclosed please find a copy of the decision rendered in the above-captioned matter. The Petition for Special Hearing has been granted and the Petition for Variance dismissed, in accordance with the attached Order.

In the event any party finds the decision rendered is unfavorable, any party may file an appeal to the County Board of Appeals within thirty (30) days of the date of this Order. For further information on filing an appeal, please contact the Department of Permits and Development Management office at 887-3391.

Very truly yours,

WILLIAM J. WISEMAN, III
Zoning Commissioner
for Baltimore County

WJW:bjs

cc: Mr. & Mrs. Benjamin Governale
39 Glenbrook Drive, Phoenix, Md. 21131
Mr. Bruce E. Doak, Gerhold, Cross & Etzel
320 E. Towsontown Blvd., Suite 100, Towson, Md. 21286
Ms. Anne-Marie Hudak, 18 Dalebrook Drive, Phoenix, Md. 21131
Mr. Jason Hardebeck, 21 Dalebrook Drive, Phoenix, Md. 21131
Jeffrey Peek, Esquire, 19 Dalebrook Drive, Phoenix, Md. 21131
People's Counsel; Case File

ORDER RECEIVED FOR FILING
Date 12/2/05
By BJS

Department of Permits and Development Management

Development Processing
County Office Building
111 W. Chesapeake Avenue
Towson, Maryland 21204

Baltimore County

James T. Smith, Jr., County Executive
Timothy M. Kotroco, Director

November 14, 2005

Benjamin A. Governale
Kayren P. Governale
39 Glenbrook Drive
Phoenix, Maryland 21131

Dear Mr. and Mrs. Governale:

RE: Case Number: 06-180-SPHA, 39 Glenbrook Drive

The above referenced petition was accepted for processing by the Bureau of Zoning Review, Department of Permits and Development Management (PDM) on September 23, 2005.

The Zoning Advisory Committee (ZAC), which consists of representatives from several approval agencies, has reviewed the plans that were submitted with your petition. All comments submitted thus far from the members of the ZAC are attached. These comments are not intended to indicate the appropriateness of the zoning action requested, but to ensure that all parties (zoning commissioner, attorney, petitioner, etc.) are made aware of plans or problems with regard to the proposed improvements that may have a bearing on this case. All comments will be placed in the permanent case file.

If you need further information or have any questions, please do not hesitate to contact the commenting agency.

Very truly yours,

W. Carl Richards, Jr.
Supervisor, Zoning Review

WCR: clb

Enclosures

c: People's Counsel
Bruce E. Doak 320 E. Towsontown Blvd., Ste. 100 Towson 21286

Robert L. Ehrlich, Jr., *Governor*
Michael S. Steele, *Lt. Governor*

SHA State Highway Administration — *Driven to Excel*

Robert L. Flanagan, *Secretary*
Neil J. Pedersen, *Administrator*

Maryland Department of Transportation

Date: 10.4.05

Ms. Kristen Matthews
Baltimore County Office of
Permits and Development Management
County Office Building, Room 109
Towson, Maryland 21204

RE: Baltimore County
Item No. 180 LTM

Dear. Ms. Matthews:

This office has reviewed the referenced item and we have no objection to approval as it does not access a State roadway and is not affected by any State Highway Administration projects.

Should you have any questions regarding this matter, please contact Larry Gredlein at 410-545-5606 or by E-mail at (lgredlein@sha.state.md.us).

Very truly yours,

S. D. Foster

Steven D. Foster, Chief
Engineering Access Permits Division

Fire Department

700 East Joppa Road
Towson, Maryland 21286-5500
Tel: 410-887-4500

Baltimore County

James T. Smith, Jr., County Executive
John J. Hohman, Chief

County Office Building, Room 111
Mail Stop #1105
111 West Chesapeake Avenue
Towson, Maryland 21204

Oct. 6,2005

ATTENTION: Zoning Review planners

Distribution Meeting of: July 18, 2005

Item No.: 167 thru 174 176 thru 184 Also case # 05-502-A

Pursuant to your request, the referenced plan(s) have been reviewed by this Bureau and the comments below are applicable and required to be corrected or incorporated into the final plans for the property.

1. The Fire Marshal's Office has no comments at this time.

Acting Lieutenant David S. Heath
Fire Marshal's Office
(O)410-887-4881
MS-1102F

cc: File

BALTIMORE COUNTY, MARYLAND

INTER-OFFICE CORRESPONDENCE

TO: Timothy M. Kotroco, Director
Department of Permits and
Development Management

DATE: October 17, 2005

FROM: Arnold F. 'Pat' Keller, III
Director, Office of Planning

SUBJECT: Zoning Advisory Petition(s): **Case(s) 6-180- Variance**

The Office of Planning has reviewed the above referenced case(s) and has no comments to offer.

For further questions or additional information concerning the matters stated herein, please contact Bill Hughey in the Office of Planning at 410-887-3480.

Prepared By: Curtis Lysong

Division Chief: Lyn Lanham

CM/LL

W:\DEVREV\ZAC\6-180.doc

RE: PETITION FOR SPECIAL HEARING AND VARIANCE 39 Glenbrook Drive; E/side Glenbrook Drive, 569' N Blenheim Road 10th Election & 3rd Councilmanic Districts Legal Owner(s): Benjamin & Kayren Governale Petitioner(s)	*	BEFORE THE ZONING COMMISSIONER FOR BALTIMORE COUNTY
	*	06-180-SPHA

* * * * * * * * * * * * *

ENTRY OF APPEARANCE

Please enter the appearance of People's Counsel in the above-captioned matter. Notice should be sent of any hearing dates or other proceedings in this matter and the passage of any preliminary or final Order. All parties should copy People's Counsel on all correspondence sent/ documentation filed in the case.

Peter Max Zimmerman
PETER MAX ZIMMERMAN
People's Counsel for Baltimore County

Carole S. Demilio
CAROLE S. DEMILIO
Deputy People's Counsel
Old Courthouse, Room 47
400 Washington Avenue
Towson, MD 21204
(410) 887-2188

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that on this 5th day of October, 2005, a copy of the foregoing Entry of Appearance was mailed to Bruce E. Doak, Gerhold, Cross & Etzel, Ltd, 320 E Towsontown Blvd, Towson, MD 21286, Representative for Petitioner(s).

RECEIVED
OCT 05 2005
Per.....

Peter Max Zimmerman
PETER MAX ZIMMERMAN
People's Counsel for Baltimore County

From: "John Lynch" <wa3g@arrl.net>
To: <tkotroco@co.ba.md.us>
Date: 11/12/05 1:03:42 PM
Subject: TOWER PROBLEMS

DEAR MR. KOTROCO,

I AM A AMATEUR RADIO OPERATOR IN SPARKS MARYLAND AND HAVE HEARD OF THE PLIGHT OF BENJAMIN, BUD, GOVERNALE, W3LL, 39 GLENBROOK DR, PHOENIX MD 21131. HE HAS A TOWER UP THAT HAS A BUILDING PERMIT APPROVAL. HE THEN PUT UP A LARGE BEAM ANTENNA AND A NEIGHBOR COMPLAINT. YOUR OFFICE CAME OUT AND SAID THAT HE HAS TO EXTEND THE DISTANCE FROM THE PROPERTY LINE BY THE LENGTH OF THE BEAM ANTENNA.

THIS IS NOT IN THE INTENT OF THE ZONING REGULATIONS AS I UNDERSTAND THEM. THE ZONING SAYS THAT THE TOWER , IF IT FALLS, STRAIGHT OUT FROM ITS BASE MUST STAY ENTIRELY ON THE OWNERS PROPERTY. IF THIS EVER HAPPENS, THE BEAM WHICH IS BOLTER TO THE TOWER TO TAKE 100 MPH WINDS WILL STAY WITH THE TOWER AND END UP STICKING IN THE GROUND LIKE AN ARROW STILL ATTACHED TO THE TOWER ON THE OWNERS PROPERTY. IT WILL NOT ROTATE AND EXTEND THE LENGTH OF THE TOWER ONTO THE NEIGHBOR'S PROPERTY.

PLEAS RECONSIDER YOUR EVALUATION OF THIS TOWER PROJECT. BUD IS A VALUABLE AMATEUR RADIO OPERATOR. WITH THE HURRICANES AND OTHER DISASTER, THE NEED FOR HAM RADIO OPERATORS HAVE BECOME APPARENT.

BUD'S NEW BEAM ANTENNA IS A GREAT ADDITION TO HIS STATION THAT GIVES HIM MUCH GREATER ABILITY TO OPERATE EFFECTIVE IN THE AMATEUR RADIO COMMUNITY.

PLEASE GRANT HIM THE EXEMPTION.

SINCERELY,

JOHN LYNCH, WA3G
15103 PRICEVILLE ROAD
SPARKS, MARYLAND 21152
410-771-4341

CC: <w3ll@arrl.net>

06-180-SPMA
Please place in File

PDLV010F Permits & Development - Livability Syst
View Cases

Case No: 05-5573

Notes: **6/29/05-OWNER HAS VALID PERMIT FOR A 100' TOWER (PERMIT B551665). CAL
ED COMPLAINANT TO LET HIM KNOW ABOVE. COMPLAINANT SAID HE WAS COMPLAINING THAT
OP OF TOWER HAD A CANOPY ON IT & IT WAS NOT 100' OFF OF PROPERTY LINE PER BCZR
ECTION 426A. I WENT DOWN TO ZONING & SPOKE TO CARL RICHARDS TO SEE WHERE SETBAC
S WERE MEASURED FROM. THE ONLY THING HE WOULD SAY WAS TO GET A SITE PLAN & SEE
WHAT THE SITE PLAN SAID. I WENT TO DOUG SWAM & HE SAID HE THOUGHT THEY WERE MEA
URED FROM BOTTOM OF TOWNER, BUT PLANS WOULD BE DOWNSTAIRS IN BUILDING PERMITS.
WENT TO BLDG & KAREN GAVE ME COPY OF PERMIT & SITE PLAN, WHICH SHOWS A STRAIGH
TOWER. TRIED TO SPEAK TO JIM THOMPSON WHO WAS BUSY. WILL SPEAK TO GARY FREUND
HEN HE RETURNS FROM THE FIELD. (SCJ)
**7/1/05-SPOKE TO GF, WHO SAID AGREED THERE IS NO VIOLATION. THE TOWER IS IN CO
MPLIANCE WITH THE PERMIT. IF THE COMPLAINANT IS NOT HAPPY, HE CAN FILE FOR A SPE
CIAL HEARING FOR AN INTERPRETATION FROM THE ZONING COMMISSIONER REGARDING SECTIO
N 426.A. TRIED TO CALL COMPLAINANT SEVERAL TIMES-PHONE BUSY. CASE CLOSED AS THE
RE IS NO VIOLATION. (SCJ)
7/27/05 REINSPECTION OF THE SITE PERFORMED PER THE REQUEST OF JIM THOMPSON. TH
ERESULTS OF HIS FINDINGS WERE

Enter=Continue F12=Cancel

PDLV010 F Permits & Development - Livability Syst
View Cases

Case No: 05-5573

Notes: SHARED WITH DIRECTOR TIM KOTROCO & LLOYD MOXLEY. AFTER READING THE D
FINITION OF AN ANTENNA PER WEBSTER'S DICTIONARY, BOTH STATED ATTACHEMENTS AT T
E TOP OF THE MONOPOLE ARE PART OF THE ANTENNA AND SUBJECT TO SECTION 426A OF T
E BCZR JHT/LMH**
*8/4/05 CORRECTION NOTICE ISSUED WITH A COPY TO THE COMPLAINANT, COMPLIANCE D
TE OF 9/6/05 JHT/LMH***
*9/12/05 SEE LETTER SENT TO HOWARD ALDERMAN EXTENDING CASE TO 9/23/05. COPY S
NT TO COMPLAINANT P/U 9/23/05 JHT/LMH***
9/26/05 TELEPHONE CALL TO HOWARD ALDERMAN. LEFT MESSAGE. HOWARD CALLED BACK & S
AID THEY FILED WITH THE ZONING OFFICE, CASE 06-180-ASPH. HE SAID HE WOULD SEND A
LETTER VERIFYING THIS. (SCJ)
9/27/05 WHILE TALKING TO HOWARD ALDERMAN REGARDING ANOTHER CASE, HE ASKED IF I
GOT HIS LETTER FOR THIS CASE. I SAID NO. HE SAID HE FAXED A COPY TO ME & THEN SE
NT ONE BY REGULAR MAIL. (SCJ)
**9/30/05 HOWARD ALDERMAN ESQUIRE, FILED PETITION ON 9/23/05. PETITION ASSIGNEDC
ASE NO. 06-180 ASPH. COMPLAINANT NOTED OF THIS FACT. POP-UP CASE ON 10/30/05 . T
O DETERMINE PUBLIC HEARING.

Enter=Continue F12=Cancel

PDLV010SF Permits & Development - Livability Syst[illegible]
View Cases

Case No: 05-557[illegible]

Notes: DATE
10/4/05 HOWARD ALDERMAN E-MAILED ME A COPY OF THE LETTER THAT HE SENT ON 9/26/0
VIA REGULAR MAIL & FAX TO JAMES THOMPSON WITH A COPY TO ME. I HAVE NEVER REC'I
ED EITHER THE FAX NOR REGULAR MAIL COPY. LETTER REFERENCES ZONING CASE 06-180-A
PH THAT WAS FILED ON 9/23/05. I WILL CHECK WITH THE ZONING OFFICE LATER THIS WE
K TO SE IF A HEARING DATE HAS BEEN SCHEDULED YET. (SCJ)
10/6/05 TELEPHONE CALL TO KRISTIN IN ZONING OFFICE. CASE HAS NOT BEEN SCHEDULED
YET, BU WILL PROBABLY BE TOWARDS THE END OF NOVEMBER. WILL CHECK WITH HER NEXT
WEEK. (SCJ)
10/18/05 HEARING SET FOR 11/16/05. ALLOW 2 WEEKS FOR DECISION TO BE MADE. UPDA
TED COMPL. BY V-MAIL. P/U ON 11/28/05. DP/SS

Enter=Continue F12=Cancel

PDLV010F Permits & Development - Livability Syst
View Cases

Case No: 05-5573

Address: 00039 GLENBROOK DR 21131
Insp Area: 002 Dist: 000 Date Rcv: 6/21/2005 Grp: ENF Intk: WRKD
Inspec: JENNINGS Inspec2: Date Inspec: 11/28/2005
Close: 0/00/0000 Activity: Delete: _

Proble: FREE STANDING ANTENNA, IS NOT LESS THAN 100 FT FROM PROP LINE

MAP 19K2 RC6

CL Nam: PEEK JEFF
CL Address: 00019 DALEBROOK DR

CL Home Phone: 410-752-6166 CL Work Phone: Tax Acct. 1700001183

Owner: BENJAMIN A & KAYREN P GOVERNALE

Enter=Continue F12=Cancel

ZONING COMMISSION OFFICE

FAX 3468

ATTN: BETTY

Department of Permits and Development Management

Development Processing
County Office Building
111 W. Chesapeake Avenue
Towson, Maryland 21204

Baltimore County

James T. Smith, Jr., County Executive
Timothy M. Kotroco, Director

January 23, 2006

Howard Alderman, Jr., Esquire
Levin & Gann
502 Washington Avenue, 8th Floor
Towson, MD 21204

Dear Mr. Alderman:

RE: Case: 06-180-SPHA, 39 Glenbrook Drive

Please be advised that People's Counsel filed an appeal of the above-referenced case in this office on December 19, 2005 and Jeffrey L. Peek also filed an additional appeal with this office on December 29, 2005. All materials relative to the case have been forwarded to the Baltimore County Board of Appeals (Board).

If you are the person or party taking the appeal, you should notify other similarly interested parties or persons known to you of the appeal. If you are an attorney of record, it is your responsibility to notify your client.

If you have any questions concerning this matter, please do not hesitate to call the Board at 410-887-3180.

Sincerely,

Timothy Kotroco

Timothy Kotroco
Director

TK:raj

c: William J. Wiseman, III, Zoning Commissioner
Timothy Kotroco, Director of PDM
Office of People's Counsel, M.S. 2010
Bruce E. Doak, Gerhold, Cross & Etzel, 320 E. Towsontown Blvd., Ste. 100, Towson, MD 21286
Mr. & Mrs. Benjamin Governale, 39 Glenbrook Dr., Phoenix, MD 21131
Ms. Anne-Marie Hudak, 18 Dalebrook Dr., Phoenix, MD 21131
Mr. Jason Hardebeck, 21 Dalebrook Dr., Phoenix, MD 21131
Jeffrey Peek, Esq., 19 Dalebrook Drive, Phoenix 21131

Baltimore County, Maryland

OFFICE OF PEOPLE'S COUNSEL
Room 47, Old CourtHouse
400 Washington Ave.
Towson, MD 21204

410-887-2188
Fax: 410-823-4236

PETER MAX ZIMMERMAN
People's Counsel

CAROLE S. DEMILIO
Deputy People's Counsel

December 19, 2005

Timothy Kotroco, Director
Department of Permits and
Development Management
111 W. Chesapeake Avenue
Towson, MD 21204

Hand-delivered

Re: PETITION FOR SPECIAL HEARING AND VARIANCE
W/S Glenbrook Drive, 569' N of the c/l Blenheim Road
(39 Glenbrook Drive)
10th Election District; 3rd Council District
Benjamin A. Governale. et ux. - Petitioners
Case No.: 06-180-SPHA

Dear Mr. Kotroco:

Please enter an appeal by the People's Counsel for Baltimore County to the County Board of Appeals from the Findings of Fact and Conclusions of Law dated December 2, 2005 by the Baltimore County Zoning Commissioner in the above-entitled case

Please forward copies of any papers pertinent to the appeal as necessary and appropriate.

Very truly yours,

Peter Max Zimmerman
People's Counsel for Baltimore County

Carole S. Demilio
Deputy People's Counsel

PMZ/CSD/rmw

cc: Mr. Howard L. Alderman, Jr. Esquire
Ms. Anne-Marie Hundak, 18 Dalebrook Drive, Phoenix, MD 21131
Mr. Jason Hardebeck, 21 Dalebrook Drive, Phoenix, MD 21131
Mr. Jeffrey Peck, Esquire , 19 Dalebrook Drive, Phoenix, MD 21131

APPEAL

Petitions for Variance & Special Hearing
39 Glenbrook Drive
E/S of Glenbrook Drive, 569 feet north of Blenheim Road
10th Election District – 3rd Councilmanic District
Legal Owners: Benjamin A. & Kayren P. Governale

Case No.: 06-180-ASPH

Petitions for Variance & Special Hearing (September 23, 2005)

Zoning Description of Property

Notice of Zoning Hearing (October 13, 2005)

Certification of Publication (November 1, 2005 – The Jeffersonian)

Certificate of Posting (October 25, 2005) by John J. Dill

Entry of Appearance by People's Counsel (October 5, 2005)

Petitioner(s) Sign-In Sheet – One Sheet

Protestant(s) Sign-In Sheet - None

Citizen(s) Sign-In Sheet – One Sheet

Zoning Advisory Committee Comments

Petitioners' Exhibits

1. Site Plan for Governale Property (39 Glenbrook Drive)
2A. Photo from front
2B. Photo from rear
3. W3LL – Amateur Radio License
4. 47 CFR 97.113 – Prohibited Transmissions
5A. Building Permit B 551665
5B. Diagram
6. Eleven letters of support from neighbors
7. View Map – Neighbors who have written letters
8. BCZR, Sec. 426.5 (D) Height Determination Standard

Protestants' Exhibits:

1A-1J – Photographs
2. Letter of opposition from Matt Inskeep

Miscellaneous (Not Marked as Exhibit)

1. 11/12/05 letter from John Lynch re: tower problems
2. 11/15/05 fax from PDM to Zoning Commissioner's Office re: Case No. 05-5573 notes pertaining to towers
3. Copy of Sec. 426A, BCZR
4. Copy of Page 1050, Definitions, Webster's Third New International Dictionary
5. Copy of Resolution No. 55-96
6. Copy of Resolution No. 27-97
7. Copy of Legislative Project 96-06 pertaining to Wireless communication Facilities
8. 11/24/97 letter to Hon. Joseph Bartenfelder from Pat Keller, Planning re: Wireless Telecommunication Facilities, Council Resolutions 55-96 & 27-97 w/ attachments
9. Copy of County Council Bill No. 30-98
10. Copy of 4-page document re: Bill No. 30-98
11. Copy of 3-page document re: Bill No. 121-01
12. Copy of 1-page document re: Bill No. 9-02
13. Copy of 1-page document re: Bill No. 17-02

Zoning Commissioner's Order **12/2/05 Granted** – Variance from Sec. 426.A.E, BCZR Dismissed as Moot

1st Notice of Appeal received on 12/19/05 from Office of People's Counsel

2nd Notice of Appeal received on 12/29/05 from Jeffrey L. Peek

c: People's Counsel of Baltimore County
Zoning Commissioner
Timothy Kotroco, Director of PDM
Howard L. Alderman, Jr., Esq., Levin & Gann, 502 Washington Ave., 8th Flr., Towson, MD 21204
Mr. & Mrs. Benjamin Governale, 39 Glenbrook Dr., Phoenix, MD 21131
Mr. Bruce E. Doak, Gerhold, Cross & Etzel, 320 E. Towsontown Blvd., Ste. 100, Towson, MD 21286
Ms. Anne-Marie Hudak, 18 Dalebrook Dr., Phoenix, MD 21131
Mr. Jason Hardebeck, 21 Dalebrook Dr., Phoenix, MD 21131
Jeffrey Peek, Esq., 19 Dalebrook Dr., Phoenix, MD 21131

date sent January 23, 2006, raj

CASE #: 06-180-SPHA

IN THE MATTER OF: BENJAMIN & KAYREN GOVERNALE
Legal Owners /Petitioners 39 Glenbrook Drive
10th Election District; 3rd Councilmanic District

SPH – Interpretation of § 426A.E of BZZR and approval of existing radio operator antenna, giving full consideration and pre-emptive weight and authority to FCC statutes, rules, regs, policies and interpretations applicable to radio operator antenna.
In the alternative: Variance relief to permit existing radio operator antenna in present configuration and location and at present height.

12/02/2005 – Z.C.'s Order in which the Petition for Special Hearing was GRANTED; requested variance relief dismissed as moot.

5/10/06 --Notice of Assignment sent to following; assigned for hearing on Wednesday, July 19, 2006 at 10 a.m.:

Office of People's Counsel
Jeffrey L. Peek, Esquire
Howard L. Alderman, Jr., Esquire
Mr. and Mrs. Benjamin Governale
Bruce E. Doak /Gerhold, Cross & Etzel
Fred Calleri
Anne-Marie Hudak
Jason Hardebeck
William J. Wiseman III /Zoning Commissioner
Pat Keller, Planning Director
Timothy M. Kotroco, Director /PDM

10/30/06 – Requests for postponement received by Board 6/26/06; letter to Mr. Alderman 7/05/06 granting request; new date to be assigned (kcb returned to office 9/12/06 /accident). Notice of Reassignment sent this date; case reassigned to Tuesday, December 5, 2006 at 10:00 a.m.

11/01/06 – People's Counsel for Baltimore County's Pre-Hearing Memo filed by Office of People's Counsel. *Copies to be provided to panel prior to date of hearing.*

12/05/06 – Board convened for hearing (Stahl, Mohler M, Brassil); concluded hearing this date; memos due 1/31/07; deliberation to be assigned.

1/09/2007 –Notice of Deliberation sent to parties; assigned for Thursday, February 22, 2007 at 9:30 a.m. FYI copy to 2-1-5 (w/note that Mr. Mohler is in on 2/22/07 only for the deliberation).

1/31/07 – Complainant's Memorandum filed by Jeffrey Peck, Esquire, on behalf of Protestants; Petitioner's Post-Hearing Memorandum filed by Howard L. Alderman, Jr., Esquire, on behalf of Petitioners (including Supplemental Information Accompanying Application for Approval of Radio Operator Antennas Under § 426A prepared by clients). Copies to 2-1-5 via USPS.

2/22/07 – Board convened for public deliberation; unanimous decision that special hearing relief is granted; variance request, in alternative, is DISMISSED as moot. Order to be issued. (2)

Jeffrey L. Peek
19 Dalebrook Drive
Phoenix, Maryland 21131

December 29, 2005

HAND DELIVERY

Timothy Kotroco, Director
Department of Permits and Development Management
111 W. Chesapeake Avenue
Towson, MD 21204

Re: ***Petition for Special Hearing and Variance***
39 Glen Brook Drive
Case No.: 06-180-SPHA

Dear Mr. Kotroco:

Please enter an appeal on my behalf to the County Board of Appeals from the Findings of Fact and Conclusions of Law, dated December 2, 2005, by the Baltimore County Zoning Commissioner in the above-captioned matter.

Enclosed please find my check for $400.00, which represents the costs associated with this appeal.

Please forward any materials relevant to this appeal to the above address as necessary. Thank you for your attention to this matter.

Very truly yours,

Jeffrey L. Peek

JLP/jmw
cc: Howard L. Alderman, Jr., Esquire
Michael and Anne Marie Hudak
Jason and Karen Hardebeck
Matthew and Jennifer Inskeep
William J. Wiseman, III, Esquire
Peter Max Zimmerman, Esquire

Public/JLP/Kotroco.Dept.Permits.12-28-05.jw

HOWARD L. ALDERMAN, JR.
halderman@LevinGann.com

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410-321-4640

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LEVIN & GANN
A PROFESSIONAL ASSOCIATION
NOTTINGHAM CENTRE
502 WASHINGTON AVENUE
8th Floor
TOWSON, MARYLAND 21204
410-321-0600
TELEFAX 410-296-2801

ELLIS LEVIN (1893-1960)
CALMAN A. LEVIN (1930-2003)

January 31, 2007

HAND DELIVERED
Ms. Kathleen Bianco, Administrator
County Board of Appeals for Baltimore County
400 Washington Avenue, Suite 49
Towson, Maryland 21204

RE: *Benjamin A. and Kayren P. Governale*
Case No. 06-180-SPH
Petitioners'/Owners' Post-Hearing Memorandum
Owners' Supplemental Information Submission

Dear Ms. Bianco:

In accordance with the direction received from the Board at the conclusion of the hearing on the above-referenced matter, I am pleased to provide to the Board an original and three (3) copies of the *Petitioner's Post-Hearing Memorandum*. I am also, as requested by my clients, transmitting four (4) copies of the *Supplemental Information Accompaning Application for Approval of Radio Operator Antennas Under § 426A*, prepared by my clients.

Should you or any member of the Board desire additional information or additional copies, please do not hesitate to contact me.

Very truly yours,

Howard L. Alderman, Jr.

RECEIVED
JAN 31 2007
BALTIMORE COUNTY
BOARD OF APPEALS

HLA/gk
Enclosures (8)
c (w/copy of both encl.): Peter Max Zimmerman, People's Counsel
Jeffrey L. Peek, Esquire

c (w/copy of Petitioners' Post-Hearing Memorandum only):
Mr. and Mrs. Benjamin A. Governale
Fred Hopengarten, Esquire

17 September 2006

39 Glenbrook Drive
Phoenix, Maryland 21131

County Board of Appeals
400 Washington Avenue
Towson, MD 21204.

Gentlemen,

This is to inform you that sometime between the hours of 5:00 PM and 8:00 PM on Sunday, September 17th, 2006 the posting sign for case 06-180-SPHA was removed by unknown persons.

Regards,

Benjamin A. Governale
w3ll@arrl.net
410-666-9189

11/16/05

PLEASE PRINT CLEARLY

CASE NAME_____
CASE NUMBER_____
DATE_____

PETITIONER'S SIGN-IN SHEET

NAME	ADDRESS	CITY, STATE, ZIP	E- MAIL
BENJAMIN GOVERNALE ✓	39 GLENBROOK DRIVE	PHOENIX MD 21131	W3LL@ARRL.NET
Kayren Governale ✓	39 Glenbrook Dr.	Phoenix MD 21131	kpgovernale@hotmail.com
H. ARTHUR BROWN	2800 LAWSON ROAD	PALLSTON MD 21047	W3KH2@JUNO.COM
MARTIN J. GREEN JR	1950 MT HOREB RD	STREET MD 21154-1006	K2PLF@aol.com
JACK C HAMMETT JR	40282 DOE RUN LANE	PAEONIAN SPRINGS, VA 20129	K4VV@aol.com
John V. Evans	24601 Stringtown Rd.	Clarksburg MD 20871	jvevans@his.com.
Stanley S. Siuta	9 Deer Pass CT	Coeklysville MD 21030	ssiuta@bcpl.net
X James M. Green	36 Sunnyview Dr	Phoenix, MD 21131	WB3DJU@ARRL.Net
THEODORE M. PROVENZA	11217 OLD CARRIAGE RD	GLENARM, MD. 21057-9420	W3OWN@JUNO.COM
HOWARD ANDERSON			
BRUCE E DOSE			

PLEASE PRINT CLEARLY

CASE NAME________________
CASE NUMBER______________
DATE____________________

CITIZEN'S SIGN-IN SHEET

NAME	ADDRESS	CITY, STATE, ZIP	E-MAIL
Anne-Marie Hudak	18 Dalebrook Drive	Phoenix, MD 21131	amhudak@comcast.net
JASON HARDEBECK	21 DALEBROOK DRIVE	PHOENIX, MD 21131	JHARDEBECK@WHOGLUE.COM
Jeff Peek	19 Dalebrook Drive	Phoenix, MD 21131	JLP@[illegible].com

Section 426A, Radio Operator Antennas [Bill No. 30-1998]

A. A radio operator antenna and related equipment, including any supporting structure, is considered an accessory structure or use and is permitted by right in any zone if the radio antenna and the related equipment meets the requirements of this section.

B. A radio operator antenna shall be operated by an amateur radio operator who is licensed by the Federal Communications Commission and whose domicile is on the lot where the antenna and the related equipment is placed.

C. A supporting structure for a radio operator antenna may not be located within 20 feet of any property line.

D. A radio operator antenna may not extend closer than the front building line to any street on which the lot fronts.

E. A radio operator antenna **may not be higher than the lesser of 100 feet or *THE HORIZONTAL DISTANCE TO THE NEAREST PROPERTY LINE ABOVE GRADE LEVEL*.**

Webster's Third New International Dictionary

OF THE ENGLISH LANGUAGE UNABRIDGED

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THE MERRIAM-WEBSTER
EDITORIAL STAFF

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¹heigh-ho \'ˌ'ˌ\ *interj* [*heigh* + *ho*] — used typically to express boredom, weariness, or sadness and sometimes to serve as a cry of encouragement

²heigh-ho \'ˌˌ\ *n* -S : ³FLICKER

¹height *also* **hight** \'hīt, *usu* -ītd·+V *also* -īth *sometimes* -ītth\ *n* -S [ME *heighthe, heighte, heghte, heyeth*, fr. OE *hīehthu, hēhthu;* akin to OHG *hōhida* height, ON *hæth*, Goth *hauhitha;* derivatives fr. the root of E *¹high*] **1 a** : the highest part of something material ⟨finally reached the ~ of the mountain⟩ : uppermost section or area or region : top part : SUMMIT, APEX, PINNACLE ⟨plunged down from the ~ of the tower⟩ **b** : the highest point of something not material ⟨at the ~ *of fame*⟩ : most advanced point : ZENITH ⟨the ~ of culture⟩ : most extreme degree ⟨the ~ *of stupidity*⟩ : fullest possible degree ⟨at the ~ of success⟩ : CULMINATION ⟨the ~ of all their desires⟩ ⟨the ~ of passion⟩ : most active or intense part : CLIMAX ⟨the ~ of an argument⟩ ⟨at the very ~ of the storm⟩ **2 a** (1) : the distance extending from the bottom to the top of something standing upright ⟨measured the ~ of the building⟩ *or from the bottom to an arbitrarily* chosen upper point ⟨the tree has a ~ of five feet at its first branch⟩ (2) : the distance extending from the lowest point to the highest point of an animal body esp. of a human being in a natural standing position ⟨a man who is six feet in ~⟩ or *from the lowest point to an arbitrarily chosen upper point* ⟨a dog two feet in ~ at the shoulder⟩ : STATURE **b** (1) : the extent of elevation above a level ⟨the land reaches a ~ of 600 feet above sea level⟩ : distance extending upwards : ALTITUDE ⟨impossible to know the exact ~ reached by the rocket⟩ (2) : the degree of approximation of the tongue to the palate *in pronouncing* a vowel **3** : the quality of possessing sufficient *or considerable or relatively great highness or stature* or altitude ⟨a triumphal arch that would have been more impressive if it had had more ~⟩ **4 a** : an extent of land (as a hill, mountain, or plateau) rising to a considerable degree above the surrounding country : a lofty eminence **b** : a high place or point or position ⟨the ~s and depths of love⟩ **5 a** *obs* : an advanced degree of distinction (as in rank) : notable excellence : SUPERIORITY ⟨exceeded by the ~ of happier men —Shak.⟩ **b** (1) *obs* : HAUGHTINESS (2) *archaic* : loftiness of mind or spirit ⟨with something of the old Roman ~ about him —Charles Lamb⟩ **6** *obs* **a** : degree of geographical latitude **b** : position (as of a ship) off a coast

²height *also* **hight** \'hīt, 'hīkt\ *vt* -ED/-ING/-S *dial* : HEIGHTEN

height·en \'hīt³n\ *vb* **heightened; heightening** \-t(ə)niŋ\ **heightens** [*¹height* + *-en*] *vt* **1 a** (1) : to increase the amount or degree or detail or extent of : AUGMENT, AMPLIFY ⟨~*ing* his speed —Edith Sitwell⟩ ⟨conflict has ~*ed* citizens' awareness of what they want —Constance Green⟩ ⟨this only ~*s our admiration* —Edmund Wilson⟩ ⟨~*ed* their campaign against news censorship —*Americana Annual*⟩ (2) : to make (as a color, an emotional experience) brighter or more glowing or more intense : DEEPEN, INTENSIFY ⟨happiness ~*ed* the natural ruddiness of her cheeks⟩ (3) : to delineate more *sharply* : make more evident : bring out more strongly : point up : HIGHLIGHT ⟨shade ~*s* the brightness of light —Havelock Ellis⟩ ⟨the benevolent expression of his face was ~*ed in later* years by his white hair and beard —F.H.Dewey & E.S.Bates⟩ (4) : to make more acute : SHARPEN ⟨which had ~*ed* his appreciation of the more austere pleasures of the afternoon —Archibald Marshall⟩ (5) : to make more poignant ⟨their sorrow was ~*ed by their forced absence from home*⟩ (6) : to increase the impact of : STRENGTHEN ⟨rapid action ~*s* the effect of the drama⟩ **b** (1) : to give physical height to or increase the physical height of : raise high or higher : ELEVATE ⟨the building had been ~*ed* by the addition of a second story⟩ (2) : to raise above the ordinary or trite : make better by adding *stature or distinction to* ⟨how can we use this fact to ~ our civilization —C.A.*Lindbergh b. 1902*⟩ **2** *obs* : to cause to be elated or excited : EXALT ⟨being ~*ed* with this victory —James Ussher⟩ ~ *vi* **1** *archaic* : to become great or greater in physical height : GROW, RISE ⟨as we rode up the carriageway, the rock seemed to ~ marvelously —J.H. Newman⟩ **2 a** : to become great or greater in amount, degree, detail, or extent ⟨his *youthful* impatience ~*ed* — A.J.Cronin⟩ **b** : to become brighter (as of a color) *or more* glowing or more intense ⟨though the color had ~*ed* in his cheek, he did not flinch from his friend's gaze —James Joyce⟩

syn see INTENSIFY

height finder *n* : a device used to determine the height of an airborne object

height gauge *n* **1** : a gauge having a micrometer or a vernier scale for measuring heights

estate (5) : one who receives some of the pro ceased person by operation of law, by virtue o any of various other ways **b** : *one who receive* to receive property during the lifetime of a ⟨made his friend ~ of the farm after deciding to **2** : one who inherits or is entitled to succeed t rank, title, or office upon the death or remov *by other cause (as abdication) of the holder* ⟨~ cipality of Monaco⟩ ⟨succession to the throne ~ following his abdication⟩ **3** : one to wh other than property (as a position of leadership, in a tradition or culture, a natural talent, a quality is transmitted or seems to be transmitted in acc *or apart from the wish of a predecessor and wit* the necessity of direct *succession* ⟨*looked upon* logical ~ of the slain dictator⟩ ⟨was the ~ of traditions of scholarship in Europe —R.W.South

²heir \"\ *vt* -ED/-ING/-S *now chiefly dial* : INHERI

heir apparency *n*, *pl* **heir apparencies** : APPARE

heir apparent *n*, *pl* **heirs apparent** [ME] **1** : a right to an inheritance is *indefeasible in law if he* legal ancestor ⟨became *heir apparent* to the thro grandfather . . . was killed —*Current Biog.*⟩ **2** SUMPTIVE — not used technically **3** : one who (as to a position or role) appears certain under cumstances ⟨*heir apparent* to Mr. Churchill as pr —*U.S. News & World Report*⟩ ⟨the Council of parliamentary *heir apparent* of a federated Eu Wike & A.Z.Rubinstein⟩

heir at law *n*, *pl* **heirs at law** **1** *Eng common law* whom an intestate's real property as distinguish personal estate is vested by operation of law will *or by curtesy or by right of dower* — calle *heir;* compare DEVISEE, LEGATEE **2** *usu* **heir-at-la** : an heir in whom by operation of the law of inte sion the heritable estate and part or all of the mo decedent are vested — called also *heir of line, heir legal heir*

heir·dom \-rdəm\ *n* -S **1** *archaic* : HERITAGE : HEIRSHIP

heir·ess \'erəs, 'ar-\ *n* -ES : a female heir; *esp* : a to great wealth

heiress apparent *n*, *pl* **heiresses apparent** **1** : a apparent **2** : HEIRESS PRESUMPTIVE — not used

heiress presumptive *n*, *pl* **heiresses presumptive** heir presumptive ⟨*heiress presumptive* to the Bri —*N.Y. Herald Tribune*⟩

heir general *n*, *pl* **heirs general** [ME *heire gener* AT LAW

heir in tail *n*, *pl* **heirs in tail** : one who expects to becomes a tenant in possession of a fee-tail estate in the death of a tenant *of* the estate under special ru mon law or statute governing succession to such a contrasted with the rules of inheritance under a descent

heir·less \'e-ləs\ *adj* : having no heir

heir·loom \'e-ˌlüm\ *n* [ME *heirlome*, fr. *heir* + *lome* tool — more at LOOM] **1** : a piece of property (as charter) that is viewed by law or special custom settlement as an inseparable part of an inheritance inherited with the inheritance **2** : something havi monetary or sentimental value or significance that on either by or apart from formal inheritance generation to another ⟨*the pin is a family* ~⟩ ⟨a ~ that must, at all cost, be preserved intact —Edw

heirmos *var of* HIRMOS

heir of entail *n*, *pl* **heirs of entail** **1** : HEIR IN TAI *law* : an heir called to the succession by a destinatio *of tailzie*

heir of inventory *n*, *pl* **heirs of inventory** *Scots la* FICIARY HEIR

heir of line *n*, *pl* **heirs of line** *Scots law* : HEIR AT L

heir of provision *n*, *pl* **heirs of provision** *Scots* who may or may not be an heir-at-law and who is succeed to property by the provisions of a deed or a *or a bond* : *an heir by destination*

heir of the body *n*, *pl* **heirs of the body** : a lineal he contrasted with a collateral heir

heir portioner *n*, *pl* **heirs portioners** **1** *Scots law* : o or more female heirs coming in the absence of male i a succession to an estate and sharing equally

COUNTY COUNCIL OF BALTIMORE COUNTY, MARYLAND
Legislative Session 1996, Legislative Day No. 15

Resolution No. 55-96

Councilmembers Kamenetz, Moxley, Gardina, & Bartenfelder

By the County Council, August 5, 1996

A RESOLUTION of the Baltimore County Council to request that the Baltimore County Planning Board consider proposing amendments to the Baltimore County Zoning Regulations in order to update the regulations applicable to communication structures.

WHEREAS, the Baltimore County Planning Board from time to time considers revisions to the Baltimore County Zoning Regulations; and

WHEREAS, the Zoning Regulations permit "wireless transmitting and receiving structures" as a matter of right in certain business and manufacturing zones subject to setback, fencing and environmental protection standards, and by special exception in certain residential zones; and

WHEREAS, the standards and regulations which presently govern these communication structures were established in 1986 (Bill 64-86); and

WHEREAS, these communication structures are used by police and fire departments, television and radio stations, and cellular telephone companies; and

WHEREAS, these communication structures commonly take the form of guyed mast towers or self-supporting towers, such as monopoles, which are frequently used by the cellular phone industry; and

WHEREAS, there is a growing market for wireless communications which generates a need for additional sites for these communication structures; and

WHEREAS, in 1993, the Baltimore County Council asked the Planning Board to consider changes to the Zoning Regulations with respect to wireless transmitting or receiving structures; and

WHEREAS, although the Planning Board issued a final report, dated January 27, 1994, recommending several changes to the Zoning Regulations, the Council did not act upon the report; and

WHEREAS, since 1994, significant technological and competitive advances have occurred in the communications field; and

WHEREAS, expanding government needs, as well as the expanding needs of an industry which provides services that benefit the public at large indicate the desirability for a comprehensive review of the current Zoning Regulations applicable to communication structures; and

WHEREAS, the concerns of residents living within the vicinity of proposed communication structures must also be taken into consideration.

NOW, THEREFORE, BE IT RESOLVED by the County Council of Baltimore County, Maryland that the Baltimore County Planning Board be and it is hereby requested to consider proposing amendments to the Baltimore County Zoning Regulations in order to update the regulations applicable to communication structures.

R05596.

COUNTY COUNCIL OF BALTIMORE COUNTY, MARYLAND
Legislative Session 1997, Legis Day No. 7

Resolution No. 27-97

Councilmembers Bartenfelder and Moxley

By the County Council, April 7, 1997

A RESOLUTION of the Baltimore County Council requesting a temporary moratorium on the construction or siting of wireless transmission structures or cellular phone towers in residential zones of Baltimore County.

WHEREAS, the Baltimore County Zoning Regulations currently regulate structures known as "wireless transmitting and receiving structures"; and

WHEREAS, these structures are permitted as a matter of right in certain business and manufacturing zones (subject to setback, fencing and environmental protection standards) and by special exception in certain residential zones; and

WHEREAS, the current Zoning Regulations were adopted by the County Council in 1986; and

WHEREAS, since 1986, significant technological advances have occurred in the communications field, and there is a growing market for wireless communications which in turn generates a need for additional sites for communications towers; and

WHEREAS, although these towers are useful to the operations of police and fire departments, television and radio stations, and cellular telephone companies, residents living within the vicinity of these towers are rightly concerned about the effects of these structures on their communities; and

WHEREAS, the recent proliferation of these communications towers, particularly in the residential zones of the County, points up the need for a complete inventory of existing structures and a comprehensive plan for the location of additional structures; and

WHEREAS, the number of communications towers currently in existence may provide sufficient capacity for the existing demand, especially by requiring that tower space be shared by cellular phone companies; and

WHEREAS, the Baltimore County Council has requested the Planning Board to review the law in order to update the Zoning Regulations applicable to communications towers (Resolution 55-96); and

WHEREAS, the Maryland General Assembly is currently considering legislation which would authorize local governments to adopt specified criteria for the location of communications towers and to adopt procedures for processing applications for permits or other approvals of such facilities; and

WHEREAS, pending the receipt of the report of the Planning Board and the final action of the General Assembly, all permits or other approvals for the construction or siting of wireless communications structures or cellular phone towers should be halted in areas of the County where a sufficient amount of tower space is available to accommodate potential users, thereby allowing the County Administration and the County Council an opportunity to devise a comprehensive, thoughtful program for the location of additional towers throughout Baltimore County.

NOW, THEREFORE, BE IT RESOLVED by the County Council of Baltimore County, Maryland, that all County agencies and offices are hereby urged to halt the processing of permits or other approvals for the construction or siting of communications structures of any kind in the County's residential zones if a sufficient amount of tower space is available to accommodate potential users, until the receipt by the County Council of the final report of the Planning Board and until the General Assembly has completed its decision-making process with respect to this subject.

R02797

COUNTY COUNCIL OF BALTIMORE COUNTY, MARYLAND
Legislative Session 1998, Legislative Day No. 4

Bill No. 30-98

All Councilmembers

By the County Council, February 17, 1998

A BILL
ENTITLED

AN ACT concerning

Zoning - Wireless Telecommunications Towers and Antennas

FOR the purpose of amending the Zoning Regulations in order to establish guidelines regarding the regulation of certain towers and antennas; excepting certain towers and antennas from regulation; establishing the Tower Review Committee; requiring certain persons to meet with and submit certain information to the Committee; authorizing the Committee to provide certain comments; authorizing certain towers and antennas to be located in certain zones under certain circumstances; requiring certain towers and structures to meet certain requirements; requiring a security bond or fee; requiring the owner of certain towers and structures to take certain actions; providing for the issuance of certain notices under certain circumstances; providing for the removal of a tower under certain circumstances; requiring towers by special exception to meet certain conditions;

EXPLANATION: CAPITALS INDICATE MATTER ADDED TO EXISTING LAW.
[Brackets] indicate matter stricken from existing law.
~~Strike out~~ indicates matter stricken from bill.
Underlining INDICATES AMENDMENTS TO BILL.

providing for certain enforcement and hearing procedures; establishing conditions for variances for towers; establishing guidelines regarding radio operator antennas; defining certain terms; repealing certain provisions; making certain technical amendments to certain sections; providing for the application and severability of this Act; establishing time frames for the issuance of certain decisions; providing for the interpretation of this Act; and generally relating to the regulation of towers and antennas.

BY repealing

Sections 101, the definitions of "Antenna, Long-Wire" and "Antenna, Rigid-Structure", and 426
Baltimore County Zoning Regulations, as amended

BY adding

Sections 101, alphabetically, the definitions of "Radio Operator Antenna", "Wireless Telecommunications Antenna", "Wireless Telecommunications Facilities", and "Wireless Telecommunications Tower", 426, and 426A
Baltimore County Zoning Regulations, as amended

BY repealing and re-enacting, with amendments

Sections 101, the definition of "Satellite Receiving Dish", 1A01.2.B.7.g, 1A01.2.C.23, 1A02.2.B.31, 1A03.3.B.14, 1A04.2.B.21, 1A05.2.C.6, 1B01.1.C.20, 205.3.B.3, 206.3.A.5, 206.3.B.2.d, 209.3.A.14, 209.3.D.2, 230.9, 230.13, 233.4, 236.4, 248.4.A, 253.1.B.19, 253.2.D.2, 256.1, 256.4, and 502.7

WHEREAS, the Baltimore County Council has received a final report from the Planning Board, dated November 20, 1997, concerning the subject legislation and has held a public hearing thereon on December 15, 1997, now, therefore,

SECTION 1. BE IT ENACTED BY THE COUNTY COUNCIL OF BALTIMORE COUNTY, MARYLAND, that Sections 101, the definitions of "Antenna, Long-Wire" and

"Antenna, Rigid-Structure", and 426 of the Baltimore County Zoning Regulations, as amended, be and they are hereby repealed.

SECTION 2. AND BE IT FURTHER ENACTED, that Sections 101, alphabetically, the definitions of "Radio Operator Antenna", "Wireless Telecommunications Antenna", "Wireless Telecommunications Facilities", and "Wireless Telecommunications Tower", 426, and 426A of the Baltimore County Zoning Regulations, as amended, be and they are hereby added to read as follows:

Section 101--Definitions.

RADIO OPERATOR ANTENNA: A WIRELESS ANTENNA USED IN CONJUNCTION WITH RADIO TRANSMITTING AND RECEIVING FACILITIES USED BY A RESIDENT AMATEUR RADIO OPERATOR POSSESSING AN AMATEUR RADIO OPERATOR'S LICENSE ISSUED BY THE FEDERAL COMMUNICATIONS COMMISSION.

WIRELESS TELECOMMUNICATIONS ANTENNA: A DIRECTIONAL OR OMNIDIRECTIONAL DEVICE THAT: (1) IS MOUNTED ON A TOWER, BUILDING, OR STRUCTURE; AND (2) TRANSMITS OR RECEIVES COMMUNICATIONS FOR THE PROVISION OF PERSONAL WIRELESS SERVICES, INCLUDING RADIO, TELEVISION, COMMERCIAL MOBILE SERVICES, UNLICENSED WIRELESS SERVICES, AND COMMON CARRIER WIRELESS EXCHANGE SERVICES. WIRELESS TELECOMMUNICATIONS ANTENNA INCLUDES ANY RELATED EQUIPMENT HOUSED AT THE BASE OF THE TOWER ON WHICH THE ANTENNA IS MOUNTED. WIRELESS TELECOMMUNICATIONS ANTENNA DOES NOT INCLUDE: (1) RADIO

OPERATOR ANTENNAS; (2) ACCESSORY USE SATELLITE RECEIVING DISHES; OR (3) ACCESSORY USE RADIO OR TELEVISION RECEIVING ANTENNAS.

WIRELESS TELECOMMUNICATIONS FACILITIES: FACILITIES USED FOR THE PROVISION OF PERSONAL WIRELESS SERVICES, INCLUDING WIRELESS TELECOMMUNICATIONS ANTENNAS, WIRELESS TELECOMMUNICATIONS TOWERS, AND PERSONAL WIRELESS SERVICE FACILITIES.

WIRELESS TELECOMMUNICATIONS TOWER: A SELF-SUPPORTING, GUYED, OR FREESTANDING STRUCTURE ERECTED FOR THE PURPOSE OF SUPPORTING ONE OR MORE WIRELESS TELECOMMUNICATIONS ANTENNAS.

SECTION 426 -- WIRELESS TELECOMMUNICATIONS FACILITIES

426.1 DEFINITIONS.

A. IN THIS SECTION THE FOLLOWING WORDS HAVE THE MEANINGS INDICATED.

B. "ANTENNA" MEANS A WIRELESS TELECOMMUNICATIONS ANTENNA.

C. "CODE OFFICIAL" MEANS THE DIRECTOR OF THE DEPARTMENT OF PERMITS AND DEVELOPMENT MANAGEMENT OR THE DIRECTOR'S DESIGNEE.

D. "COMMITTEE" MEANS THE TOWER REVIEW COMMITTEE ESTABLISHED UNDER SECTION 426.4.

E. "OWNER" MEANS THE OWNER, AGENT, LESSEE, OR PERSON IN CONTROL OF A WIRELESS TELECOMMUNICATIONS TOWER.

F. "TOWER" MEANS A WIRELESS TELECOMMUNICATIONS TOWER.

G. "PROVIDER" MEANS A WIRELESS TELECOMMUNICATIONS SERVICE

PROVIDER.

426.2 LEGISLATIVE POLICY FOR SITING OF WIRELESS TELECOMMUNICATIONS ANTENNAS AND TOWERS.

IT IS THE INTENT OF BALTIMORE COUNTY THAT:

A. ANTENNAS SHOULD BE PLACED ON EXISTING TOWERS, BUILDINGS, AND STRUCTURES, INCLUDING THOSE OF PUBLIC UTILITIES, WHERE FEASIBLE; AND

B. IF A NEW TOWER MUST BE BUILT, THE TOWER SHOULD BE:

1. CONSTRUCTED TO ACCOMMODATE ~~MULTIPLE WIRELESS TELECOMMUNICATIONS ANTENNAS~~ AT LEAST 3 PROVIDERS;

2. ERECTED IN A MEDIUM OR HIGH INTENSITY COMMERCIAL ZONE WHEN AVAILABLE; AND

3. LOCATED AND DESIGNED TO MINIMIZE ITS VISIBILITY FROM RESIDENTIAL AND TRANSITIONAL ZONES.

426.3 EXCEPTIONS.

THE PROVISIONS OF THIS SECTION DO NOT APPLY TO:

A. ANTENNAS OR TOWERS SERVING GAS AND ELECTRIC OR LAND-BASED LOCAL TELEPHONE PUBLIC UTILITY COMMUNICATIONS NEEDS AT EXISTING FACILITIES, PROVIDED THAT A PUBLIC UTILITY THAT OWNS ANY ANTENNAS OR TOWERS SHALL ESTABLISH THAT THE ANTENNAS OR TOWERS AND SERVICE MEET CRITICAL COMMUNICATIONS NEEDS FOR PUBLIC SAFETY; OR

B. ANTENNAS USED BY CABLE SYSTEMS OPERATING IN ACCORDANCE

WITH TITLE 8 OF THE BALTIMORE COUNTY CODE, 1988, AS AMENDED, IF LOCATED ON PROPERTY OWNED BY THE COUNTY, STATE, OR FEDERAL GOVERNMENT.

426.4 TOWER REVIEW COMMITTEE.

A. THERE IS A TOWER REVIEW COMMITTEE IN BALTIMORE COUNTY.

B. THE COMMITTEE SHALL CONSIST OF:

1. A TOWER COORDINATOR, WHO SHALL HAVE TECHNICAL EXPERTISE REGARDING THE SITING OF WIRELESS TELECOMMUNICATIONS TOWERS AND SHALL SERVE AS COMMITTEE CHAIRPERSON;

2. THE DIRECTOR OF THE OFFICE OF PLANNING OR THE DIRECTOR'S DESIGNEE;

3. THE DIRECTOR OF THE OFFICE OF INFORMATION TECHNOLOGY OR THE DIRECTOR'S DESIGNEE;

4. AN AT-LARGE CITIZEN REPRESENTATIVE APPOINTED BY THE COUNTY COUNCIL; AND

5. DEPENDING ON THE PARTICULAR SITE FOR A TOWER, REPRESENTATIVES OF OTHER GOVERNMENTAL AGENCIES AS DETERMINED BY THE TOWER COORDINATOR.

C. AN APPLICANT FOR A BUILDING PERMIT FOR AN ANTENNA SHALL SUBMIT A DUPLICATE COPY OF THE PERMIT APPLICATION TO THE TOWER COORDINATOR.

D. 1. PRIOR TO SUBMITTING A PETITION FOR A SPECIAL EXCEPTION OR

AN APPLICATION FOR A BUILDING PERMIT FOR A TOWER, A PETITIONER OR AN APPLICANT SHALL MEET WITH THE COMMITTEE. THE COMMITTEE SHALL MEET WITH THE PETITIONER OR THE APPLICANT WITHIN 3 WEEKS AFTER A WRITTEN REQUEST FOR A MEETING IS SUBMITTED.

2. THE PETITIONER OR THE APPLICANT SHALL SUBMIT TO THE COMMITTEE:

A. INFORMATION DETAILING THE MAXIMUM NUMBER OF PROVIDERS AND ANTENNAS THE PROPOSED TOWER CAN SUPPORT; AND

B. ANY OTHER RELEVANT TECHNICAL INFORMATION REQUESTED BY THE COMMITTEE.

3. THE COMMITTEE SHALL REVIEW THE INFORMATION SUBMITTED BY THE PETITIONER OR THE APPLICANT AND EVALUATE THE PROPOSED TOWER WITH REGARD TO THE LEGISLATIVE POLICY UNDER SECTION 426.2.

4. THE COMMITTEE MAY PROVIDE ADVISORY COMMENTS TO THE ZONING COMMISSIONER OR THE CODE OFFICIAL CONCERNING THE PROPOSED TOWER.

426.5 WIRELESS TELECOMMUNICATIONS TOWERS AND ANTENNAS.

	Antennas		Towers	
	How Permitted	Maximum Antenna Height and Antenna Diameter	<200 ft. high	> =200 ft. high
Residential Zone RC, RCC, CR District, DR, ROA	R	15 feet high, diameter three feet	SE	SE
			R if in an RC zone within the rights-of-way of public utility overhead electrical transmission lines carrying more than 69,000 volts, provided that the height of the tower does not exceed 250 feet	
Transitional Zones SE, RO, OR1, BMM, BMYC, BMB, CB	R	15 feet high, diameter three feet	SE	SE
Medium Intensity Commercial OR2, BLR, BL, BM, BR, MR, ML, MLR	R	Not regulated	R	SE
High Intensity Commercial O3, OT, MH	R	Not regulated	R	SE

A. IN THIS SUBSECTION THE FOLLOWING WORDS HAVE THE MEANINGS INDICATED.

B. "R" MEANS BY RIGHT.

C. "SE" MEANS BY SPECIAL EXCEPTION

D. THE COLUMN FOR ANTENNAS REFERS TO ANTENNAS LOCATED ON A TOWER, BUILDING, OR STRUCTURE LEGALLY EXISTING PRIOR TO THE INSTALLATION OF THE ANTENNA EVEN IF THE TOWER, BUILDING, OR STRUCTURE WAS APPROVED BY SPECIAL EXCEPTION.

E. THE HEIGHT OF A TOWER IS MEASURED FROM THE BASE OF THE TOWER TO THE TIP OF THE TOWER OR THE TIP OF THE HIGHEST ANTENNA ON THE TOWER, WHICHEVER DISTANCE IS GREATER.

426.6 REQUIREMENTS FOR WIRELESS TELECOMMUNICATIONS TOWERS.

A. SETBACKS.

~~1. FOR DETERMINING SETBACK REQUIREMENTS, THE HEIGHT OF A TOWER IS MEASURED FROM BASE OF THE TOWER TO THE TIP OF THE TOWER OR THE TIP OF HIGHEST ANTENNA LOCATED ON THE TOWER, WHICHEVER DISTANCE IS GREATER.~~

~~2. A TOWER SHALL BE SET BACK FROM ANY OTHER OWNER'S PROPERTY LINE A DISTANCE EQUAL TO AT LEAST THE HEIGHT OF THE TOWER, EXCEPT THAT IF THE TOWER IS LOCATED IN A RESIDENTIAL ZONE, THE TOWER SHALL BE SET BACK AT LEAST 200 FEET FROM ANY OTHER OWNER'S PROPERTY LINE.~~

~~3. IF A TOWER IS LOCATED IN A MEDIUM OR HIGH INTENSITY COMMERCIAL ZONE, THE TOWER SHALL BE SET BACK FROM ANY RESIDENTIAL~~

~~OR TRANSITIONAL ZONE LINE AT LEAST 200 FEET. IF A TOWER IS LOCATED IN A TRANSITIONAL ZONE, THE TOWER SHALL BE SET BACK FROM ANY RESIDENTIAL ZONE AT LEAST 200 FEET.~~

1. IF A TOWER IS LOCATED IN A RESIDENTIAL ZONE, THE TOWER SHALL BE SET BACK AT LEAST 200 FEET FROM ANY OTHER OWNER'S RESIDENTIAL PROPERTY LINE.

2. IF A TOWER IS LOCATED IN A TRANSITIONAL ZONE, THE TOWER SHALL BE SET BACK AT LEAST 200 FEET FROM ANY RESIDENTIAL ZONE.

3. IF A TOWER IS LOCATED IN A MEDIUM OR HIGH INTENSITY COMMERCIAL ZONE, THE TOWER SHALL BE SET BACK FROM AN ADJOINING PROPERTY LINE A DISTANCE EQUAL TO THE SETBACK REQUIRED FOR OTHER STRUCTURES IN THE ZONE. HOWEVER, IF THE PROPERTY ADJOINS A RESIDENTIAL ZONE, THE TOWER SHALL BE SET BACK AT LEAST 200 FEET FROM THE RESIDENTIAL ZONE LINE.

4. A STRUCTURE HOUSING EQUIPMENT FOR A TOWER SHALL MEET THE MINIMUM SETBACK REQUIREMENTS FROM ANY OTHER OWNER'S PROPERTY OR ZONE LINE.

5. NOTWITHSTANDING THE PROVISIONS OF SECTION 102.2 OF THESE REGULATIONS, IF MULTIPLE STRUCTURES HOUSING EQUIPMENT FOR A TOWER ARE LOCATED ON THE SAME OWNER'S PROPERTY, A YARD OR SETBACK IS NOT REQUIRED BETWEEN THE STRUCTURES.

B. EXCEPT AS REQUIRED BY THE FEDERAL AVIATION ADMINISTRATION,:

1. STROBOSCOPIC LIGHTS ARE NOT PERMITTED ON A TOWER; AND

2. THE TOWER, ANTENNA, AND SUPPORTING LINES SHALL BE NEUTRAL IN COLOR.

C. IF A TOWER IS LOCATED IN A RESIDENTIAL OR TRANSITIONAL ZONE, ANY STRUCTURE HOUSING EQUIPMENT FOR THE TOWER SHALL BE:

1. SCREENED IN ACCORDANCE WITH THE LANDSCAPE MANUAL, CLASS "A" SCREENING REQUIREMENTS; AND

2. FACED WITH A MATERIAL COMPATIBLE WITH BUILDINGS OR STRUCTURES SURROUNDING THE TOWER.

D. UPON COMPLETION OF A TOWER AND EVERY FIVE YEARS AFTER THE DATE OF COMPLETION, THE OWNER OF THE TOWER SHALL SUBMIT TO THE CODE OFFICIAL WRITTEN CERTIFICATION FROM A PROFESSIONAL ENGINEER VERIFYING THAT THE TOWER AND ANY STRUCTURE HOUSING EQUIPMENT FOR THE TOWER MEETS ALL APPLICABLE BUILDING CODE AND SAFETY REQUIREMENTS.

E. THE OWNER OF A TOWER SHALL SUBMIT ANNUALLY TO THE TOWER COORDINATOR WRITTEN CERTIFICATION OF THE NUMBER OF PROVIDERS AND ANTENNAS ON THE TOWER.

426.7 SECURITY BOND.

~~A. AN APPLICANT FOR A BUILDING PERMIT FOR A TOWER SHALL PROVIDE A SECURITY BOND IN A FORM AND AMOUNT SUFFICIENT TO CAUSE REMOVAL OF THE TOWER IF REQUIRED BY THE CODE OFFICIAL.~~

A. AN APPLICANT FOR A BUILDING PERMIT FOR A TOWER SHALL PROVIDE:

1. A SECURITY BOND IN AN AMOUNT NOT TO EXCEED $40,000 AND A TERM NOT TO EXCEED 25 YEARS; OR

2. A FEE NOT TO EXCEED $5,000.

B. THE ADMINISTRATIVE OFFICER SHALL DETERMINE THE FORM AND AMOUNT OF THE BOND OR FEE IN ACCORDANCE WITH SECTION 15-9 OF THE CODE.

~~B~~C. THE CODE OFFICIAL MAY USE THE BOND OR FEE TO PROCURE REPAIR OF UNSAFE OR HAZARDOUS CONDITIONS UNDER SECTION 426.8 OR REMOVAL OF A TOWER UNDER SECTION 426.10 IN ACCORDANCE WITH SECTION 1-7.1(B) OF THE CODE.

426.8 UNSAFE OR HAZARDOUS CONDITIONS.

A. THE OWNER OF A TOWER AND ANY STRUCTURE HOUSING EQUIPMENT FOR THE TOWER SHALL MAINTAIN THE TOWER AND ANY STRUCTURE IN GOOD WORKING CONDITION AND CORRECT ANY UNSAFE OR HAZARDOUS CONDITIONS, WHICH MAY INCLUDE:

1. CONDITIONS CAUSED BY VANDALISM;

2. FLAKING OR WORN EXTERIOR PAINT; AND

3. ILLEGAL OR IMPROPER OCCUPANCY OF THE TOWER OR STRUCTURE.

B. THE PROVISIONS OF THIS SUBSECTION SHALL BE ENFORCED IN

ACCORDANCE WITH SECTION 1-7 OF THE CODE.

426.9 ~~SPECIAL EXCEPTIONS~~ ADDITIONAL CONDITIONS FOR TOWERS PERMITTED BY SPECIAL EXCEPTION.

A. TOWERS PERMITTED BY SPECIAL EXCEPTION SHALL MEET THE REQUIREMENTS OF THIS SUBSECTION.

B. 1. A PETITIONER SHALL HAVE THE BURDEN OF DEMONSTRATING THAT:

A. THE PETITIONER HAS MADE A DILIGENT ATTEMPT TO LOCATE THE ANTENNA ON AN EXISTING TOWER; OR NON-RESIDENTIAL BUILDING; OR STRUCTURE;

B. DUE TO THE LOCATION, ELEVATION, ENGINEERING, TECHNICAL FEASIBILITY, OR INABILITY TO OBTAIN A LEASE OR OWNERSHIP OF A LOCATION ELSEWHERE, THE CONSTRUCTION OF A TOWER AT THE PROPOSED LOCATION IS WARRANTED;

C. TO THE EXTENT TECHNICALLY FEASIBLE, THE TOWER HAS BEEN DESIGNED TO ACCOMMODATE ~~AT LEAST 2 OTHER ANTENNAS~~ ANTENNAS OF AT LEAST 2 OTHER PROVIDERS; AND

D. THE HEIGHT OF THE TOWER IS NO HIGHER THAN WHAT IS REQUIRED TO ENABLE PRESENT AND FUTURE CO-LOCATION OF OTHER ~~ANTENNAS~~ PROVIDERS.

2. THE ZONING COMMISSIONER SHALL REVIEW THE PETITIONER'S SUBMITTAL WITH REGARD TO THE LEGISLATIVE POLICY UNDER SECTION 426.2.

C. IN A RESIDENTIAL OR TRANSITIONAL ZONE, A TOWER SHALL MEET THE FOLLOWING ADDITIONAL REQUIREMENTS:

1. A PETITIONER SHALL HAVE THE BURDEN OF DEMONSTRATING THAT:

A. THERE IS NO AVAILABLE, SUITABLE SITE FOR THE TOWER IN A MEDIUM OR HIGH INTENSITY COMMERCIAL ZONE, IDENTIFYING WITH PARTICULARITY ANY SITES CONSIDERED; OR

B. DUE TO TOPOGRAPHICAL OR OTHER UNIQUE FEATURES, THE PROPOSED SITE IS MORE CONSISTENT WITH THE LEGISLATIVE POLICY UNDER SECTION 426.2 THAN A SITE IN AN AVAILABLE MEDIUM OR HIGH INTENSITY COMMERCIAL ZONE.

2. A TOWER IN AN R.C. ZONE SHALL BE LOCATED ON A LOT OF AT LEAST 5 ACRES. IN ALL OTHER RESIDENTIAL OR TRANSITIONAL ZONES, A TOWER SHALL BE LOCATED ON A LOT OF AT LEAST 3 ACRES.

3. IN GRANTING A SPECIAL EXCEPTION, THE ZONING COMMISSIONER, OR BOARD OF APPEALS UPON APPEAL, SHALL IMPOSE CONDITIONS OR RESTRICTIONS AS PROVIDED IN SECTION 502.2. IN ADDITION, THE COMMISSIONER SHALL REQUIRE THAT THE TOWER BE DISGUISED AS A STRUCTURE OR NATURAL FORMATION, SUCH AS A FLAGPOLE, STEEPLE, OR TREE, WHICH IS FOUND, OR LIKELY TO BE FOUND, IN THE AREA OF THE TOWER UNLESS THE COMMISSIONER FINDS THAT THE REQUIREMENT IS NOT REASONABLE OR ADVISABLE FOR THE PROTECTION OF PROPERTIES

SURROUNDING THE TOWER.

426.10 REMOVAL OF TOWERS.

A. THE CODE OFFICIAL MAY ISSUE A CITATION FOR REMOVAL OF A TOWER, INCLUDING ALL ABOVE-GROUND STRUCTURES, EQUIPMENT, AND PAVING, TO THE OWNER IF :

1. THE CODE OFFICIAL DETERMINES THAT THE TOWER HAS NOT BEEN IN ACTUAL AND CONTINUOUS USE FOR 12 CONSECUTIVE MONTHS;

2. THE OWNER HAS FAILED TO CORRECT AN UNSAFE OR HAZARDOUS CONDITION UNDER SECTION 426.8 WITHIN THE TIME PRESCRIBED IN A CORRECTION NOTICE ISSUED BY THE CODE OFFICIAL; OR

3. THE OWNER HAS NOTIFIED THE CODE OFFICIAL THAT USE OF THE TOWER HAS TERMINATED.

B. A SPECIAL EXCEPTION FOR THE OPERATION OF A TOWER BECOMES VOID UPON A FINAL ORDER OF THE CODE OFFICIAL FOR REMOVAL OF THE TOWER.

C. THE PROVISIONS OF THIS SUBSECTION SHALL BE ENFORCED IN ACCORDANCE WITH SECTION 1-7 OF THE CODE.

D. 1. THE CODE OFFICIAL MAY PROCURE COMPLIANCE IN ACCORDANCE WITH SECTION 1-7.1(B) OF THE CODE IF THE OWNER FAILS TO COMPLY WITH A FINAL ORDER TO REMOVE THE TOWER.

2. EXPENSES FOR REMOVAL OF A TOWER WHICH EXCEED THE AMOUNT OF ANY SECURITY BOND POSTED UNDER SECTION 426.7 SHALL

BECOME A LIEN ON THE PROPERTY OF THE OWNER.

426.11 VARIANCES.

THE ZONING COMMISSIONER, AND BOARD OF APPEALS UPON APPEAL, MAY GRANT A VARIANCE TO A HEIGHT OR AREA REQUIREMENT, INCLUDING ANY SETBACK, FOR A TOWER OR STRUCTURE HOUSING EQUIPMENT FOR A TOWER IN ACCORDANCE WITH SECTION 307 OF THESE REGULATIONS.

426.12 ISSUANCE OF BUILDING PERMITS.

A. BUILDING PERMITS FOR ANTENNAS AND TOWERS PERMITTED BY RIGHT SHALL BE ISSUED IN ACCORDANCE WITH THE REQUIREMENTS OF THIS SUBSECTION.

B. A DECISION ON AN APPLICATION FOR A BUILDING PERMIT SHALL BE MADE WITHIN 30 DAYS OF RECEIPT OF A COMPLETE PERMIT APPLICATION.

C. ANY DECISION DENYING AN APPLICATION FOR A BUILDING PERMIT SHALL BE SET FORTH IN WRITING AND SUPPORTED BY SUBSTANTIAL EVIDENCE CONTAINED IN A WRITTEN RECORD

SECTION 426A -- RADIO OPERATOR ANTENNAS

A. A RADIO OPERATOR ANTENNA AND RELATED EQUIPMENT, INCLUDING ANY SUPPORTING STRUCTURE, IS CONSIDERED AN ACCESSORY STRUCTURE OR USE AND IS PERMITTED BY RIGHT IN ANY ZONE IF THE RADIO ANTENNA AND THE RELATED EQUIPMENT MEETS THE REQUIREMENTS OF THIS SECTION.

B. A RADIO OPERATOR ANTENNA SHALL BE OPERATED BY AN AMATEUR RADIO OPERATOR WHO IS LICENSED BY THE FEDERAL COMMUNICATIONS

COMMISSION AND WHOSE DOMICILE IS ON THE LOT WHERE THE ANTENNA AND THE RELATED EQUIPMENT IS PLACED.

C. A SUPPORTING STRUCTURE FOR A RADIO OPERATOR ANTENNA MAY NOT BE LOCATED WITHIN 20 FEET OF ANY PROPERTY LINE.

D. A RADIO OPERATOR ANTENNA MAY NOT EXTEND CLOSER THAN THE FRONT BUILDING LINE TO ANY STREET ON WHICH THE LOT FRONTS.

E. A RADIO OPERATOR ANTENNA MAY NOT BE HIGHER THAN THE LESSER OF 100 FEET OR THE HORIZONTAL DISTANCE TO THE NEAREST PROPERTY LINE ABOVE GRADE LEVEL.

SECTION 3. AND BE IT FURTHER ENACTED, that Sections 101, the definition of "Satellite Receiving Dish", 1A01.2.B.7.g, 1A01.2.C.23, 1A02.2.B.31, 1A03.3.B.14, 1A04.2.B.21, 1A05.2.C.6, 1B01.1.C.20, 205.3.B.3, 206.3.A.5, 206.3.B.2.d, 209.3.A.14, 209.3.D.2, 230.9, 230.13, 233.4, 236.4, 248.4.A, 253.1.B.19, 253.2.D.2, 256.1, 256.4, and 502.7 of the Baltimore Zoning Regulations, as amended, be and they are hereby repealed and re-enacted to read as follows:

Section 101--Definitions.

Satellite Receiving Dish: A device used or designed to receive electromagnetic signals from earth-orbiting satellites and other extraterrestrial sources and is external to or is attached to THE GROUND OR the exterior of any building. The term satellite receiving dish includes satellite earth station, satellite television antenna, satellite dish antenna, or any other device designed to receive signals from satellites in the manner described above. For the purposes of these regulations, accessory satellite receiving dishes shall not be considered [as wireless

transmitting and receiving structures, rigid-structure antennas or long-wire antennas] WIRELESS TELECOMMUNICATIONS ANTENNAS OR RADIO OPERATOR ANTENNAS.

Section 1A01--R.C. 2 (Agricultural) Zones

1A01.2--Use Regulations.

B. Uses permitted as of right. The following uses, only, are permitted as of right in all R.C. 2 zones:

7. Accessory uses or structures, including, but not limited to, the following:

g. Radio OPERATOR antennas [in conjunction with wireless transmitting or receiving facilities, provided that any such facility is used by a resident who has an amateur radio operator's license issued by the Federal Communications Commission. No such antenna may extend closer than the front building line to any street on which the lot may front; no rigid-structure antenna may be taller above grade level than the horizontal distance to the nearest property line or 100 feet, whichever is less; and no supporting structure may be situated within 50 feet of any property line (see also Section 400)], SUBJECT TO SECTION 426A.

C. Uses permitted by special exception. The following uses, only, may be permitted by special exception in any R.C. 2 zone, provided that in each case the hearing authority empowered to hear the petition finds that the use would not be detrimental to the primary agricultural uses in its vicinity; and, in the case of any use permitted under Item 24, further provided that the hearing authority finds that the use would support the primary agricultural use in its vicinity and would not itself be situated on land more appropriately used for primary agricultural uses:

23. [Wireless transmitting or receiving facilities as principal uses] WIRELESS TELECOMMUNICATIONS TOWERS, SUBJECT TO SECTION 426.

Section 1A02--R.C. 3 (Deferral of Planning and Development) Zones

1A02.2--Use Regulations.

B. Uses permitted by special exception. The following uses, only, are permitted by special exception in R.C. 3 zones.

31. [Wireless transmitting and receiving structures, except that a radio antenna in conjunction with transmitting and receiving facilities used by a resident amateur radio operator possessing an amateur radio operator's license issued by the Federal Communications Commission shall be considered an accessory structure or, if attached to another structure, an accessory use, and, as such, is permitted without a special exception, provided: (a) that if it is an accessory structure, it shall be subject to the provisions of Section 400; (b) that if it is a rigid-structure antenna, it shall be no higher than 100 feet or the horizontal distance to the nearest property line, whichever is less, above the grade level, and nor supporting structure thereof shall be closer than 50 feet to any property line; and, further, (c) that it does not extend closer to the street on which the lot fronts than the front building line] WIRELESS TELECOMMUNICATIONS TOWERS, SUBJECT TO SECTION 426.

Section 1A03--R.C. 4 (Watershed Protection) Zones

1A03.3--Use Regulations

B. Uses permitted by special exception. The following uses, only, are permitted by special exception in R.C. 4 zones:

14. [Wireless transmitting and receiving structures, except that a radio antenna in conjunction with transmitting and receiving facilities used by a resident amateur radio operator possessing an amateur radio operator's license issued by the Federal Communications

Commission shall be considered an accessory structure, or, if attached to another structure, an accessory use, and, as such, is permitted without a special exception, provided: (a) that if it is an accessory structure, it shall be subject to the provisions of Section 400; (b) that if it is a rigid-structure antenna, it shall be no higher than 100 feet or the horizontal distance to the nearest property line, whichever is less, above grade level, and no supporting structure thereof shall be closer than 50 feet to any property line; and, further, (c) that it does not extend closer to the street on which the lot fronts than the front building line] WIRELESS TELECOMMUNICATIONS TOWERS, SUBJECT TO SECTION 426.

'Section 1A04--R.C. 5 (Rural - Residential) Zone

1A04.2--Use Regulations

B. Uses permitted by special exception. The following uses, only, are permitted by special exception in R.C. 5 zones.

21. [Wireless transmitting and receiving structures, except that a radio antenna in conjunction with transmitting and receiving facilities used by a resident amateur radio operator possessing an amateur radio operator's license issued by the Federal Communications Commission shall be considered an accessory structure, or, if attached to another structure, an accessory use, and, as such, is permitted without a special exception, provided: (a) that if it is an accessory structure, it shall be subject to the provisions of Section 400; (b) that if it is a rigid-structure antenna, it shall be no higher than 100 feet or the horizontal distance to the nearest property line, whichever is less, above the grade level, and nor supporting structure thereof shall be closer than 50 feet to any property line; and, further, (c) that it does not extend closer to the street on which the lot fronts than the front building line] WIRELESS

TELECOMMUNICATIONS TOWERS, SUBJECT TO SECTION 426.

Section 1A05--R.C. 20 and R.C. 50 Zones

1A05.2 Table of Land Use Regulations

C. Institutional, Public and Quasi-Public Uses

6. [Wireless transmission or receiving and relay facilities as a principal use]

WIRELESS TELECOMMUNICATIONS TOWERS, SUBJECT TO SECTION 426.

Section 1B01--Regulations with Respect to D.R. Zones in General

1B01.1--General Use Regulations in D.R. Zones.

C. Uses Permitted by Special Exception. The following uses, only, are permitted by special exception in all D.R. zones, subject to the restrictions hereinafter prescribed:

20. [Wireless transmitting and receiving structures, as principal uses or structures, provided that any exterior transmitting and receiving antenna greater than 50 feet above grade level shall be considered a principal use or structure] WIRELESS TELECOMMUNICATIONS TOWERS, SUBJECT TO SECTION 426.

Section 205--OR-1 (Office Building - Residential) Zones

205.3 Use Regulations in OR-1 Zones.

B. The following uses, only, are allowable by special exception:

3. [Wireless transmitting or receiving structures] WIRELESS TELECOMMUNICATIONS TOWERS, SUBJECT TO SECTION 426.

Section 206--OR-2 (Office Building - Residential) Zones

206.3 Use Regulations in OR-2 Zones.

A. Uses permitted by right. The following uses, only, are permitted by right:

5. [Wireless transmitting or receiving structures 200 feet or less in height above grade level (see Section 426)] WIRELESS TELECOMMUNICATIONS ANTENNAS OR WIRELESS TELECOMMUNICATIONS TOWERS, SUBJECT TO SECTION 426.

B. Uses allowable by special exception.

2. The following accessory uses are allowable by special exception if they are not within office buildings, as permitted by Section 305.3.A.3, or would occupy more floor area than would be allowed under the standard of Section 205.3.C.1.b, provided that the zoning commissioner finds that the uses will primarily serve the principal uses of the lot or office park:

d. [Wireless transmitting or receiving structures not permitted by Section 426] WIRELESS TELECOMMUNICATIONS TOWERS, SUBJECT TO SECTION 426.

Section 209--O.T. (Office and Technology) Zone.

209.3 Permitted Uses.

A. Principal Uses. The following principal uses are permitted as a matter of right:

14. [Wireless transmitting or receiving structures 200 feet or less in height above grade level] WIRELESS TELECOMMUNICATIONS ANTENNAS OR WIRELESS TELECOMMUNICATIONS TOWERS, SUBJECT TO SECTION 426.

D. Uses permitted by Special Exception.

2. [Wireless transmitting or receiving structures not permitted by Section 426] WIRELESS TELECOMMUNICATIONS TOWERS, SUBJECT TO SECTION 426.

B.L. Zone--Business, Local

Section 230--Use Regulations

The following uses only are permitted (see Section 230.12):

230.9--

[Wireless transmitting or receiving structures 200 feet or less in height above grade level]

WIRELESS TELECOMMUNICATIONS ANTENNAS OR WIRELESS TELECOMMUNICATIONS TOWERS, SUBJECT TO SECTION 426.

230.13--Special Exceptions--The following uses when permitted as special exceptions (see Sections 270 and 502):

[Wireless transmitting or receiving structure not permitted by Section 426] WIRELESS TELECOMMUNICATIONS TOWERS, SUBJECT TO SECTION 426.

B.M. Zone--Business, Major

Section 233--Use Regulations

The following uses only are permitted (see Section 233.3):

233.4 Special Exceptions. The following uses are permitted as special exceptions (see Sections 270 and 502):

[Wireless transmitting or receiving structure not permitted by Section 426] WIRELESS TELECOMMUNICATIONS TOWERS, SUBJECT TO SECTION 426.

Section 236 -- B.R. Zone (Business, Roadside) Use Regulations

The following uses only are permitted:

236.4 Special Exceptions. The following uses when permitted as special exceptions (see Sections 270 and 502):

[Wireless transmitting or receiving structure not permitted by Section 426] WIRELESS TELECOMMUNICATIONS TOWERS, SUBJECT TO SECTION 426.

M.L.R. Zone--Manufacturing Light, Restricted

Section 248--Use Regulations:

The following uses only are permitted:

248.4--Special Exceptions--When permitted as special exceptions (see Sections 270 and 502).

A. The following uses:

[Wireless transmitting or receiving structure not permitted by Section 426] WIRELESS TELECOMMUNICATIONS TOWERS, SUBJECT TO SECTION 426.

Section 253 -- M.L. Zone (Manufacturing, Light) Use Regulations

253.1 Uses permitted as of right. The uses listed in this subsection, only, shall be permitted as of right in M.L. zones, subject to any conditions hereinafter prescribed.

B. The following transportation, storage, or quasi-public uses or utilities:

19. [Wireless transmitting or receiving structures 200 feet or less in height above grade level (see Section 426)] WIRELESS TELECOMMUNICATIONS ANTENNAS OR WIRELESS TELECOMMUNICATIONS TOWERS, SUBJECT TO SECTION 426.

253.2 Uses permitted by Special Exception. The uses listed in this subsection are permitted by special exception only (see Section 502).

D. The following miscellaneous uses:

2. [Wireless transmitting or receiving structures not permitted by Section 426] WIRELESS TELECOMMUNICATIONS TOWERS, SUBJECT TO SECTION 426; and

M.H. Zone--Manufacturing, Heavy

Section 256--Use Regulations

256.1--Uses permitted in MR zones, Section 241.1 and in Section 253.4 of the M.L. zone:

[Wireless transmitting or receiving structure 200 feet or less in height above grade level] WIRELESS TELECOMMUNICATIONS ANTENNAS OR WIRELESS TELECOMMUNICATIONS TOWERS, SUBJECT TO SECTION 426.

256.4--Special Exceptions--the following uses only when permitted as special exceptions (see Sections 270 and 502):

[Wireless transmitting or receiving structure not permitted by Section 426] WIRELESS TELECOMMUNICATIONS TOWERS, SUBJECT TO SECTION 426.

Section 502--Special Exceptions

502.7--[Wireless Transmitting and Receiving Facilities.] WIRELESS TELECOMMUNICATIONS TOWERS.

[A.] A special exception may not be granted for any [wireless transmitting or receiving facility] WIRELESS TELECOMMUNICATIONS TOWER <u>OVER 200 FEET IN HEIGHT</u> which is within one and one-half miles of (1) an existing district on the Baltimore County Final Historic Landmarks list, or (2) any of the following historical districts on the national register of historic places, namely, Oella, My Lady's Manor, Western Run, Worthington Valley, Greenspring Valley, and Long Green Valley[, if the horizontal distance from the facility to the boundary or property line of such district does not exceed ten times the height of the facility above grade, and] unless the zoning commissioner or the board of appeals, upon appeal, finds that the proposed use will not be detrimental to or detract from the documented values of any such district due to the height of the proposed [structure] TOWER and its placement and

visibility relative to such district.

[B. Paragraph 502.7.A. does not apply to a wireless transmitting or receiving facility which is:

1. Not higher than three hundred fifty feet above grade level, or

2. Authorized by grant of special exception that is final and unappealable on the effective date of this act. Such a facility may be fully restored in accordance with the terms of the special exception if it is destroyed or damaged to any extent, and such a facility may be enlarged, extended, or expanded notwithstanding the provisions of Subsection A. above, subject to the approval of the zoning commissioner or board of appeals.

C. Wireless transmitting or receiving structures in R.C., D.R. or R-O zones are subject to the following additional requirements; provided that nothing herein shall be deemed to prohibit the granting, where appropriate, or variances from such requirements pursuant to Section 307 of these regulations.

1. Petitioner shall have the burden of establishing that it has made a diligent search for a location within a business, office or industrial zone, or for mounting on any existing structure over fifty (50) feet in height and that, due to valid considerations, including but not limited to: location, economic, elevation, engineering or technologic feasibility, no appropriate location is available.

2. The setback of such structure from the nearest property line shall equal or exceed two (2) times its height above-grade level.

3. The structure shall be located on a lot of at least five (5) acres.

4. The structure shall be enclosed within a locked, chain-link fence, or comparable wall or structure, at least 8 feet high.

5. A landscape plan, designed to minimize the visual impact of accessory

buildings and the lower portion of the structure shall be submitted to and approved by the director of the office of planning and zoning.

6. Environmental protection agency standards and guidelines relating to radiation emissions shall be met at all times.

7. When the use is terminated, the structure shall be removed.

8. Every five years, or sooner in the event of substantial damage, a certification by a professional engineer registered in Maryland a certification by a Maryland registered professional engineer shall be filed with the department of permits and licenses indicating that the aforementioned structure meets all safety requirements. Any upgrading or maintenance required to comply with any changes in the safety requirements, or to maintain the safety thereof, shall be performed prior to the filing of such certification.

9. No white stroboscopic lights are permitted.

10. In order to insure against adverse effects on its surroundings, an environmental impact statement, as defined in Section 101, shall be submitted to the zoning commissioner or, in the event of an appeal, to the county board of appeals of Baltimore County. Such environmental impact statement shall include information on emission levels and shall evaluate the impact of the proposed structure on the ecosystem; and based on such environmental impact statement and other evidence produced at the hearing, it must appear that the proposed structure will not have a substantial adverse impact on the environment.

11. The zoning commissioner or, in the event of an appeal, the county board of appeals of Baltimore County shall determine that there will not be a substantial adverse impact on surrounding property values, park lands or open space.

D. Exemptions.

1. The provisions of Subparagraphs 502.7.C.1, 2, 3, 4 and 5 do not apply to

wireless transmitting or receiving structures that are mounted on any existing structure over fifty (50) feet in height.

2. The provisions of Paragraph 502.7.C do not apply to wireless transmitting or receiving structures serving gas and electric or land-based local telephone public utility communication needs at existing facilities except as required by the zoning commissioner under the authority of Subsections 502.1 and 502.2; provided that such public utility affirmatively establishes that the structure and service meets critical communication needs for public safety purposes.]

SECTION 4. AND BE IT FURTHER ENACTED, that if any provision, sentence, phrase, or portion of this Act is held by a court of competent jurisdiction to be unenforceable or invalid for any reason, this holding shall not affect the validity of the remaining portion of this Act.

SECTION 5. AND BE IT FURTHER ENACTED, that this Act shall be construed only prospectively and may not be applied or interpreted to have any effect on or application to any person who has had a hearing on a proposed tower before the Zoning Commissioner before the effective date of this Act.

SECTION 6. AND BE IT FURTHER ENACTED, that the provisions of this Act shall be interpreted consistent with the Telecommunications Act of 1996.

~~SECTION 6~~ SECTION 7. AND BE IT FURTHER ENACTED, that this Act, having been passed by an affirmative vote of five members of the County Council, shall take effect on March 20, 1998.

Bill 30-98 - All Councilmembers - Wireless Telecommunications Towers and Antennas

Bill 30-98 proposes to amend the Baltimore County Zoning Regulations in order to establish comprehensive guidelines concerning the placement of wireless telecommunications towers and wireless telecommunications antennas as a result of the increase in the need for these structures throughout the County for the provision of personal wireless services. Under the present regulations, towers and antennas are considered "wireless transmitting or receiving structures" and are regulated under Sections 426 and 502.7. Bill 30-98 adds definitions for "wireless telecommunications tower" and "wireless telecommunications antenna" and, where applicable, replaces references to the term "wireless transmitting or receiving structures" throughout the regulations with these definitions. The bill repeals Section 426 and part of Section 502.7, and replaces them with one new Section 426 consisting of 11 subsections. Bill 30-98 also adds a new Section 426A which contains guidelines for the regulation of amateur radio operator antennas.

Section 426.1 defines terms used throughout the section.

Section 426.2 states that the intent of this legislation is to: (1) promote the placement of antennas on existing towers, buildings, and structures; (2) encourage the co-location of antennas on new towers built; (3) encourage the placement of new towers in medium and high intensity commercial zones when available; and (4) minimize the visibility of new towers from residential and transitional zones.

Section 426.3 provides for two exceptions which already are permitted under the current regulations. The provisions of Section 426 do not apply to: (1) towers and antennas of a gas and electric or a land-based telephone public utility if the structures are used to meet critical communications needs for public safety; and (2) antennas used by a cable system operating under Title 8 of the Code if located on property owned by the County, state, or federal government.

Section 426.4 establishes a Tower Review Committee. The Committee consists of a Tower Coordinator who serves as Committee chairperson and must have technical expertise in the siting of towers, the Director of Planning or his designee, the Director of the Office of Information Technology or his designee, an at-large citizen representative appointed by the Council, and representatives of other governmental agencies as determined by the Tower Coordinator. A wireless telecommunications provider seeking to erect a new tower must submit required technical information on the proposed tower

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to the Committee prior to submitting a petition for special exception or an application for a building permit. The Committee must meet with the provider within 3 weeks of a request for a meeting, review the information submitted by the provider, evaluate the proposal with regard to legislative intent under Section 426.2, and provide advisory comments to the Zoning Commissioner or the code official (i.e., the Director of Permits and Development Management).

Section 426.5 is a table which establishes the general size and use limitations for towers and antennas. Antennas are permitted by right in all zones when placed on existing towers, buildings, or structures. However, in residential (i.e., RC, RCC, CR District, DR, and ROA) and transitional (i.e., SE, RO, OR1, BMM, BMYC, BMB, and CB) zones, antennas may not be larger than 15 feet in height and 3 feet in diameter. Towers less than 200 feet tall are permitted by special exception in residential and transitional zones and are permitted by right in medium intensity (i.e., OR2, BLR, BL, BM, BR, MR, ML, and MLR) and high intensity (i.e., O3, OT, and MH) zones. Towers equal to or taller than 200 feet are permitted by special exception in all zones. Notwithstanding the above limitations, however, a tower of any size is permitted in an RC zone by right, provided that it is located within the rights-of-way of overhead electric transmission lines carrying more than 69,000 volts.

Section 426.6 establishes setback, appearance, and certification requirements for towers. When determining a setback, the height of a tower is measured from the base of the tower to the tip of the tower or the tip of the highest antenna on a tower, whichever distance is greater. A tower must be set back from another owner's property line a distance equal to at least the height of the tower. But, if the tower is located in a residential zone, the tower must be set back a minimum of 200 feet from another owner's property line. If a tower is located in a medium or high intensity commercial zone, the tower must be set back a minimum of 200 feet from any residential or transitional zone. If the tower is located in a transitional zone, the tower must be set back a minimum of 200 feet from any residential zone.

If a tower is located in a residential or transitional zone, any structure housing equipment for the tower must be screened in accordance with Class "A" requirements of the Landscape Manual and faced with a material compatible with buildings or other structures surrounding the tower. Unless required by the FAA, stroboscopic lights are not permitted on a tower and the tower must be neutral in color.

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The owner of a tower must submit certification from a professional engineer verifying that the tower meets all safety requirements to the code official upon completion of the tower and every 5 years. The owner also must submit certification regarding the number of antennas on the tower to the Tower Coordinator annually.

Section 426.7 requires that an applicant for a building permit for a tower provide a security bond in an amount sufficient to cover removal of the tower if so required by the code official under Section 426.10.

Section 426.8 requires that the owner of a tower must maintain the tower and any structure housing equipment in good working condition and free from unsafe or hazardous conditions. The code official may use the security bond to procure repair of unsafe or hazardous conditions in accordance with Section 1-7(b) of the Code.

Section 426.9 establishes specific requirements for a tower before it may be permitted by special exception. A petitioner for a special exception must demonstrate that: (1) a diligent attempt was made to locate the antenna on an existing tower, building, or structure; (2) the location of the proposed tower is warranted due to location, elevation, engineering, technical feasibility, or inability to obtain lease or ownership interest of a location elsewhere; (3) the tower has been designed to accommodate at least 2 antennas; and (4) the tower is no taller than what is necessary to enable present and future co-location of other antennas.

In addition, if a tower is proposed for a residential or transitional zone, a petitioner for special exception must demonstrate that: (1) there is not an available, suitable site for the tower in a medium or high intensity commercial zone, identifying with particularity the sites considered; and (2) due to topographical or other unique features, the proposed site is more consistent with legislative intent than a site in a medium or high intensity commercial zone.

Furthermore, a tower permitted by special exception in an RC zone must be located on a lot of at least 5 acres. In all other residential or transitional zones, a tower must be located on a lot of at least 3 acres.

In granting a special exception, the Zoning Commissioner must require that a tower be disguised as a structure or natural formation, such as a flagpole, steeple, or tree which is found or likely to be found

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in the area of the tower unless he finds that such a requirement is not advisable or reasonable for the protection of properties surrounding the tower.

Section 426.10 provides for the removal of a tower if: (1) the code official determines that the tower has not been continuously used for 12 consecutive months; (2) the owner has failed to correct any hazardous or unsafe conditions within the time prescribed in a violation notice issued by the code official; and (3) the owner has notified the code official that use of the tower has terminated. The code official may procure removal in accordance with Section 1-7(b) of the Code if the owner fails to comply with a final order for removal.

Section 426.11 permits the granting of a variance to a height or area requirement in accordance with Section 307 of the Zoning Regulations.

New Section 426A establishes general requirements for amateur radio operator antennas. Radio operator antennas and related equipment are considered accessory use structures and are permitted by right in any zone. The antenna must be operated by an operator who is licensed by the FCC and whose domicile is on a lot where the antenna is located. A supporting structure for an antenna may not be located within 20 feet of any property line. An antenna may not extend closer than the front building line to any street on which the lot fronts and may not be taller than the lesser of 100 feet or the horizontal distance to the nearest property line above grade level.

The Council held a public hearing concerning the Planning Board's report on this subject legislation on December 15, 1997.

In 1998, the Council adopted legislation governing the location of wireless telecommunications antennas and towers (Bill 30-98). The purpose of the legislation is to encourage the location of towers in commercial zones and to minimize their visibility when located in residential zones. The law permits certain towers by right in some commercial zones, but towers located in residential zones require a special exception (unless located in a public utility right-of-way in a RC zone). The location of towers within 1.5 miles of historic districts is prohibited, unless the Zoning Commissioner finds that the use will not be detrimental to property values in the district.

The legislation established a tower review committee to review applications for tower locations and to provide advisory comments to the Zoning Commissioner. The legislation provided that its provisions must be interpreted consistent with the Telecommunications Act of 1996.

Bill 121-01 proposes to amend the 1998 law by requiring a more rigorous review of applications for tower locations in or near scenic or historic areas of the County. The bill was prompted, in part, by several recent decisions of the United States Court of Appeals for the Fourth Circuit which reaffirm a local jurisdiction's authority to regulate cell tower locations through the zoning ordinance and recognize the local jurisdiction's authority to determine whether a proposed tower will be in harmony with the area in which it is located.

The bill defines a historic area as an area within a district on the final historic landmarks list or any of the following districts:

Oella;
My Lady's Manor;
Belfast;
Western Run;
Worthington Valley;
Greenspring Valley; and
Long Green Valley.

The bill defines a scenic viewshed as a scenic route, view or gateway as designated in the Master Plan and catalogued by the Director of Planning. Scenic viewshed elements are defined as

the elements which are of a quality, character, rarity and nature to cause a viewshed to be designated as such in the Master Plan.

Under the bill's provisions, a tower is not permitted if it is not in harmony with a nearby historic area or if it interferes with a scenic viewshed element.

If the tower committee determines that substantial evidence exists that the proposed tower may interfere with scenic viewshed elements or is not in harmony with a nearby historic area, the applicant must then petition for a special hearing before the Zoning Commissioner. The applicant may combine the request with a request for the required special exception. The tower committee decision is not appealable to the Board of Appeals.

With respect to a scenic viewshed, the Zoning Commissioner must determine interference based upon substantial evidence, comparing the scenic viewshed elements to the proposed tower location, and must determine whether the proposed tower blocks any scenic viewshed elements or is not visually in harmony with any scenic viewshed elements when the elements and the tower can be seen simultaneously. He may also consider whether public funds have been spent acquiring easements or entering into other agreements to minimize development or protect aesthetics in areas immediately adjacent to the proposed tower and whether other public or private agreements exist to minimize development or protect aesthetics in areas immediately adjacent to the proposed tower.

The presence of the easements and agreements may be probative of the possible interference of the proposed tower with scenic viewshed elements.

In determining whether a proposed tower is in harmony with a nearby historic area, the Zoning Commissioner shall consider general conformity with the Baltimore County Master Plan, the location and extent of significant and distinctive historic elements, and the degree to which historical elements such as structures, landscapes and monuments are visually integrated, so that the proposed tower would not change the appreciation by the viewer of the historic significance of the area. He may also consider whether public funds have been spent acquiring easements or entering into other

agreements to minimize development or protect historically significant lands or structures in areas immediately adjacent to the proposed tower and whether other public or private agreements exist to minimize development or protect historically significant lands or structures in areas immediately adjacent to the proposed tower.

The presence of the easements and agreements shall be probative of possible interference of the proposed tower with scenic viewshed elements.

Bill 121-01 also requires public notice of all tower committee meetings. The committee must act on each application within 30 days and must file a written decision.

With the affirmative vote of five members of the County Council and signature by the Executive, Bill 121-01 will take effect on January 29, 2002.

TJP:ml

b121.01 wireless tow.wpd

Bill 9-02 - Councilman Skinner - Wireless Telecommunications Towers

In 1998, the Council adopted legislation governing the location of wireless telecommunications antennas and towers (Bill 30-98). The purpose of the legislation is to encourage the location of towers in commercial zones and to minimize their visibility when located in residential zones. The law permits certain towers by right in some commercial zones, but towers located in residential zones require a special exception (unless located in a public utility right-of-way in a RC zone). The location of towers within 1.5 miles of historic districts is prohibited, unless the Zoning Commissioner finds that the use will not be detrimental to property values in the district.

The law defines a "tower" as a self-supporting, guyed or freestanding structure erected for the purpose of supporting one or more wireless telecommunications antennas. Some confusion has arisen in recent cases involving applications to erect structures which are referred to as light poles but which also accommodate antennas. In order to clarify the situation, Bill 9-02 redefines a tower by specifically indicating that a structure that supports antennas is a tower for purposes of the law "whether such support is the primary or secondary purpose of the structure."

With the affirmative vote of five members of the Council, Bill 9-02 will take effect on March 11, 2002 and will apply to any application for permit or special exception that has not received final approval as of that date.

TJP:ml
b9.02 wireless tele towers.wpd

Bill 17-02 - Councilmembers Moxley, McIntire and Skinner - Wireless Telecommunications Towers

Bill 17-02 revises the setback requirements for wireless telecommunications towers. Under current law, codified in Section 426.6 of the Zoning Regulations, a tower must be set back at least 200 feet from any other owner's residential property line if the tower is located in a residential zone. Likewise, a tower must be set back at least 200 feet from any residential zone if the tower is located in a transitional zone. However, if the tower is located in a medium or high intensity commercial zone, it must be set back from an adjoining property line a distance equal to the setback required for other structures in the zone, unless the property adjoins a residential zone in which case the tower must be set back at least 200 feet from the residential zone line.

Bill 17-02 proposes to amend this law in order to provide for one standard for all towers regardless of the zone in which the tower is located. The standard is a 200 foot setback from any other owner's residential property line.

TJP:ml
b17.02 wireless telecom tow.wpd

Legislative Project 96-06

PROPOSED AMENDMENTS TO THE BALTIMORE COUNTY ZONING REGULATIONS REGARDING WIRELESS TELECOMMUNICATION FACILITIES

A Staff Report of the Baltimore County Office of Planning
Supplement to June 5, 1997 Staff Report
October 29, 1997

The Planning Board held a public hearing on the June 5 staff report on July 10, 1997. Persons who made comments, and representatives of providers were invited to discuss the issue further with County Department heads. Staff recommends several refinements to the June 5 proposal to further encourage antennas to be placed on existing buildings to discourage the construction of new towers. Additional amendments are also proposed to ensure that new towers will be built to accommodate multiple providers.

Changing the Zoning Regulations is only one way to implement these goals. The County is organizing a "tower team" which will have several goals. The group will track the location of all towers and work with providers to determine their need for new locations. This will make it easier for providers to coordinate the placement of new towers. The team will also work with the State to encourage placement of antennas on structures within highway rights-of-way, such as lighting standards and signs, to help avoid the construction of towers on private property. This group will also develop a mechanism to ensure adequate technical review of applications for new tower sites.

RECOMMENDATIONS

The Baltimore County Zoning Regulations, 1955, as amended, should be further amended as follows. **Boldfaced** text denotes language to be added to the Zoning Regulations. [Bracketed text] indicates text to be deleted from the Zoning Regulations. ***Italics*** indicates text added to the June 5, 1997 report since the July 10, 1997 public hearing. Deletions from the June 5 recommendations are not shown in this document.

1. In Section 101, add the following definitions:

Wireless telecommunication antenna: A directional or omnidirectional device which transmits or receives communications including radio, television, personal wireless services (commercial mobile services, unlicensed wireless services and common carrier wireless exchange services) *and its related equipment housed at its base,* but not including an amateur radio operator's antenna. A wireless telecommunication antenna is mounted on a wireless telecommunication tower, on another structure or building, or, in the case of a satellite receiving dish, on the ground.

Wireless telecommunication tower: A self-supporting, guyed or freestanding structure erected for the purpose of supporting one or more wireless communication antennas. The height of a wireless telecommunication tower is measured from the base of the tower to the tip of the highest antenna placed on the tower.

2. Delete Section 1B01.1.A.13A

[Antennas used by CATV systems operated by companies franchised under Title 2 Article VI, Division 2 of the Baltimore County Code 1978 if situated on property owned by the County, State or Federal government or by a government agency.]

3. Delete Section 426 and Subsection 502.7. Create a new Section 426 as follows:

426.1 Statement of Legislative Policy for the Siting of Wireless Telecommunication Antennas

A. It is the intent of Baltimore County that wireless telecommunication antennas be placed on existing structures wherever feasible.

B. It is the intent of Baltimore County that, if it is necessary to construct a wireless telecommunication tower, the tower be designed to accommodate multiple wireless telecommunication antennas and sited so as to minimize its visibility from residential, scenic and historic areas.

C. It is further the intent of Baltimore County that, if it is necessary to construct a wireless telecommunication tower, the tower be erected in a medium or high intensity commercial zone wherever such a site is available, and constructed so as to minimize its visibility from residential areas.

426.2 Wireless Telecommunication Antennas and Towers

	Antennas*		Towers	
	How Permitted	Maximum Antenna Height and Antenna Diameter	<200 ft. high	> =200 ft. high
Residential Zone RC, RCC, CR District, DR, ROA	R	15 feet high, diameter three feet	SE	SE
Transitional Zones Service-Employment, RO, OR1, BMM, BMYC, BMB, CB,	R	15 feet high, diameter three feet	SE	SE
Medium Intensity Commercial OR2, BLR, BL, BM, BR, MR, ML, MLR	R	Not regulated	R	SE
High Intensity Commercial O3, OT, MH	R	Not regulated	R	SE

R= By Right; SE= By Special Exception

* This column refers to antennas located on a building, structure or tower which was legally erected prior to the installation of the antenna. The number of antennas or antenna clusters placed on a building, structure or tower is not regulated.

426.3 Wireless Telecommunication Towers are subject to the following standards:

A. For all wireless telecommunication towers:

1. The application shall be reviewed by a Tower Review Committee including the Directors of Planning, Law, Office of Information Technology and any other agencies considered appropriate by the Director of Planning.

a. The application shall indicate the maximum potential of antenna clusters structurally allowable on the tower and such other location and technical information determined by *the Tower Committee.* The applicant shall sign an affidavit testifying as to the accuracy of the information provided. Upon completion of the tower, and every five years thereafter, a professional engineer registered in Maryland shall certify that the structure meets all safety requirements. The applicant shall annually certify the number of antennas on the tower.

b. *The committee shall evaluate the application with regard to the County's goals for co-location of antennas and community conservation.*

2. No white stroboscopic lights are permitted on a tower, unless required by the Federal Aviation Administration (FAA).

3. The wireless telecommunication tower shall be removed by the owner no more than one year after the tower has ceased to be used for telecommunication. If the tower is not removed by the owner, *it shall be removed by the County, subject to notice, in the manner prescribed by law.*

4. The tower shall be set back from any residential or transitional zone line at least 200 feet.

5. The tower *shall be painted to blend into its surroundings,* except as required by the FAA.

B. For wireless telecommunication towers permitted by special exception:

1. The petitioner shall have the burden of demonstrating that:

a. the petitioner has made a diligent search for mounting the antenna on an existing building, structure or wireless telecommunication tower; and

b. that due to location, economic, elevation, engineering or technical feasibility, building of a tower at the proposed location is warranted; and

c. the tower has been designed to accommodate the co-location of other antennas to the extent technically feasible; and

d. the height of the tower is no higher than what is required to *"enable present and future co-location of antennas."*

e. the *Tower Review Committee* shall review the petitioner's submittal and provide written recommendations to the Zoning Commissioner with regard to the County's goals for co-location and community conservation.

2. In a residential or transitional zone:

a. that there is no suitable site for the wireless telecommunication tower* in a medium or high intensity commercial zone, *or that due to topographic or other unique features, the proposed site will better meet the intent of 426.1.B than a site in a medium or high intensity commercial zone.

b. the tower shall be located on a lot of at least three acres except where the petitioner can prove that a site less than three acres would better meet the intent of 426.1.B.

c. the Zoning Commissioner *may* require the tower to be camouflaged by taking the form of a structure or natural formation found in the area.

3. *For towers equal to or exceeding 350 feet within 1 1/2 miles of any Baltimore County Historic District or any historic district on the National Register of Historic Places the following conditions shall apply, except as may be necessary to comply with 47 U.S.C. § 332 (c)(7)(B).*

a. The horizontal distance from the wireless telecommunication tower *to the boundary line of such district* shall be at least ten times the height of the facility above grade.

b. The Zoning Commissioner, *based upon the recommendation of the Baltimore County Landmarks Preservation Commission,* shall find that the proposed use will not be detrimental to or *materially* detract from the documented values of any such district due to the height of the proposed structure and its placement and visibility relative to such district.

C. After the approval of a wireless telecommunication tower, antennas may be installed on the tower by right and a building permit shall be issued by the Director of Permits and Development Management upon receipt of evidence that such installation will not exceed the structural limits of such tower. The Director shall notify the Tower Review Committee of all such permits issued.

426.4 Each structure housing equipment shall meet minimum setback requirements from the property line. Notwithstanding the provisions of Section 102.2, if multiple equipment structures are placed on the same property, no yard or setback shall be required between them. If located in a residential or transitional zone, the structure housing equipment shall be screened in accordance with the Landscape Manual (Class A screening requirements) and shall be faced with brick unless the Director of Planning approves the use of an alternate material.

426.5 *In addition to the provisions of Section 307 (Variances), in cases where a variance to a height or area requirement for a wireless telecommunication tower, antenna or a structure housing antenna equipment is requested, the Zoning Commissioner may grant the variance if the petitioner proves that the variance requested is the minimum needed to enable present or future co-location of antennas.*

426.6 *A wireless telecommunication tower, antenna and the structure housing equipment are subject to Article III of Title 7 of the Baltimore County Code, 1988, as amended (Maintenance of Investment Property).*

4. Create a new Section 427 and provide references to it in all zones where amateur radio antennas are permitted, deleting duplicative text in each zone; this does not change the substance of the current regulations.

Section 427

427 --- Radio antennas and related equipment, including any supporting structure, shall be considered an accessory structure or use and as such shall be permitted by right provided that:

A. They are operated by an amateur radio operator who is licensed by the Federal Communications Commission and whose domicile is on the lot where the facility is placed;

B. No supporting structure is located within 50 feet of any property line;

C. No antenna extends closer than the front building line to any street on which the lot fronts;

D. No antenna is higher than 100 feet or the horizontal distance to the nearest property line, whichever is less, above grade level;

E. They are in conformance with the provisions of Section 400, Accessory Buildings in Residential Zones.

5. Modify Section 429, Satellite Receiving Dishes, to be consistent with Section 207 of the Telecommunications Act of 1996 (25 C.F.R. § 1.4000 & 25.104).

429.1 Satellite receiving dishes are permitted as accessory structures in all zones. When located on the roof of a building, an accessory satellite receiving dish shall be considered an accessory radio or television receiving antenna, and it is not subject to the provisions of these Regulations.

429.2 When located in residential zones, accessory satellite receiving dishes **exceeding one meter (39.37 inches) in diameter** shall be located only in the rear yard of a lot unless such location hinders reception, and the owner receives a variance. In addition, the dish shall be no larger than [10 feet] **three meters** in diameter.

429.3 When located in residential zones, accessory satellite receiving dishes exceeding **one meter (39.37 inches) in diameter** shall be located only in the rear yard of a lot unless such location hinders reception, and the owner receives a variance. In addition, the dish shall be no larger than [10 feet] **three meters** in diameter.

429.4 Principal satellite receiving dishes **greater than one meter in diameter in a residential zone and two meters in diameter in any other zone** shall be considered wireless[transmitting and receiving structures] **Wireless Telecommunication Facilities** and are subject to the regulations **in Section 426** governing such [structures] facilities.

429.5 This section does not apply to a satellite dish which was erected before June 15, 1987.

420

Baltimore County
Planning Board

401 Bosley Avenue
Towson, Maryland 21204
(410) 887-3495
Fax: (410) 887-5862

November 24, 1997

The Honorable Joseph Bartenfelder
Chairman, Baltimore County Council
Court House
Towson, MD 21204

Re: Wireless Telecommunication Facilities, Council Resolutions 55-96 and 27-97

Dear Councilman Bartenfeldner:

Attached is a Final Report of the Planning Board regarding the placement of antennas for wireless telecommunication facilities in Baltimore County. The report recommends amendments to the Zoning Regulations to encourage the placement of antennas on existing buildings and the co-location of the antennas for different providers on a single tower.

The Planning Board held a public hearing on the staff report on July 10, 1997. The Planning Board modified the staff report, but did not hold a second public hearing.

If you would like to discuss these recommendations, or if we can assist in any way, please feel free to call me at Ext. 3211.

Sincerely,

Arnold F. 'Pat' Keller, III
Secretary

AFK:HSM:rlh

Attachment

cc: Members, Baltimore County Council
Robin Churchill, Administrative Officer
Thomas Peddicord, Legislative Counsel/Secretary
Brian J. Rowe, Auditor
Virginia W. Barnhart, County Attorney
Michael H. Davis, Executive Officer
Robert Barrett, Spec. Asst. to the County Exec.
Arnold Jablon, Director, PDM
William Bond, Director, OIT
P. David Fields, Director, CCN
Patrick Roddy, Assistant County Attorney
Peter Max Zimmerman, People's Counsel

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Legislative Project 96-06

Introduced June 5, 1997; Planning Board Hearing July 10, 1997; Supplement to June 5 Report October 29, 1997; Revised Staff Report November 10, 1997; Addendum to Revised Staff Report November 19, 1997; Final Report November 20, 1997

PROPOSED AMENDMENTS TO THE BALTIMORE COUNTY ZONING REGULATIONS REGARDING WIRELESS TELECOMMUNICATION FACILITIES

A Final Report of the Baltimore County Planning Board
Adopted November 20, 1997

PROJECT DESCRIPTION

This report is in response to Council Resolutions 55-96 and 27-97 which request the Planning Board to consider whether the Zoning Regulations need to be updated to reflect the increased demand for antennas and towers for wireless telecommunication.

BACKGROUND

The Zoning Regulations were most recently revised regarding telecommunication structures in 1986. They permit antennas and towers as follows:

	Antenna	Tower <=200' high	Tower >200' high
RC, DR, RO	SE	SE*	SE*
MR	By right if the antenna will not be more than 50 feet above grade level	R	SE
OR2, OT, BL, BM, BR, ML, MLR, MR, MH	By right if the antenna will not be more than 50' above grade level	R**	SE

R= By Right; SE= By Special Exception

* Must be set back from the property line at least twice the height of the tower
** Must be set back at least 200 feet from a residential or RO zone line

In 1994, the Planning Board recommended, in response to a Council Resolution, that the Zoning Regulations not be further amended but that all regulations regarding telecommunications equipment and structures be consolidated into one section of the BCZR. Council held a public hearing on March 7, 1994 but did not take further action on the report.

Since the Planning Board sent its recommendations to Council, Congress has comprehensively overhauled the way radio, television and telephone communications are regulated. The Telecommunications Act of 1996 encourages market growth and network building by removing impediments to competition. As a result of these changes, the Federal Communications Commission (FCC) can approve licenses to allow multiple carriers to provide the same services within the same geographic market. Applications to erect new antennas and towers have dramatically increased in Baltimore County and across the nation. Technological innovations, including digitizing, which provides clearer reception, are leading to the need for a larger number of antenna locations.

DISCUSSION

The Telecommunications Act of 1996 acknowledges the role of local government with regard to regulating the placement and construction of antennas and towers:

> Except as provided in this paragraph, nothing in this Act shall limit or affect the authority of a State or local government or instrumentality thereof over decisions regarding the placement, construction, and modification of wireless service facilities. [Telecommunications Act of 1996, § 704(a); 47 USC § 332(c)(7)(A)].

The Act places several constraints on the scope of local authority. The Act explicitly prohibits local government from imposing environmental regulations stricter than the FCC's.

Section 704(a) of the Act also states that local governments, in regulating the placement and construction of wireless equipment for "personal wireless facilities" (which includes cellular, paging and Personal Communication Services facilities) cannot "unreasonably" discriminate among providers by "prohibit[ing] or have[ing] the effect of prohibiting the provision of such services." Local government must act on an antenna application within a "reasonable" time period and support its decision in written findings based on "substantial evidence." The scope of this language is ambiguous. However, the conference committee report provides some guidance as to Congress's intent. According to the report, Congress did not intend that a locality treat the placement of facilities uniformly throughout a jurisdiction, regardless of the zone or district in which the facility is to be located:

> It is not the intent of the bill that if a State or local government grants a permit in a commercial district, it must also grant a permit for a competitor's 50-foot tower in a residential district. [Telecommunications Act of 1996, Conference Report 104-458, p. 208.]

On the other hand, the conference committee report makes clear that local government cannot ban the provision of wireless services.

The County's policy favoring the placement of towers in non-residential zones appears not to violate the Act, based on the conference committee's report. The Zoning Regulations do not prevent a tower from being located within a residential zone, but provide a different approval process and setback standards for such towers. A possible area of concern, based on the Act, is that it is not clear whether the Zoning Regulations permit wireless telecommunications facilities in the Service-Employment, the Performance Based Business zones and the Maritime zones. Unless a use is listed, it is not permitted. This affects the ability of providers to obtain sites to provide services.

COMMENTS FOLLOWING JULY 10, 1997 PUBLIC HEARING

The Planning Board held a public hearing on July 10, 1997 and received numerous comments. In response to comments made at the public hearing, and by the Office of Law and other County agencies, the County recommends changes to the Zoning Regulations to further the objective of co-location of antennas. The Planning Board also recommends that the County organize a Tower Review Committee, consisting of the Directors of Planning and the Office of Information Technology, and other government agencies considered appropriate for a particular site as well as a Council-designated citizen-at-large. This group will track the location of all towers and work with providers to determine the need for new tower locations. When considering a new tower application, representatives of communities where the tower could be located should be added to the group. Acting in an advisory capacity, the purpose of the group will be to coordinate co-location. The Tower Review Committee will also work with the State and Baltimore Gas and Electric with regard to possible antenna locations at their properties.

RECOMMENDATIONS

The Baltimore County Zoning Regulations, 1955, as amended, should be further amended as follows. **Boldfaced** text denotes language to be added to the Zoning Regulations. [Bracketed text] indicates text to be deleted from the Zoning Regulations.

1. In Section 101, add the following definitions:

Wireless telecommunication antenna: A directional or omnidirectional device which transmits or receives communications including radio, television, personal wireless services (commercial mobile services, unlicensed wireless services and common carrier wireless exchange services) and its related equipment housed at its base, but not including an amateur radio operator's antenna. A wireless telecommunication antenna is mounted on a wireless telecommunication tower or on another structure or building.

Wireless telecommunication tower: A self-supporting, guyed or freestanding structure erected for the purpose of supporting one or more wireless communication antennas.

2. Delete Section 426 and Subsection 502.7.C. Enact a new Section 426 as follows:

426.1 Statement of Legislative Policy for the Siting of Wireless Telecommunication Antennas

A. It is the intent of Baltimore County that wireless telecommunication antennas be placed on existing structures wherever feasible.

B. It is the intent of Baltimore County that, if it is necessary to construct a wireless telecommunication tower, the tower be designed to accommodate multiple wireless telecommunication antennas and sited so as to minimize its visibility.

C. It is further the intent of Baltimore County that, if it is necessary to construct a wireless telecommunication tower, the tower be erected in a medium or high intensity commercial zone wherever such a site is available, and constructed so as to minimize its visibility from residential areas.

426.2 Wireless Telecommunication Antennas and Towers

	Antennas*		Towers	
	How Permitted	Maximum Antenna Height and Antenna Diameter	<200 ft. high	> =200 ft. high
Residential Zone RC, RCC, CR District, DR, ROA	R	15 feet high, diameter three feet	SE	SE
Transitional Zones Service-Employment, RO, OR1, BMM, BMYC, BMB, CB,	R	15 feet high, diameter three feet	SE	SE
Medium Intensity Commercial OR2, BLR, BL, BM, BR, MR, ML, MLR	R	Not regulated	R	SE
High Intensity Commercial O3, OT, MH	R	Not regulated	R	SE

R= By Right; SE= By Special Exception

*** This column refers to antennas located on a building, structure or tower which was legally erected prior to the installation of the antenna. The number of antennas or antenna clusters placed on a building, structure or tower is not regulated.**

426.3 Wireless Telecommunication Towers are subject to the following standards:

A. For all wireless telecommunication towers:

1. Before submitting a petition for a special exception or an application for a building permit for a wireless telecommunication tower, the applicant shall meet with the County's Tower Review Committee.

a. **The Tower Review Committee shall include the Directors of the Office of Planning and the Office of Information Technology, or designees; an at-large citizens' representative appointed by Council and such other government agencies or community groups deemed appropriate by the Directors with regard to a particular site.**

b. **The applicant shall indicate the maximum number of wireless telecommunication carriers whose equipment the structure can support and such other location and technical information as requested by the County.**

c. **The Tower Review Committee shall evaluate the proposal with regard to the Statement of Legislative Intent in 426.1 and may provide advisory comments.**

2. **No stroboscopic lights are permitted on a tower, unless required by the Federal Aviation Administration (FAA).**

3. **Setbacks**

   a. **A wireless telecommunication tower shall be set back from any property line a distance equivalent to at least the height of the tower.**

   b. **The tower shall be set back from any residential or transitional zone line at least 200 feet.**

4. **The tower, antenna and any supporting lines shall be of a neutral color except as may be required by the FAA. The owner of the wireless communications facility is required to maintain, replace or repair any hazardous or unsafe condition flaking or worn exterior paint, or conditions caused by acts of vandalism.**

5. **The height of a wireless telecommunication tower is measured from the base of the tower to the tip of the highest antenna placed on the tower.**

7. **Upon completion of the tower, and every five years thereafter, a professional engineer registered in Maryland shall certify that the structure meets all safety requirements**

8. **Antennas may be installed by right on any legally existing tower, regardless of whether the tower was approved by special exception.**

9. **The applicant shall annually certify to the Director of Permits and Development Management the number of antennas on the tower.**

10. **Any special exception for the operation of a wireless telecommunication tower shall become void upon notice of cessation or termination by the owner and the tower may be considered abandoned. The right to resume the use of an abandoned tower may be terminated.**

11. Removal of Towers

a. Prior to obtaining a building permit for a wireless telecommunication tower, the applicant shall provide security to the County in a form and amount sufficient to accomplish the tower's removal. Removal of the tower shall mean all above ground structures, including paving.

b. The Director of Permits and Development Management (the code official) shall issue an order for the removal of the tower if it is abandoned or unsafe.

i. Notwithstanding the failure of the owner to notify the Director of Permits and Development Management, any wireless telecommunication tower which has not been in actual and continuous operation as a telecommunication tower for a period of twelve consecutive months shall be presumed to have been abandoned..

ii. A wireless telecommunication tower which has been determined by the code official to constitute a fire hazard or to be otherwise dangerous to human life or the public welfare, or to involve illegal or improper occupancy or inadequate maintenance, shall be considered unsafe. The code official shall issue to the owner an order to correct the deficiencies. If the owner does not correct the deficiencies within the time period ordered by the code official, the code official shall issue an order for removal of the tower.

b. Procedure

i. The owner shall have 15 days to contest the order and request a hearing.

ii. The hearing shall be conducted within 30 days of the filing of the request for a hearing.

iii. Appeals shall be as provided in §1-7(g) of the Baltimore County Code, 1988, as amended, except that if the owner does not request, or fails to appear at, the hearing, the order shall be a non-appealable, final order of the code official.

iv. If the owner fails to comply with a final order, the code official may procure compliance in accordance with the procedure authorized in §1-7.1(b) except that only those expenses exceeding the security obtained by the County prior to the issuance of the building permit shall become a lien on the property.

B. For wireless telecommunication towers permitted by special exception:

1. The petitioner shall have the burden of demonstrating, through written documentation, that:

a. The petitioner has made a diligent search for mounting the antenna on an existing building, structure or wireless telecommunication tower; and

b. That due to location, elevation, engineering, technical feasibility, or inability to obtain a lease or ownership of a location elsewhere, the building of a tower at the proposed location is warranted; and

c. The tower has been designed to accommodate at least two other personal wireless services antennas, to the extent technically feasible; and

d. The height of the tower is no higher than what is required to enable present and future co-location of antennas.

e. The Zoning Commissioner shall review the petitioner's submittal with regard to the County's goals for co-location and community conservation, as stated in 426.1.

2. In a residential or transitional zone:

a. In addition to the requirements of 426.3.B.1, the petitioner shall have the burden of demonstrating, with written documentation, that there is no available, suitable site for the wireless telecommunication tower in a medium or high intensity commercial zone, or that due to topographic or other unique features, the proposed site will better meet the intent of 426.1.B than a site in a medium or high intensity commercial zone; and

b. The tower shall be located on a lot of at least three acres except where the petitioner can prove that a site less than three acres would better meet the intent of 426.1.B.

c. The Zoning Commissioner may require the tower to be camouflaged by taking the form of a structure or natural formation found in the area.

426.4 Each structure housing equipment shall meet minimum setback requirements from the property line. Notwithstanding the provisions of Section 102.2, if multiple equipment structures are placed on the same property, no yard or setback shall be required between them. If located in a residential or transitional zone, the structure housing equipment shall be screened in accordance with the Landscape Manual (Class A screening requirements) and shall be faced with brick unless the Director of Planning approves the use of an alternate material.

426.5 Notwithstanding the provisions of Section 307 (Variances), in cases where a variance to a height or area requirement for a wireless telecommunication tower, antenna or a structure housing antenna equipment is requested, the Zoning Commissioner may grant the variance if the petitioner proves that the variance requested is the minimum needed to enable present or future co-location of antennas.

4. Enact a new Section 427 and provide references to it in all zones where amateur radio antennas are permitted, deleting duplicative text in each zone; this does not change the substance of the current regulations.

Section 427

427 — Radio antennas and related equipment, including any supporting structure, shall be considered an accessory structure or use and as such shall be permitted by right provided that:

A. They are operated by an amateur radio operator who is licensed by the Federal Communications Commission and whose domicile is on the lot where the facility is placed;

B. No supporting structure is located within 20 feet of any property line;

C. No antenna extends closer than the front building line to any street on which the lot fronts;

D. No antenna shall be higher than 100 feet or the horizontal distance to the nearest property line, whichever is less, above grade level;

Baltimore County, Maryland

Case # 06-180-SPHA

SUPPLEMENTAL INFORMATION ACCOMPANYING APPLICATION FOR

APPROVAL OF RADIO OPERATOR ANTENNAS UNDER §426A

OR

A ZONING VARIANCE FROM §426A.E FOR RADIO OPERATOR ANTENNAS

SUBMITTED BY:

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December 5, 2006

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1. PREAMBLE

This is an application for an interpretation or approval pursuant to a special hearing, or for a zoning variance, for an existing private, non-commercial amateur radio antenna support structure with a maximum total height of 99 feet, located on a 2.20 acre (91,476 square feet) lot at 39 Glenbrook Drive, Phoenix, Maryland. The Applicant also owns the adjacent lot to the Northwest, 1.56 acres in size, for a total of 3.76 contiguous acres. The antenna system is screened by the presence of the house, and 50-60 foot tall trees in almost every direction. The nearest house from which the tower can be seen is 400 feet from the tower base. Other homes to the rear are further away, over 500 feet distant. All direct abutters, and the neighbor across the street, approve of this antenna system and letters from them, urging the grant of any permission necessary, are attached.

BCZR 300.1 and 426A, as well as 47 CFR §97.15(b) are the controlling laws of this case. The Telecommunications Act of 1996, 47 USC §332, *et seq.,* which provides a framework for regulation of Commercial Mobile Radio Services, does not apply.

The antenna support structure is for personal use by the Applicant, an individual licensed by the Federal Communications Commission (FCC) since 1962. The Applicant is the holder of an Extra Class amateur radio license (the highest class of such license issued by the FCC), call sign W3LL. See **Exhibit A**. He is a member of the American Radio Relay League, the national organization representing the interests of Amateur Radio, Chairman of the Northwest Region of the Potomac Valley Radio Club (PVRC, which encompasses the mid-Atlantic states of MD, DE, PA, VA, WVA and NC), and a member of the Baltimore County Amateur Radio Club. He is designated a National Weather Service certified severe weather reporting station.

This station is a part of the Baltimore County Amateur Radio Emergency Service (ARES). ARES is a nation-wide emergency communications service affiliated with the American Radio Relay League, operating under Memoranda of Understanding with such organizations as the American Red Cross, the National Weather Service, the Department of Homeland Security – Citizen Corps (FEMA), the Association of Public Safety Communications Officials- International, the Salvation Army and the Civil Air Patrol. Mr. Governale also belongs to the Baltimore County Radio Amateur Civil Emergency Service. RACES is administered by the Baltimore County Department of Homeland Security. His member ID card was issued after passing a background investigation, fingerprinting and photo. See **Exhibit H.** RACES personnel, with personnel from each agency, facility, and surge center, exercise their organization and equipment monthly. RACES representatives have established a close working relationship with the county fire, EMT and law enforcement agencies. RACES is represented on a number of county committees and incorporated into agency Emergency Operating Plans (EOP). Mr. Governale was the solo EOC (Emergency Operations Center) RACES net control operator during Hurricane Ernesto.

He also was the solo the net control operator for the Harford County EOC during their Weapons of Mass Destruction drill, a large event involving every county agency. Harford County is just north of Baltimore County. He was asked to help them. Mr. Governale also was the net control operator for the Baltimore County WMD (Weapons of Mass Destruction) drill. He has a team of five members. His station is used for RACES communications. In support of preparedness for emergency communications, the Applicant owns and maintains a generator at the site to provide emergency power for communications in times of power outages.

Ben Governale is a retired U.S. Coast Guard Commander. He is a retiree of the Black and Decker Corporation, having been employed for 32 continuous years in Towson, Maryland as an electrical engineer.

Amateur radio antenna systems are normally carried above the roofline; and amateur radio, inherently non-commercial, is an ordinary accessory use of a residence. Under Baltimore County Zoning §426A, "A radio operator antenna and related equipment, including any supporting structure, is considered an accessory structure or use and is permitted by right in any zone . . ."

The antenna structure presents the most viable option for the placement of the system on the Applicant's property. The site was selected after a careful and exhaustive study. It is the belief of the Applicant that this site is in the best interest of the neighborhood and Baltimore County.

The antenna system involved in this application is not a detriment to the public good. Indeed, the system serves the public good. As an Amateur Radio Emergency Service station, it is available in support of the goals and operations of the Department of Homeland Security. For examples of emergency communications provided by radio amateurs both during and after the destruction to the Gulf Coast caused by Hurricane Katrina, see **Exhibit B**. A permit or variance for the existing antenna system would be consistent with Federal policies that protect the rights of licensed radio amateurs to construct and use amateur radio facilities, by, when necessary, preempting local and state law (as will be described further below).

The position of a radio amateur in the permitting process is uniquely enhanced by a Congressional finding that "reasonable accommodation should be made for the effective operation of amateur radio from residences, private vehicles and public areas, and that regulation at all levels of government should facilitate and encourage amateur radio operation as a public benefit." Public Law 103-408, §1 (3), October 22, 1994.

The Applicant and Kayren Governale, his wife, have been Baltimore County residents since 1971. They jointly own the property, and Kayren Governale joins with her husband in urging that necessary relief be granted.

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2. APPLICABLE BCZR REGULATIONS

A careful reading of the Federal Preemption regulations, described elsewhere in this document, shows that the amateur radio antenna system described in this request is legal as constructed and that the Applicant has a right of construction. Amateur radio antenna systems are an ordinary accessory use of a residence and are found routinely in and around Baltimore County.

Amateur radio communications are inherently ***not*** commercial. The Applicant wishes to emphasize that the amateur radio antenna system described here is ***not*** intended for use with cellular telephones, paging systems, or any other commercial communication application for which fees are charged. It should be pointed out that the Federal Communications Commission (in 47 CFR §97.113) specifically prohibits the use of amateur radio communications for "hire or for material compensation" (i.e., ***commercial use***):

> Sec. 97.113 Prohibited transmissions.
>
> (a) No amateur station shall transmit:
> (1) Communications specifically prohibited elsewhere in this part;
> (2) Communications for hire or for material compensation, direct or indirect, paid or promised, . . .;
> (3) Communications in which the station licensee or control operator has a pecuniary interest, including communications on behalf of an employer.

Amateur radio communications, by their very nature, and by federal law, are ***noncommercial*** and considered a ***customary and incidental use,*** subordinate to a residential structure.

In the Baltimore County Zoning Regulations (BCZR), §101, a "Building" is defined:

> BUILDING -- A structure enclosed within exterior walls or fire walls for the shelter, support or enclosure of persons, animals or property of any kind.

Thus, the limits for building heights do ***not*** apply to antenna support structures.

In fact, BCZR §300, Height Exceptions, provides:

> **300.1 Applicability.**
>
> A. **The height limitations of these regulations shall not apply to** barns and silos, grain elevators or other accessory agricultural buildings, nor to church spires, belfries, cupolas, domes, **radio or television aerials**, drive-in theater screens, observation, transmission **or radio towers**, or poles, flagstaffs, chimneys, parapet walls which extend not more than four feet above the limiting height, bulkheads, water tanks and towers, elevator shafts, penthouses and similar structures, provided that any such structures shall not have a horizontal area greater than 25% of the roof area of the building. A satellite receiving dish is subject to the height limitations of the zone in which the dish is located. However, in residential zones, the height of an accessory satellite dish may not exceed 15 feet, unless it is located on the roof of a building. [Bill Nos. 7-1962; 71-1987; 51-1993] [*Emphasis added.*]

A Permit Under §426A Is Appropriate

However, in addition to the exemption from height limitations contained in BCZR §300, the BCZR also provides:

> **Section 426A, Radio Operator Antennas [Bill No. 30-1998]**
>
> A. A radio operator antenna and related equipment, including any supporting structure, is considered an accessory structure or use and is permitted by right in any zone if the radio antenna and the related equipment meets the requirements of this section.
>
> B. A radio operator antenna shall be operated by an amateur radio operator who is licensed by the Federal Communications Commission and whose domicile is on the lot where the antenna and the related equipment is placed.
>
> C. A supporting structure for a radio operator antenna may not be located within 20 feet of any property line.
>
> D. A radio operator antenna may not extend closer than the front building line to any street on which the lot fronts.
>
> E. A radio operator antenna may not be higher than the lesser of 100 feet or the horizontal distance to the nearest property line above grade level.

Thus, it is important to examine this case (06-180-SPHA) with respect to §426A.

The HF/VHF (7-52 MHz) Antenna

With respect to §426A.¶A, the Applicant submits that the High Frequency/Very High Frequency (HF/VHF) radio antenna system meets all *lawful* requirements of §426A.

With respect to ¶B, the Applicant submits his amateur radio license, see **Exhibit A**.

With respect to ¶C, see **Exhibit C** and refer to the plot plan submitted with the original building permit application. The supporting structure is no closer than 102 feet from any property line, clearly

exceeding the 20-foot required yard.

With respect to ¶D, see **Exhibit C** and refer to the plot plan submitted with the original building permit application. The antenna is clearly in the rear-yard and meets this requirement.

With respect to ¶E, the paragraph has two tests:

- First, antenna height may not exceed 100 feet. This is true for this application, as the top antenna (for 432 MHz) is at 99 feet. This test is not in question.

- As to the second issue, "(a) radio operator antenna may not be higher than the horizontal distance to the nearest property line above grade level." The standard rule of statutory interpretation requires that we should try to read a regulation so as to preserve its validity, and avoid preemption by federal law. Thus, the height of the antenna should be measured from its attachment point and not the edge of its turning radius. The words do not say that distance is measured from the outer edge of a turning radius. The words were intended to measure from the support structure to the property line, which is what the whole world thinks is the "height" of an antenna.

Height should be measured from the mid-point, or support structure, for several reasons:

- In this case, failure to interpret height as measured from the antenna's mid-point results in a maximum height of only 65 feet. A maximum height of 65 feet fails to meet the requirements of federal regulations and case law that local regulations "reasonably accommodate" amateur radio communications desired by the applicant.

- There is no safety or other reason expressed in the ordinance at §426A for an interpretation that would arbitrarily lower the maximum height in this case to 65 feet. Yet Federal law requires:

> [L]ocal regulations which involve placement, screening, or height of antennas based on health, safety, or aesthetic considerations must be crafted to accommodate reasonably amateur communications, and to represent the minimum practicable regulation to accomplish the local authority's legitimate purpose.

Source: FCC Order known as PRB-1, ¶25, http://wireless.fcc.gov/services/amateur/prb/index.html.

There is no indication whatsoever within the regulation, nor can there be in this case, that the regulation represents the "minimum practicable regulation," because there is no indication of the authority's purpose. Nor can it be assumed.

- Assuming that an amateur radio antenna system falls the full length of its height plus the turning radius of any antenna defies human experience. There is no known example proof of such an experience. See **Exhibit I**, a letter from U.S. Tower Services, a Maryland company, expressing real-life experience. Therefore, because the regulation does not reflect real life, it fails the "minimum practicable regulation" test – on the issue of "practicable." Federal law does not permit regulation on the basis of a hypothetical that has never occurred -- the regulation must be *practicable*. The burden falls on the proponent of an interpretation who asks for a hypothetical maximum fall zone -- to show that such a thing has happened in the practicable world.

- Under the improbable scenario that all three anchor bolts fail simultaneously, the structure cannot fall outside the property owned by the applicant. See **Exhibit J** for the trigonometry of a dead fall.

- An interpretation which allows a permit for an antenna support structure up to 95 feet, with a four foot vertical whip on top (thereby assuring that it does not extend beyond the setback), but prohibits the primary structure from being more than 65 feet tall when it holds a 7 MHz Yagi, makes no sense. "If the law supposes that," said Mr. Bumble,... "the law is a ass—a idiot." CHARLES DICKENS, *Oliver Twist,* chapter 51, p. 489 (1970). First published serially 1837–1839.

- An interpretation which causes the maximum height of a 7 MHz Yagi to be 65' in this case is arbitrary, and does not meet the requirements of reasonable accommodation. For further explanation in a situation comparable to this one, see In *Snook v. Missouri City, TX,* http://users3.ev1.net/~osnook/34.pdf (USDC, SDTX, 2003, Hittner, J.)(the Order, 63 pp.), also http://users3.ev1.net/~osnook/35.pdf (the Final Judgment, 2 pp.).
PACER citation: https://ecf.txsd.uscourts.gov/cgi-bin/login.pl?387442335892775-L_238_0-14:03-cv-00243_Snook v._City_of_Missouri.

  The original bylaw permitted 35', a second bylaw permitted greater height by specific use permit. After grant of building permit under first bylaw (the Building Inspector recognized that a fixed and unvarying 35' was not legal), the radio ham built a 114' support structure on a 0.958 acre lot in residential subdivision. The City cited the radio ham for repeated violations of the second bylaw for failure to have specific use permit, which it declined to grant. The City's expert recommended 50-60' for 14 MHz antenna, and just above treetops (60-80') for VHF/UHF, but ignored 7 MHz and 3.5 MHz antenna requirements. For no special reason, City decided 65' was acceptable. "To conduct effective emergency communications, Snook must be able to achieve at least a 75 to 90 percent successful signal under the changing variables that impact emergency or other amateur radio communications." Findings of Fact ¶9. The City Ordinance was preempted. The Court ordered the City to issue a permit (without remand) consistent with existing structure. Citing *Younger v. Harris*, Court declined to enjoin the City, but received assurances the City will not further prosecute. "PRB-1 requires a site-specific, antenna-specific, array-specific, operations-specific, ordinance-specific, and city action-specific analysis. PRB-1 at p. 7." [Referring to PRB-1 paragraphs 24 and 25.]

In the Alternative, A Variance from §426A.E. Should Be Granted

The Applicant has examined materials issued by the Department of Permits and Development Management (PDM), Bureau of Zoning Review and responds to the criteria as appropriate.

A. The first step requires the petitioner to prove, to the satisfaction of the hearing officer, that the property whereon structures are to be placed (or uses conducted) is unique, unusual, and different from the surrounding properties such that the uniqueness causes the zoning provision to impact more on the subject property than on the surrounding properties.

Response: The property was purchased in 1975, after an exhaustive study of all available plots and residences within Baltimore County. A topographic map was used in making the selection. The property has a gentle slope to the Southwest, South and Northwest (down to the Loch Raven Reservoir – which will reflect signals and improve coverage). From this location, the buildings of Towson are visible, along with the lights of the City of Baltimore. This slope permits low angle signals to travel to regions of Asia and Pacific, the farthest locations where communications are both desirable and necessary. This slope also accommodates the requirement of a lot suitable for building a home with a full walk out basement. The slight rise to the Southeast accommodates perfectly the higher radiation angles necessary for communications with the Caribbean region. To the Northeast, the land is essentially flat which is perfect for communicating with Europe, an intermediate distance. It is not possible to duplicate the attributes required of this property anywhere within Baltimore County. On other properties, a much taller antenna support structure (exceeding 100') would be necessary to duplicate the same radio propagation performance. For the proposed radio purposes,

the property is unique.

B. The second step of the test requires that the petitioner must demonstrate that strict compliance with the BCZR would result in either practical difficulty or unreasonable hardship. The Court of Appeals in *Anderson v. Board of Appeals, Town of Chesapeake Beach,* 22 Md. App. 28, stated:

1. "To prove undue hardship for a use variance . . .

Response: **No use variance is required**, as this use is specifically authorized by right under BCZR §426A.A: "A radio operator antenna and related equipment, including any supporting structure, is considered an accessory structure or use and is permitted by right in any zone. . . ."

2. To provide practical difficulty for an area [and presumably height] variance, the following criteria must be met:

(i) Whether strict conformance with requirement would unreasonably prevent the use of the property for the permitted purpose or render conformance unnecessarily burdensome.

Response: The requirement for the Applicant to show that §426A.E. unreasonably prevents use is at odds with the federal law which controls – requiring local law to reasonably accommodate the ham. In other words, **Federal law puts the burden on Baltimore County, and does not put the burden on the Applicant.** Nonetheless, the Applicant's propagation studies show that his communications effectiveness (a Federal test) will be substantially burdened, and some communications prevented, if the height restriction is applied in accordance with an illegal interpretation (one which limits height in this instance to 65' for 7 MHz).

(ii) Whether the grant would be substantial injustice to the applicant, as well as other property owners in the district, or whether a lesser relaxation than that applied for would give substantial relief.

Response: Any licensed radio amateur in the district would be affected by the interpretation limiting height of a 7 MHz antenna to 65' in this instance. Given the impact of height on effectiveness at 7 MHz, a lesser relaxation would not meet the need.

(iii) Whether relief can be granted in such fashion that the spirit of the ordinance will be observed and public safety and welfare secured.

Response: In this case, granting the relief is in the best interests of public safety and welfare, in accordance with a Congressional finding. See **Public Law 103-408 (J.Res., 103d Congress, 1994)**, §1(3), http://thomas.loc.gov/cgi-bin/query/D?c103:1:./temp/~c103axha51:: , or http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=103_cong_bills&docid=f:sj90enr.txt.pdf (last visited June 11, 2005).

> "Congress finds and declares that –
> . . .
>
> (3) reasonable accommodation should be made for the effective operation of amateur radio from residences, private vehicles and public areas, and that regulation at all levels of government should facilitate and encourage amateur radio operation as a public benefit."

C. No increase in residential density beyond that allowed by the BCZR shall be permitted.

Response: Not applicable. This application does not increase residential density.

D. The relief requested must be in strict harmony with the spirit and intent of height, area, parking or sign *regulations.*

Response: Relief would be in strict harmony with controlling Federal law (see Public Law 103-408, above), as well as the BCZR's purpose clause, §1:

> 1. For the purpose of promoting the health, security, comfort, convenience, prosperity, orderly development and other aspects of the general welfare of the community, zones are intended to provide broad regulation of the use and manner of use of land, in accordance with comprehensive plans.

The Congress, the FCC, and the courts have all declared that the promotion of amateur radio promotes the general welfare.

E. And only in such manner as to grant relief without substantial injury to the public health, safety, and general welfare.

Response: In this case, there is clearly no "substantial injury to the public health, safety, and general welfare." In fact, the purpose clause for amateur radio, found at 47 CFR §97.1 declares the many affirmative benefits of amateur radio. The Applicant has no further burden as to public health, safety and general welfare.

> Sec. 97.1 Basis and purpose.
>
> The rules and regulations in this part are designed to provide an amateur radio service having a fundamental purpose as expressed in the following principles:
>
> (a) Recognition and enhancement of the value of the amateur service to the public as a voluntary noncommercial communication service, particularly with respect to providing emergency communications.
>
> (b) Continuation and extension of the amateur's proven ability to contribute to the advancement of the radio art.
>
> (c) Encouragement and improvement of the amateur service through rules which provide for advancing skills in both the communication and technical phases of the art.
>
> (d) Expansion of the existing reservoir within the amateur radio service of trained operators, technicians, and electronics experts.
>
> (e) Continuation and extension of the amateur's unique ability to enhance international goodwill.

The 144 MHz (95') and 432 MHz (99') (VHF/UHF) Antennas

To the North, there is an incline continuing out to Jacksonville (where microwave towers are located). To clear surrounding trees, and to be effective in communicating to the North (paying special attention to the ridge about 1.25 miles away and in the direction of Jacksonville), the Applicant needs a clear path. The Applicant needs to be above the trees to promote line-of- sight communications, especially with hand-held or mobile radios, in time of emergency – when cell phone systems are down, as happened in Hurricane Katrina. See **Exhibit B**.

Even under a highly restrictive construction of §426A.E.[1] (limiting height to the height of the antenna support structure plus the turning radius of the antenna, the Applicant could still erect and maintain

[1] §426A.E. reads: A radio operator antenna may not be higher than the lesser of 100 feet or the horizontal distance to the nearest property line above grade level.

the present structure for VHF/UHF antennas, if he eliminated the 7-52 MHz antenna, a thought which makes no sense – neither in engineering nor in safety terms. Such a restrictive reading would definitely impinge on communications to the North at these frequencies, in violation of FCC Order DA 99-2569:

> 9. . . . [W]e believe that PRB-1's guidelines brings to a local zoning board's awareness that **the very least regulation necessary** for the welfare of the community must be the aim of its regulations **so that such regulations will not impinge on the needs of amateur operators** to engage in amateur communications. *(Emphasis added.)*

The trees are typically 65-70 feet in height in wooded area neighboring the structure (especially to the North).

For VHF and UHF, a Permit Under §426A Is Appropriate

With respect to §426A. ¶A, the Applicant submits that the Very High Frequency and Ultra High Frequency (VHF and UHF, 144 and 432 MHz) radio antennas meet *all* requirements of §426A.

- With respect to ¶¶B-E, the Applicant's answers are stated above.

There is no rational reason to interpret the ordinance so as to require the Applicant to erect two separate antenna support structures: one for the VHF/UHF antennas, and one for the HF/VHF antenna.

In the Alternative, for VHF and UHF, a Variance from §426A.E. Should Be Granted

The Applicant has examined materials issued by the Department of Permits and Development Management (PDM), Bureau of Zoning Review and responds to the criteria as appropriate.

F. The first step requires the petitioner to prove, to the satisfaction of the hearing officer, that the property whereon structures are to be placed (or uses conducted) is unique, unusual, and different from the surrounding properties such that the uniqueness causes the zoning provision to impact more on the subject property than on the surrounding properties.

Response: As stated above.

G. The second step of the test requires that the petitioner must demonstrate that strict compliance with the BCZR would result in either practical difficulty or unreasonable hardship. The Court of Appeals in *Anderson v. Board of Appeals, Town of Chesapeake Beach,* 22 Md. App. 28, stated:

1. "To prove undue hardship for a use variance . . .

Response: No use variance is required, as stated above.

2. To provide practical difficulty for an area [and presumably height] variance, the following criteria must be met:

(i) Whether strict conformance with requirement would unreasonably prevent the use of the property for the permitted purpose or render conformance unnecessarily burdensome.

Response: As stated above.

(ii) Whether the grant would be substantial injustice to the applicant, as well

as other property owners in the district, or whether a lesser relaxation than that applied for would give substantial relief.

Response: Any licensed radio amateur in the district would be affected by the interpretation limiting height in this instance. Given the impact of height on effectiveness, due to attenuation by foliage at 144 and 432 MHz, a lesser relaxation would not meet the need.

(iii) Whether relief can be granted in such fashion that the spirit of the ordinance will be observed and public safety and welfare secured.

Response: Given that Congress, the FCC and the Courts have all recognized amateur radio as a positive force on public safety and welfare, this criterion is met.

H. No increase in residential density beyond that allowed by the BCZR shall be permitted.

Response: Not applicable. This application does not increase residential density.

I. The relief requested must be in strict harmony with the spirit and intent of height, area, parking or sign regulations.

Response: As stated above.

J. And only in such manner as to grant relief without substantial injury to the public health, safety, and general welfare.

Response: Given that Congress, the FCC and the Courts have all recognized amateur radio as a positive force on public safety and welfare, this criterion is met.

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3. THE TELECOMMUNICATIONS ACT OF 1996, §704 (47 USC §332 *ET SEQ.*), DOES NOT APPLY

People's Counsel emphasizes the limitations of the preemption of local zoning contained in The Telecommunications Act of 1996, the contents of which are now found at 47 USC §332, *et seq.*, and cases related to the PCS and cellular mobile industry (together, Commercial Mobile Radio Services, or CMRS, also "personal wireless services"). Nonetheless, 47 USC §332 is unrelated to the matter at hand. It does not apply.

People's Counsel is well pleased with, and cites, 47 USC §332(c)(7)(A):

> (7) Preservation of local zoning authority
> (A) General authority
> Except as provided in this paragraph, nothing in this chapter shall limit or affect the authority of a State or local government or instrumentality thereof over decisions regarding the placement, construction, and modification of **personal wireless service facilities**.
> *(emphasis added)*

People's Counsel also cites (in part) 47 USC §332(c)(7)(B):

> (B) Limitations
> (i) The regulation of the placement, construction, and modification of **personal wireless service facilities** by any State or local government or instrumentality thereof -
> (I) shall not unreasonably discriminate among providers of

> functionally equivalent services; and
> (II) shall not prohibit or have the effect of prohibiting
> the provision of personal wireless services.
> *(emphasis added)*

Unfortunately, People's Counsel does not discuss the definitions, which answer the question: "To whom does this apply"?

Please refer to 47 USC §332(c)(7)(C):

> (C) Definitions
> **For purposes of this paragraph -**
> **(i) the term "personal wireless services" means**
> ***commercial mobile services, unlicensed wireless services, and***
> **common carrier wireless exchange access services;**
> (ii) the term "personal wireless service facilities"
> means facilities for the provision of personal wireless services
>
> *(emphasis added)*

The Applicant is neither a commercial mobile service, nor an unlicensed wireless service, nor a common carrier. The Applicant is a non-commercial, FCC licensed, radio amateur, in a wholly different service and subject to a wholly different set of regulations (47 CFR §97), and the beneficiary of a wholly different preemption (47 CFR §97.15(b)). A discussion of *the law that does apply* is found later in this document, in the section entitled "Preemption."

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4. MISCELLANEOUS ISSUES

The Antenna Support Structure. The antenna support structure that has been installed at the site, in accordance with the building permit, is an AN Wireless model AN HD-90 (indicating Heavy Duty-90' tall). It is 48 inches wide at the base, 15 and 19/32 inches (15.6") wide at the top, made of thick galvanized steel. See **Exhibit K.**

Co-location. The co-location requirements of the BCZR's section with cellular telephone carriers are not applicable. Even so, there exists no other suitable antenna support structure at the Applicant's residence.

Height. The Applicant, through extensive study and computer modeling has determined that the height of the antenna support structure is the minimum necessary to meet his needs for amateur radio communications. Summary information from these studies and his needs provides information on the importance of antenna height to effective communications. Detailed computer modeling, relating antenna height to effective communications capability for the Applicant's Baltimore County residence has been prepared by John Evans, Ph.D. (Physics), former president of COMSAT Labs, a fellow of the IEEE (Institute of Electrical and Electronics Engineers) and the AIAA (American Association of Astronautics and Aeronautics), as well as a Member of the National Academy of Engineering. Mr. Evans was joined in creating the needs analysis by James A. Nitzberg, Bachelor of Science in Electrical Engineering with specialization in digital systems software design, University of Delaware, 1985. The Needs Analysis accompanies this document.

Building Permit Granted. The Applicant's structure location exceeds all setback requirements. A building permit was applied for and granted on April 6, 2004. See **Exhibit C-2.** The only question subject to interpretation or variance is height.

Aesthetics. The antenna support structure has a neutral gray galvanized steel finish, which dulls with the passage of time – making it harder to see from a distance. In an attempt to make ships difficult to see from a distance, the U.S. Navy paints its ships gray. Gray is the best color for this purpose.

The antenna support structure will not interfere with the view from any publicly-owned or managed areas or major view corridors. For additional details on vegetative screening, see the section on "Site Selection," below.

Nor is this structure incompatible with the area, as there are *four* towers located less than 1.25 miles distant in Jacksonville, MD. Those towers serve microwave relay, cellular telephone and public safety. There are two microwave relay towers, holding 11 solid dishes of approximately 15' diameter each, a 700'-tall police relay tower with vertical antennas, and a 200' cellular telephone tower with two small dishes about 20' above ground. Those towers are in excess of seven times the height of the Applicant's tower and can be seen from all locations within the Applicant's community.

When the Applicant and his wife are no longer resident at their property on which the antenna support structure is located, they intend to remove the structures.

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5. DESCRIPTION OF THE ANTENNA SYSTEM AND NEED

There are 11 commonly used amateur radio bands between 3.5 MHz to 432 MHz. The choice of which band to use depends on the distance between communicating stations, time of day, time of year, point in the 11-year sunspot cycle, as well as daily propagation conditions. At a given point in time, only one or two of these bands may be useful for communication to a particular location. To have a reasonably high probability of effective communications with a given location, at any given point in time, it is therefore necessary to have high performance antennas on all or most of these bands. High performance is obtained by using directional antennas. (Recall, before cable TV, the need to aim television antennas in the correct direction. In some outlying areas, a rotator was necessary to receive signals from more than one direction.) Directivity not only strengthens signals being received, but also is extremely important because it can also be used to "null out" interfering stations. High performance antennas can be particularly important under emergency conditions, when operating under auxiliary power sources, when operation may require communications with only low power output or communications with other stations operating under adverse conditions.

7 MHz to 432 MHz

For effective communications from this location, the Applicant requires a self-supporting 90-foot antenna support structure with a mast above the structure (extending to a maximum height of 99-feet) on which antennas are mounted to provide directional coverage between 7 MHz and 432 MHz. Directional antennas (e.g., Yagi beams, some of which work on more than one band) are mounted on the mast. A rotator is mounted inside of the structure. The Applicant has installed a self-supporting structure for the following reasons:

a) It is possible to attain the required antenna-supporting capacity and height with a substantial additional margin of safety.

b) The structure does not require guy wires. This simplifies antenna experimentation and structure maintenance.

c) There is no need to invade a setback or required yard.

Amateur radio is an experimental service, promoted in Federal law.[2] It is natural and expected that

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[2] As PRB-1 says: 24. . . . [T]here is . . . a strong federal interest in promoting amateur communications.

amateurs will need to change and modify antenna systems mounted on structures such as this, as interests and technology evolve and as propagation characteristics change with the season and the 11-year sunspot cycle. In addition, the Applicant performs experiments in radio signal propagation, communications effectiveness, and antenna design. Various configurations are needed to advance his knowledge and ability in the field of radio communications.

For a particular antenna design, needed antenna size is proportional to wavelength. Lower frequencies have longer wavelengths and require, correspondingly, larger antennas. In addition, for effective and reliable communications, horizontal antennas must be installed at higher elevations to achieve an adequately low angle radiation. The need to communicate effectively over long distances at 7 MHz requirement dictates the maximum size and height of this antenna and support structure. At this frequency (7 MHz), while less than optimal, 90 feet is the workable height and the Applicant is prepared to accept the limitations of such a low height.

6. WHY THIS HEIGHT? "EFFECTIVE COMMUNICATIONS"

For communications at frequencies between 3.5 MHz and 30 MHz (the "short wave bands", also known as HF, for High Frequency), the height of an antenna above ground is the major controlling factor in the vertical angle at which signals are transmitted, which in turn directly affects the reliability and dependability of worldwide signal paths. More reliable signal paths also allow effective communication at reduced power levels (reduced power is preferable in all circumstances, and often necessary in emergency situations when commercial power is not available). If the antenna is not "high enough," signal reliability is compromised. This means that communications to certain parts of the world will be severely limited, or nonexistent. "High enough" is commonly accepted to be, *at a minimum,* ½ wavelength high at the lowest frequency used. A height of 1 to 1½ wavelengths at this lowest frequency is the design goal. This antenna support structure holds antennas for 7 MHz and above. At 7 MHz, 1 wavelength of height requires approximately 140 feet. Thus, the structure represents a significant, but marginally acceptable, compromise by the Applicant.

Communications at frequencies above 30 MHz (known as VHF or "Very High Frequency" where one finds FM radio, TV, police and fire departments) are dependent, largely, on 'line-of-sight' propagation. Most *local* emergency communications are conducted at these frequencies. Interference with trees and buildings cause significant signal loss at these frequencies. Thus, antennas that are above, free, and clear of such obstructions permit the amateur to communicate more effectively, over greater distances and using lower power levels. Doubling the height of the antenna is considered to be approximately equivalent to doubling the power output and receiving capability. Considered together, these factors are strong arguments for higher antennas.

The height of the present structure satisfies both of these needs by:

1) Placing the antennas high enough to allow reliable VHF communication, free from attenuation due to surrounding foliage and other obstructions to the north of the site.

2) Satisfying the Applicant's requirement of 90 feet for HF communication at 7 MHz and above.

As mentioned in above, more than one antenna is needed to cover the range between 7 MHz and 432 MHz. The particular antennas installed on the antenna support structure will change over time. Antennas must also be separated by a distance sufficient to mitigate potential interaction between different antennas. The exact distance is a complicated function of the individual antenna configuration and orientation, but can be predicted by computer modeling which the Applicant can perform. Nevertheless, there are general guidelines that are followed when positioning antennas on the mast above the antenna support structure. In particular, there is less load on the structure when larger antennas are placed closer to the bottom of the mast. Thus, the smaller VHF antennas are placed near the top of the mast. This reduces load on the structure, and provides more effective communications for the line-of-sight VHF/UHF bands that are used in local emergency communications.

The 3.5 MHz band is important for combinations of local, medium distance, and long distance communications, especially after dark. This band is widely used for regional amateur radio "traffic handling nets." These regional message-passing networks (extending many hundreds of miles in the evening) are an important extension of local VHF (mostly on 144 MHz) communications networks that help prepare for emergency communications.

More details on this subject are given in the article "*Antenna Height and Communications Effectiveness*" by Straw and Hall. The Executive Summary of this article has been reproduced (with permission), and accompanies this Supplement. Propagation studies and comparisons, based on computer modeling, that are specific to the Applicant's communications needs, antenna system, and location at 39 Glenbrook Drive have also been performed by two qualified engineers, as co-authors, Messrs. Evans and Nitzberg.

7. SITE SELECTION

The property upon which the antenna structure is located was selected after an exhaustive search using topographic maps of all buildable land available within Baltimore County during the year 1975. This site selection was later confirmed to be appropriate when computer modeling of radio propagation became available.

The Applicant has considered placement of the structure at a variety of sites on the property. The best option which has emerged for the 7 MHz to 432 MHz antenna support structure is presented below.

7 MHz to 432 MHz

The site for the 7 MHz to 432 MHz antenna support structure is approximately 150 feet behind the residence at 39 Glenbrook Drive. The site selected is as far as possible from adjacent residences without encroaching on setbacks or easements. It is far enough back in the lot such that the 34-foot high residence on the lot provides an effective screen for the bottom 60 feet of the structure (the ground elevation at the structure site is about 10 feet lower than the ground elevation at the house) from the majority of positions within the community. There is moderate to heavy tree and shrubbery screening in all directions. There is almost total visual screening in the southeast to northwest direction, provided by a continuous line of mature 50-foot spruce trees. In the northwest to northeast direction there is 1-1/2 acres of dense woodland owned by the Applicant, and containing mature trees typically in excess of 60 feet. To the northeast and southeast, there is a similar line of 50-foot tall spruce trees. In the easterly direction, the Applicant's residence provides shielding along with ornamental trees. The Applicant planted the screening lines of spruce trees 32 years ago in anticipation of installing the present antenna structure.

Transmission and Control Lines

All transmission lines and antenna control cables (for the rotator and antenna switch on the 7 MHz to 432 MHz structure, going to the residence run inside two 4-inch electrical conduits, buried approximately two feet below the ground, using proper drainage. These conduits terminate in electrical utility boxes, similar to (but separate from) that used to bring electrical service into the residence. These boxes contain devices for proper grounding of control cables and transmission lines.

8. ABUTTER AND NEIGHBORHOOD APPROVAL

The applicant has obtained signed letters from the owners of each of the five properties that directly

abut the site, as well as the property owner across the street. The letters represent each and every property where, in some unimaginable hypothetical, the structure falls a distance greater than its height, even up to twice its height. The letters state that those owners have no objection to the antenna structure and antennas, and the abutters urge the issuance of a permit or variance to maintain the structure as constructed. In two cases, properties changed hands in 2006. Yet all the same properties are represented in 2006 as well, plus the Allman family, three doors away. See **Exhibit E**.

In addition, four other neighbors, representing three addresses that are not abutters but live close by, have joined the abutters in signing the petition urging zoning relief in this matter. See **Exhibit F**.

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9. PREEMPTION

The Applicant wishes to call attention to Federal law that preempts certain elements of regulation by a municipality. Federal Communications Commission Order PRB-1, 101 FCC 2d 952, 50 Fed. Reg. 38813 (September 25, 1985), *declares in pertinent part:*

> Local regulations which involve placement, screening, or height of antennas based on health, safety or aesthetic considerations must be crafted to accommodate reasonably amateur communications, and to represent the **minimum** practicable regulation to accomplish the local authority's legitimate purpose. (Emphasis added)

Source: http://wireless.fcc.gov/services/amateur/prb/index.html

The above order has subsequently become part of the Code of Federal Regulations, as 47 C.F.R. §97.15 (b):

> Except as otherwise provided, a station antenna structure may be erected at heights and dimensions sufficient to accommodate amateur service communications. State and **local regulation of a station antenna structure** must not preclude amateur service communications. Rather, it **must reasonably accommodate** such communications **and must constitute the minimum practicable regulation** to accomplish the state or local authority's legitimate purpose. (Emphasis added)

Source: http://frwebgate.access.gpo.gov/cgi-bin/get-cfr.cgi?TITLE=47&PART=97&SECTION=15&YEAR=1999&TYPE=TEXT

Finally, in its Order of November 18, 1999, the FCC added:

> PRB-1's guidelines bring[ ] to a local zoning board's awareness that the very least regulation necessary for the welfare of the community must be the aim of its regulations so that such regulations will not impinge on the needs of amateur operators to engage in amateur communications.

Source: http://www.fcc.gov/Bureaus/Wireless/Orders/1999/da992569.txt

The Courts have routinely enforced these FCC rulings, which have the power of Federal law. See:

Bodony v. Sands Point, NY, 681 F. Supp. 1009 (E.D. NY 1987), http://www.qsl.net/k3qk/bodony.html. *Ordinance with 25' height limit. Tower: 86'.* Summary judgment for ham; settled with permit granted and $60,000 in legal fees to ham on §1983 claim because town was seeking ways to deny his rights (soliciting opinion of counsel on how to deny, without regard to merits).

Izzo v. River Edge, NJ, 843 F.2d 765 (3d Cir. 1988). Upholds preemptive effect of PRB-1 on 35' height limitation. "The effectiveness of radio communication depends on the height of antennas." At 768. Holds that

Court need not abstain. Court awarded fees of $10,000.

Brower v. Indian River County Code Enforcement Board, FL, No. 91-0456 CA-25 (June 23, 1993), 1993 WL 228785 (Fla.Cir.Ct.). Tower 68.88 feet, plus antenna to total of 95.6 feet; 72.4 feet from neighbor's property line. Absolute prohibition on towers > 70'. Ham erected without first attempting to obtain a permit. Court held that any application for a permit would have been futile ("a circular dead-end"). Ordinance facially void as an unvarying maximum height: "We agree with the Evans court's adoption of prior rulings in that case which concluded that flat prohibitions of this nature are not permitted, Evans, at 976" [Refers to Evans I]

Pentel v. Mendota Heights, MN, 13 F3d 1261 (8th Cir., 1994) http://www.qsl.net/k3qk/pentel.html. Ham applied for 68' antenna (crank-up 30-68' and two Yagis). Absolute 25' height limit in ordinance preempted. Rejects balancing test; FCC did the balancing. Accepts 56.5' as ineffective.

Palmer v. Saratoga Springs, NY, 180 F. Supp. 2d 379 (N.D.N.Y. 2001), http://www.nysd.uscourts.gov/courtweb/pdf/D02NYNC/01-12259.pdf Absolute height limit of 20' in ordinance preempted. "(A)n unvarying height restriction on amateur radio antennas would be facially invalid in light of PRB-1." (Citing *Pentel, Evans* and *Bulchis.*) Commentary on bad faith of town. Request for information on RFI "unreasonable on (its) face. Grant of permit as applied for, at 47', without further proceedings. This, and Snook, are only cases that ever went to trial in a Federal District Court on PRB-1.

Marchand v. Town of Hudson, NH, 788 A.2d 250, 147 N.H. 380 (N.H. 2001), http://www.courts.state.nh.us/supreme/opinions/2001/march221.htm
Three, 100' tall antenna systems. Ruling that balancing not appropriate. "(T)o "reasonably accommodate" amateur radio communications . . . the ZBA may consider whether the particular height and number of towers are necessary to accommodate the particular ham operator's communication objectives. Remand to determine if three towers is a customary accessory use under NH law. [On remand, Hudson, NH Board held that three towers qualifies as a customary use.]

Snook v. Missouri City, TX (USDC, SDTX, 2003, Hittner, J.) , http://users3.ev1.net/~osnook/34.pdf (the Order, 63 pp.), also http://users3.ev1.net/~osnook/35.pdf (the Final Judgment, 2 pp.). Original bylaw permitted 35', second bylaw permitted more by specific use permit. After grant of building permit under first bylaw (B/I recognized 35' was not legal), Ham built 114'. City cited Ham for repeated violations of second bylaw for failure to have specific use permit, which it declined to grant. City expert recommended 50-60' for 20 meter antenna, and just above treetops (60-80') for VHF/UHF, but ignored 40 and 80 meter antenna argument. For no special reason, City decided 65' as acceptable. "To conduct effective emergency communications, Snook must be able to achieve at least a 75 to 90 percent successful signal under the changing variables that impact emergency or other amateur radio communications." Findings of Fact 9. City Ordinance preempted. Order for City to issue permit (no remand) consistent with existing structure. Citing Younger v. Harris, Court declined to enjoin City, but received assurances City will not further prosecute. "PRB-1 requires a site-specific, antenna-specific, array- specific, operations-specific, ordinance-specific, and city action-specific analysis. PRB-1 at p. 7." [Referring to PRB-1 paragraphs 24 and 25.]

Chedester v. Town of Whately, MA http://www.qth.com/antennazoning/ham/chedester-decision.pdf (2004). Bylaw permitted 35'. Ham granted permit for 140' when Building Inspector decided bylaw was preempted. Planning Board appealed to ZBA. ZBA revoked permit. Superior Court ruled that the town misinterprets both state and federal preemption in holding that while the ordinance may permit antennas over 35', restrictions on antenna support structures are not similarly affected. Height limit of 35' found to be "an absolute and unvarying height restriction" and preempted. "A 35' height restriction would effectively mean that no radio communications would be able to be transmitted." Building permit reinstated.

The Needs of the Radio Amateur Control

The New Hampshire Supreme Court has decided:

In light of the FCC's requirement, a zoning board's fact-finding and analysis should focus, first, on whether the three towers are permitted under local zoning regulations. If, as we have determined here, they are not, the zoning board should then consider what steps must be taken to "reasonably accommodate" amateur radio communications. In making this determination, the ZBA may consider whether the particular height and number of towers are necessary to accommodate the particular ham operator's communication objectives.

There was some evidence presented to the ZBA that the tower and antenna operation "was not the typical installation, but rather was something that every ham who was interested in reliable international communication on a regular basis aspired to own." The ZBA, however, did not make any factual findings regarding whether Muller even requires the proposed three radio towers to facilitate his international ham radio operations. Therefore, we vacate the superior court's decision and remand with instructions to remand to the ZBA for proceedings consistent with this opinion.

Marchand v. Town of Hudson, 788 A.2d 250 (N.H. 2001) (Emphasis added.)

So the question is not whether some communications would be effective. The question relates to "the particular ham operator's communications objectives."

As the Federal District Court said in the Snook case:

> PRB-1 requires a site-specific, antenna-specific, array-specific, operations-specific, ordinance-specific, and city action-specific analysis. PRB-1 at p. 7.

Snook v. Missouri City, PACER citation: https://ecf.txsd.uscourts.gov/cgi-bin/login.pl?387442335892775-L_238_0-14:03-cv-00243_Snook v._City_of_Missouri. http://users3.ev1.net/~osnook/34.pdf (USDC, SDTX, 2003, Hittner, J.)(the Order, 63 pp.), also http://users3.ev1.net/~osnook/35.pdf (the Final Judgment, 2 pp.) (last visited May 3, 2005).

The reference to PRB-1 at p.7 by the Snook Court is to PRB-1 paragraph 25:

> 25. Because amateur station communications are only as effective as the antennas employed, antenna height restrictions directly affect the effectiveness of amateur communications. Some amateur antenna configurations require more substantial installations than others if they are to provide the amateur operator with the communications that he/she desires to engage in.

FCC Order PRB-1, 101 FCC 2d 952, 50 Fed. Reg. 38813 (September 25, 1985, ("PRB-1"), http://wireless.fcc.gov/services/amateur/prb/index.html (last visited May 3, 2005).

Under PRB-1, the test is whether or not the municipality will reasonably accommodate a proposed installation "to provide the amateur operator with the communications that he/she desires to engage in."

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10. COMPLIANCE WITH FAA AND FCC REGULATIONS

The Applicant's amateur radio antenna support structure is not considered tall by amateur radio standards. The Applicant's antenna support structure does not exceed 200 feet in height and it is more than 15 miles away from the closest public airport or heliport. Neither the FCC nor the FAA requires painting, lighting, marking, or registration of the antenna system (47 CFR §97.15, 47 CFR §17.7, and 47 CFR §17.21). The structure does not extend into the approach zones, clear zones or other restricted air space of any public airport. No risk to airmen is posed by this antenna system. See **Exhibit D** – a printout of the FCC's TOWAIR web site.

11. INSURANCE

The Applicant's USAA Insurance homeowner's policy provides coverage, without additional premium (a recognition that injury due to an antenna support structure injuring a third party is rare indeed), for personal liability and medical payments due to possible failure of some part of an amateur radio antenna support structure.

12. CONCLUSION

For the reasons set forth above, the Applicant requests an interpretation of §426A that permits the present height of the 7 MHz Yagi, or a zoning variance for the antenna support system at the proposed site according to the specifications in this supplement, and the accompanying building permit. Should any questions arise, please feel free to contact me or Atty. Howard Alderman at (410) 666-9189.

Respectfully submitted,

Benjamin A. Governale

Kayren P. Governale

EXHIBIT A: FCC LICENSE

UNITED STATES OF AMERICA
FEDERAL COMMUNICATIONS COMMISSION

AMATEUR RADIO LICENSE
W3LL

GOVERNALE, BENJAMIN A
39 GLENBROOK DR
PHOENIX, MD 21131

FCC Registration Number (FRN) 0003521481

Special Conditions/Endorsements

Grant Date	Effective Date	Print Date	Expiration Date
08/27/2002	08/27/2002	10/24/2005	11/24/2012

File Number	Operator Privileges	Station Privileges
	Amateur Extra	PRIMARY

THIS LICENSE IS NOT TRANSFERABLE

(Licensee's Signature)

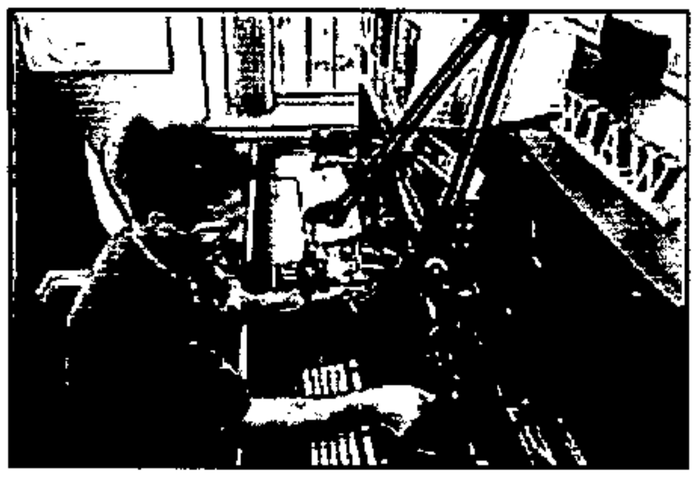
FCC 660 APRIL 2002

Source: http://wireless2.fcc.gov/UlsApp/UlsSearch/printAuth_amateur.jsp?licKey=792794

EXHIBIT B: EMERGENCY COMMUNICATIONS FOR HURRICANE KATRINA

THE CHRISTIAN SCIENCE MONITOR csmonitor.com

Sci/Tech > **Science & Space**
from the September 15, 2005 edition



HELLO? Joe Carcia, station manager of the American Radio Relay League in Newington, Conn., is one of many hams helping to coordinate disaster relief until land lines and cellphone service is fully restored.
LAUREN TAGLIATELA/THE HERALD/AP

Ham radio operators tune in hurricane help

By Barbara W. Carlson | *Contributor to The Christian Science Monitor*

NEWINGTON, CONN. – Richard Webb, an amateur radio operator, was asleep on his air mattress at University Hospital in New Orleans during the aftermath of hurricane Katrina when he was awakened at 5 a.m. by a hospital administrator.

As Mr. Webb tells it, "He told me we had a lady who was in labor, who had swum five blocks in that dirty, nasty water to the hospital because she saw lights there - people with flashlights moving around." Medical personnel said the baby needed to be delivered by caesarean section. But the hospital had limited power, no running water, no way to sterilize instruments, no way to perform such surgery. "We figured we had two hours to get her medevacked out of there" before the lives of mother and child would be in danger. "So I got on the radio and was talking to a fellow who was with the Coast Guard auxiliary in Cleveland, Ohio. I was working with him to arrange a medevac."

Choppers did arrive in time, Webb says. The woman and another patient in need were evacuated successfully. Because the hospital had no landing pad, the two had to be lifted out in baskets lowered from the helicopters.

Webb, who lived in nearby Slidell, La., had been summoned to his hurricane post by the hospital's head of emergency management. He's one of about 750 amateur radio operators, or "hams," who have been in and out of the five hurricane states since day one: Louisiana, Mississippi, Alabama, and parts of northern Florida and

Texas, where evacuees are taking shelter. At least a thousand other hams throughout the nation have been involved in some way, relaying messages or assigning hams to various locations. They're all volunteers, all unpaid, and they do what they do because they want to. They train for disaster work; their FCC radio licenses mandate public service.

In typical disaster conditions, agencies like the Red Cross, Salvation Army, the Federal Emergency Management Administration (FEMA), and local government bodies call on a state ham leader for volunteers when usual channels of communication are down or jammed.

Katrina was different: It was far more vast. For the first time, the nonprofit American Radio Relay League (ARRL) set up a website and database to facilitate assigning hams.

Pamela Taylor, who works as an events manager in Hampton Beach, N.H., got a call from FEMA and headed south on Sept. 9. She was deployed to a shelter in Ocean Springs, Miss., near Gulfport, before moving to New Orleans. The shelter was a church, well-supplied and maintained, with an abundance of volunteers. Her job was to radio for special needs, anything from a doctor to paper plates. Nights sometimes brought an emergency or two when a resident had to be removed, usually for alcohol or drug problems.

Hams worked with the National Weather Service before and during the hurricane. They still are receiving and transmitting messages in shelters and other locations, alerting emergency agencies that a community needs water, that an elderly woman needs an ambulance, or that sanitary conditions are in crisis.

An estimated 600,000 FCC-licensed amateur radio operators live in the United States; about 162,000 are members of the ARRL, which was founded in 1904 and is located here in Newington, Conn. Nearby Hartford is where Hiram Percy Maxim, the father of amateur radio, experimented at sending messages across the city and then relaying them across the country. Long before e-mail, there was amateur radio. It evolved over the last century so that today, ham operators communicate with one another around the world. Allen Pitts, for example, the ARRL's media-relations manager, says he has spoken to fellow hams in 213 foreign countries or "political entities."

That's the hobby part of hamdom. The serious and vital part is seen in the Amateur Radio Emergency Service (ARES). Trained ham operators are ready with their "go kits" of equipment, batteries, and energy bars. ARRL coordinates the work of the emergency operators. Hams were at ground zero in New York within hours, they were in Florida for the multiple hurricanes last year, and they handled communications in the Northeast blackout

of 2003.

Hams are volunteers. When they set sail for disasters, they pay their own way. Sometimes employers give them a paid leave or reimburse expenses. Hams' sacrifices are real, but the rewards are often intangible.

Mark Conklin of Tulsa got time off as a sales manager for an appliance company to relay messages. At first he handled communications between the state department of emergency management and the highway patrol.

Next he was assigned to the 1,200 evacuees transplanted to an Oklahoma National Guard camp. At the camp, he talked to an elderly woman who was crying because she was happy - "communications" had been able to get a pair of glasses for her. "For the first time in a week," she said, "I can see."

Source: http://www.csmonitor.com/2005/0915/p12s02-stss.html

MSNBC.com

Ham radio operators to the rescue after Katrina

Amateur radio networks help victims of the hurricane

By Gary Krakow
Columnist
MSNBC
Updated: 6:12 p.m. ET Sept. 6, 2005

With telephones down and wireless service disrupted, at least one group of people did manage last week to use technology to come to the rescue of those in need.

Often unsung, amateur radio operators regularly assist in emergency situations. Hurricane Katrina was no exception. For the past week, operators of amateur, or ham, radio have been instrumental in helping residents in the hardest hit areas, including saving stranded flood victims in Louisiana and Mississippi.

Public service has always been a large part of being an amateur radio operator. All operators, who use two-way radios on special frequencies set aside for amateur use, must be tested and licensed by the federal government, which then issues them a unique call sign. (Mine is W2GSK.)

Ham operators communicate using voice, computers, televisions and Morse code (the original digital communication mode.) Some hams bounce their signals off the upper regions of the atmosphere, so they can talk with hams on the other side of the world; others use satellites. Many use short-range, handheld radios that fit in their pockets.

When disaster strikes, ham networks spring into action. The Amateur Radio Emergency Service (ARES) consists of licensed amateurs who have voluntarily registered their qualifications and equipment for communications duty in the public service.

In this disaster a number of ham emergency stations and networks have been involved in providing information about this disaster – from WX4NHC, the amateur radio station at the National Hurricane Center to the Hurricane Watch Net, the Waterway Net, Skywarn and the Salvation Army Team Emergency Radio Network (SATERN).

On Monday, Aug. 29, a call for help involving a combination of cell telephone calls and amateur radio led to the rescue of 15 people stranded by floodwaters on the roof of a house in New Orleans. Unable to get through an overloaded 911 system, one of those stranded called a relative in Baton Rouge. That person called another relative, who called the local American Red Cross.

Using that Red Cross chapter's amateur radio station, Ben Joplin, WB5VST, was able to relay a request for help on the SATERN network via Russ Fillinger, W7LXR, in Oregon, and Rick Cain, W7KB, in Utah back to Louisiana, where emergency personnel were alerted. They rescued the 15 people and got them to a shelter.

Such rescues were repeated over and over again. Another ham was part of the mix that same Monday when he heard over the same Salvation Army emergency network of a family of five trapped in an attic in Diamond Head, La. The family used a cell phone to call out. Bob Rathbone, AG4ZG, in Tampa, says he checked the address on a map and determined it was in an area struck by a storm surge.

He called the Coast Guard search-and-rescue station in Clearwater, explained the situation and relayed the information. At this point, the Coast Guard office in New Orleans was out of

commission. An hour later he received a return call from the South Haven Sheriff's Department in Louisiana, which informed him a rescue operation was under way.

Another search-and-rescue operation involved two adults and a child stuck on a roof. The person was able to send a text message from a cell phone to a family member in Michigan. Once again, the Coast Guard handled the call.

Relief work is not just relegated to monitoring radios for distress calls. The organization representing amateur radio operators, The American Radio Relay League or ARRL, now is seeking emergency volunteers to help supplement communication for American Red Cross feeding and sheltering operations in Mississippi, Alabama and the Florida Panhandle — as many as 200 locations in all.

Hams who wish to volunteer their time and services should contact the Hurricane Katrina volunteer registration and message traffic database.

And, for the first time, the federal government will help hams help others. The Corporation for National and Community Service (CNCS) will provide a $100,000 grant supplement to ARRL to support its emergency communication operators in states affected by Hurricane Katrina. The grant will help to fund what is being termed "Ham Aid," a new program to support amateur radio volunteers deployed in the field in disaster-stricken areas.

One last note for ham operators in the stricken area: The FCC has announced that it's extending amateur license renewal deadlines until October 31, 2005.

URL: http://msnbc.msn.com/id/9228945/

COMPUTERWORLD An IDG company

You may retrieve this story by entering QuickLink# 56636

Ham radio volunteers help re-establish communications after Katrina

Some 700 operators are already at work, with more on the way

News Story by Todd R. Weiss

SEPTEMBER 06, 2005 (COMPUTERWORLD) - Volunteer ham radio operators are coming to the aid of relief agencies and emergency officials to help with badly needed communications in areas of Louisiana, Alabama and Mississippi ravaged early last week by Hurricane Katrina.

With power still out in much of the region and telephone service restored in limited areas (see "Cell operators restore some network service in New Orleans") of New Orleans, the Mississippi cities of Biloxi and Gulfport, and other hard-hit areas, ham radio operators have been asked by the American Red Cross and other agencies to supplement communications at more than 200 storm shelters in Mississippi, Alabama and the Florida panhandle.

Some 700 ham radio volunteers from around the nation are already at work helping in the efforts, with more on the way, said Allen Pitts, a spokesman for the 157,000-member American Radio Relay League Inc. (ARRL), a nationwide amateur radio organization based in Newington, Conn. "This is going to be a marathon, not a sprint," Pitts said. "We have people there; we have more people coming."

On Sunday, the American Red Cross asked for about 500 more radio operators to assist at shelters and food kitchens set up to aid evacuees, he said. The volunteers are driving to needed areas and meeting with officials at staging areas in Montgomery, Ala., and in Oklahoma and Texas, where they are being dispatched to disaster shelters, Pitts said. The ham radio operators travel to the disaster areas using their own vehicles and pay their own way, he said.

Many of the volunteers sprung into action even before the storm struck the Gulf Coast, broadcasting as part of a "Hurricane Watch-Net" three days before deadly Hurricane Katrina slammed into the coast on Aug. 29, Pitts said.

Ham radio equipment can be used in disaster areas even when power is out and phone lines, relays and other communications systems are down because the radios run on their own battery or generator power, Pitts said. "Each one is a complete transmission and reception center unto itself," he said. "It works when other stuff is broken. You give an amateur radio operator a battery, a radio and a piece of a coat hanger and they'll find a way to make it work."

The volunteers carry their own fuel for their generators and bring all the equipment they need. Used ham radio systems can be bought for as little as $100, while newer, state-of-the-art hardware can run as high as $5,000, he said.

Source: http://www.computerworld.com/printthis/2005/0,4814,104418,00.html

IN KATRINA'S WAKE

Power Outages Hamstring Most Emergency Communications

By Christopher Rhoads And Amy Schatz

Millions of dollars have been spent to upgrade emergency phone and radio communications systems since the Sept. 11 attacks, but Hurricane Katrina exposed a simple but nagging vulnerability: power.

In Katrina's aftermath, communication between different emergency-response agencies has been nearly impossible in places. Cell towers, emergency communications equipment and 911 centers in many locations are inoperable because they are underwater.

Federal agencies have churned out several reports detailing standards for first-responder phone and radio equipment and formed countless working groups. But this week officials in Washington have had trouble gathering information about the situation in hurricane-ravaged areas because communications are so sporadic.

States received about $830 million for interoperable telecom equipment in fiscal year 2004 alone, according to the Department of Homeland Security. But many communities have been slow to upgrade equipment so that it operates on the same radio frequency. The Federal Communications Commission has set aside some frequencies for use by emergency responders, but much of it isn't available yet because it's still being used by television broadcasters. In many smaller communities, emergency responders still use equipment that operates on different frequencies, making it difficult to talk to one another.

In New Orleans and other Gulf Coast areas, the biggest problem, however, has been far simpler: There's just not enough power.

The problem worsened yesterday, as radio and phone equipment batteries began to die. "Field personnel are beginning to lose power on the radios because they don't have any way to recharge them. It's not looking good," says Courtney McCarron, spokeswoman for the Association of Public-Safety Communications Officials.

Emergency generators powering some cell towers and underground phone switches, which route traditional phone calls, may also soon begin to go dark. "The issue is a power issue at its core," one FCC official said.

For customers, phone service will take even longer to restore because phone companies are mostly concentrating on getting emergency services operational.

Sprint Nextel Corp., the wireless carrier that has a large business with governments and emergency personnel, said that a long-distance switch in the area reported flooding and had to be turned off, affecting long-distance calling. Wireless towers, which require electrical power, are running on battery backups and in many cases are about to expire, if they haven't already.

In Plaquemines Parish, near New Orleans, the 911 center was beneath six feet of water and had to be abandoned, according to a spokesman from Motorola Inc., the company that supplies gear to the parish and many other agencies in the affected area. After the walls to the center collapsed, the remaining workers floated out using life jackets. "Due to the catastrophic effects of Hurricane Katrina, many of our customers' emergency equipment remains inaccessible or underwater," said Jeffrey Madsen, a Motorola spokesman.

Motorola, based in Schaumburg, Ill., said it has shipped more than 2,300 pieces of communications equipment—including portable radios, fully charged batteries and chargers—to the affected areas. To cope with the lack of working transmitters in the area, Motorola has also deployed three emergency communication trailers to the region.

Sprint Nextel is sending five satellite trucks to the region to help restore some communication for emergency services, the company said. An emergency team is also being sent with 3,000 walkie-talkie handsets. The response team, which includes hundreds of engineers and technicians, will move into the area once it is declared safe, the company said.

In the meantime, the communication gap is being filled by a low-tech solution: ham-radio operators. A number of those stranded, or friends and relatives of those missing, are contacting ham-radio enthusiasts, who in turn are telling local emergency personnel about the location of those in need.

"Obviously, the communications system is not working because people are contacting us, even to dispatch police calls," said Allen Pitts, spokesman for the American Radio Relay League, a ham-radio association located in Newington, Conn. Earlier this week, after a New Orleans police officer was shot while attempting to prevent looting, a witness was unable to reach 911 emergency dispatchers but contacted a ham-radio operator, who in turn reached local police to respond to the fallen officer, Mr. Pitts said.

In many locations, cell towers, 911 centers and emergency communications equipment are underwater in Katrina's aftermath. The gap is being filled by ham-radio operators.

PC Magazine

November 8, 2005 Tuesday

OPINIONS

876 words

Inside Track v24n19;

John C. Dvorak

The most overlooked participants in Katrina relief were the ham radio folks. Bush should give them all medals.

Two weeks after Hurricane Katrina, it was reported that over 100 Internet networks were still down in Louisiana, as well as another dozen elsewhere that had been in the path of the hurricane. So much for the notion that the Web is impossible to kill. Hard to have an Internet with no power! WiMAX and other solutions are useless, too, though I suppose a generator would be useful for WiMAX. Whatever the case, the most overlooked participants in the Katrina relief effort were the ham radio folks, who were doing whatever they could as ad hoc emergency dispatchers, creating their own network within the system. These dedicated persons pride themselves on their ability to do worldwide communications under adverse conditions, and the ARRL (Amateur Radio Relay League) and its members, as well as others, were a big part of the aid effort. Of course, since amateur radio is anything but trendy in today's Xbox, gene-splicing world, there was zero coverage of its contribution in the mainstream press, and these people are not the world's greatest self-promoters. At least some of us are paying attention. Good work, guys! Bush should be giving medals to you all.

EXHIBIT C-1: PLOT PLAN

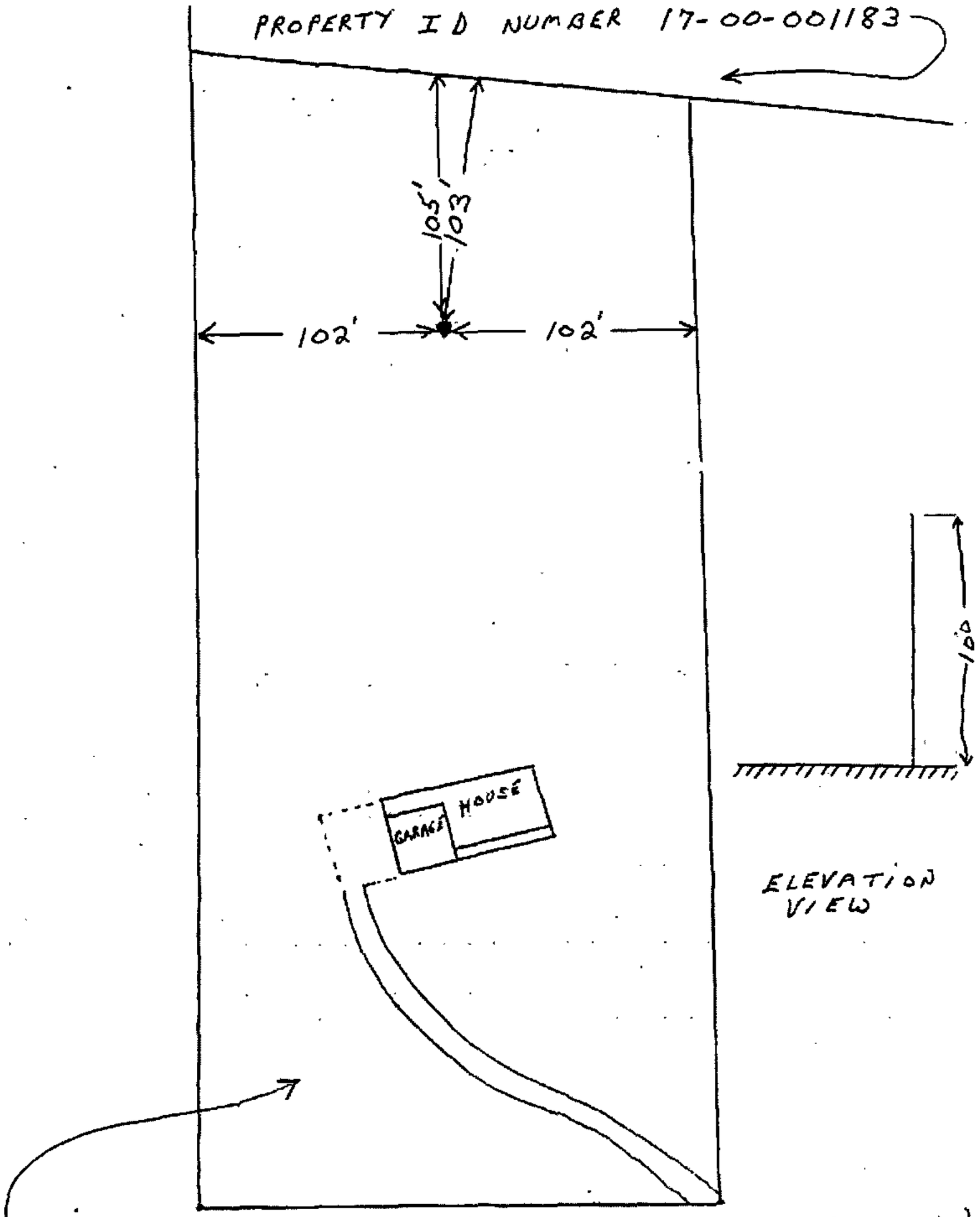


EXHIBIT C-2: BUILDING PERMIT

BALTIMORE COUNTY, MARYLAND

DEPARTMENT OF PERMITS AND DEVELOPMENT MANAGEMENT
TOWSON, MARYLAND 21204

TIMOTHY M. KOTROCO
DIRECTOR

JOHN R. REISINGER
BUILDINGS ENGINEER

BUILDING PERMIT

PERMIT #: B551665 CONTROL #: RR DIST: 10 PREC: 04
DATE ISSUED: 04/06/2004 TAX ACCOUNT #: 1700001183 CLASS: 04

PLANS: CONST 0 PLOT 1 R PLAT DATA ELEC YES PLUM NO
LOCATION: 39 GLENBROOK DR
SUBDIVISION: BLENVIEW

OWNERS INFORMATION
NAME: BENJAMIN GOVERNALE
ADDR: 39 GLENBROOK DR PHOENIX MD 21131

TENANT:
CONTR: BENJAMIN GOVERNALE (OWNER)
ENGNR:
SELLR:
WORK: CONSTRUCT A 100' HIGH MONOPOLE RADIO TOWER
ON REAR OF PROPERTY. MUST CLEAR ALL OVER-
HEAD WIRES.MFG.SPECS TO BE ON SITE OR NO
INSPECTIONS WILL BE GIVEN. REPLACES EXPIRED
PERMIT 6484929. TWO(2)YEARS PERMIT AS REQUESTED
BY APPLICANT,PERMIT CANNOT BE RENEWED
BLDG. CODE:
RESIDENTIAL CATEGORY: DETACHED OWNERSHIP: PRIVATELY OWNED

PROPOSED USE: SFD + TOWER
EXISTING USE: SFD

TYPE OF IMPRV: NEW BULDING CONTRUCTION
USE: OTHER - RESIDENTIAL
FOUNDATION: BASEMENT:
SEWAGE: PRIV. EXISTS WATER: PUBLIC EXIST

LOT SIZE AND SETBACKS

SIZE: 0210.00 X 0000.00
FRONT STREET:
SIDE STREET:
FRONT SETB: NC
SIDE SETB: 102'/102'
SIDE STR SETB:
REAR SETB: 103'

EXHIBIT D: NO FAA PERMIT REQUIRED

TOWAIR Determination Results

*** NOTICE ***

TOWAIR's findings are not definitive or binding, and we cannot guarantee that the data in TOWAIR are fully current and accurate. In some instances, TOWAIR may yield results that differ from application of the criteria set out in 47 C.F.R. Section 17.7 and 14 C.F.R. Section 77.13. A positive finding by TOWAIR recommending notification should be given considerable weight. On the other hand, a finding by TOWAIR recommending either for or against notification is not conclusive. It is the responsibility of each ASR participant to exercise due diligence to determine if it must coordinate its structure with the FAA. TOWAIR is only one tool designed to assist ASR participants in exercising this due diligence, and further investigation may be necessary to determine if FAA coordination is appropriate.

DETERMINATION Results

Structure does not require registration. There are no airports within 8 kilometers (5 miles) of the coordinates you provided.

Your Specifications

NAD83 Coordinates

Latitude	39-29-35.2 north
Longitude	076-33-38.5 west

Measurements (Meters)

Overall Structure Height (AGL)	30.2
Support Structure Height (AGL)	27.4
Site Elevation (AMSL)	176.8

Structure Type

TOWER - Free standing or Guyed Structure used for Communications Purposes

Source: http://wireless2.fcc.gov/UlsApp/AsrSearch/towairSearch.jsp

EXHIBIT E: APPROVAL BY DIRECT ABUTTERS

Letter from 35 Glenbrook Drive – Euker (2005)

Carl Euker
35 Glenbrook Drive
Phoenix, Maryland 21131

October 31, 2005

CASE NUMBER: 06-180-SPHA

Baltimore County
Department of Permits and Land Management
111 West Chesapeake Avenue
Towson, Maryland 21204

Ladies and Gentlemen:

I live next door to the Governale family, who reside at 39 Glenbrook Drive. Mr. Governale has explained his antenna Variance request to me, and has satisfactorily answered all of my questions about it.

I have no objection to the granting of a Special Exception or Variance to him, and I encourage the Board to do so.

Sincerely,

Carl Euker

Carl Euker

Letter from 35 Glenbrook Drive – Leonard (2006)
Bought from Euker in 2006

Michael and Melissa Leonard
35 Glenbrook Drive
Phoenix, Maryland 21131

November 26, 2006

CASE NUMBER: 06-180-SPHA

Baltimore County Board of Appeals
400 Washington Avenue
Towson, Maryland 21204

Ladies and Gentlemen:

We live *next door* to the Governale family, who reside at 39 Glenbrook Drive. Mr. Governale has explained case 06-180-SPHA to us, and has satisfactorily answered all of our questions about it.

We have no objection to the antennas and tower in their present location and height. The tower and antennas can be seen from our property. We do not object to their visual presence. In addition, they had no influence on our purchase of 35 Glenbrook this year. Their presence increases our level of security to both ourselves and to the community.

We encourage the Board to rule in favor of the Governale family.

Sincerely,

Melissa Leonard

Melissa Leonard

Michael Leonard

Michael Leonard

Letter from 37 Glenbrook Drive – Gore (2005)

Kenneth Gore
37 Glenbrook Drive
Phoenix, Maryland 21131

October 31, 2005

CASE NUMBER: 06-180-SPHA

Baltimore County
Department of Permits and Land Management
111 West Chesapeake Avenue
Towson, Maryland 21204

Ladies and Gentlemen:

I live next door to the Govemale family, who reside at 39 Glenbrook Drive. Mr. Govemale has explained his antenna Variance request to me, and has satisfactorily answered all of my questions about it.

I have no objection to the granting of a Special Exception or Variance to him, and I encourage the Board to do so.

Sincerely,

Kenneth Gore, Jr.

Kenneth Gore

Letter from 37 Glenbrook Drive – Gore (2006)

Kenneth and Abigail Gore
37 Glenbrook Drive
Phoenix, Maryland 21131

November 26, 2006

CASE NUMBER: 06-180-SPHA

Baltimore County Board of Appeals
400 Washington Avenue
Towson, Maryland 21204

Ladies and Gentlemen:

We live *next door* to the Governale family, who reside at 39 Glenbrook Drive. Mr. Governale has explained case 06-180-SPHA to us, and has satisfactorily answered all of our questions about it.

We have no objection to the antennas and tower in their present location and height. The tower and antennas can be seen from our property. We do not object to their visual presence. Their presence increases the level of security to both ourselves and the community.

We encourage the Board to rule in favor of the Governale family.

Sincerely,

Abigail Gore

Abigail Gore

Kenneth Gore

Kenneth Gore

Letter from 39 Glenbrook Drive – Governale (2005)

Benjamin Governale
39 Glenbrook Drive
Phoenix, Maryland 21131

November 4, 2005

CASE NUMBER: 06-180-SPHA

Baltimore County
Department of Permits and Land Management
111 West Chesapeake Avenue
Towson, Maryland 21204

In re: **Parcel #17-00-001183, and the Radio Antenna Project at 39 Glenbrook Drive**

Ladies and Gentlemen:

I own the property directly to the rear of and abutting 39 Glenbrook Drive, Phoenix, Maryland 21131. This property is identified in the Baltimore County Tax records as # 17-00-001183. The heavily wooded 1.56 acre parcel separates the Blenview Community from the Sunnybrook Community. The parcel at 39 Glenbrook Drive is part of the Blenview Community.

As owner of both parcels, I am, of course, completely familiar with the proposal before the Department. As owner of parcel # 17-00-001183, I am pleased to say that the owner of that parcel has no objection to any aspect of the project, and encourages the board to grant such relief as may be necessary for the project.

With the filing of this letter, each and every property owner whose property abuts 39 Glenbrook Drive has filed a letter encouraging the County to grant such relief as may be necessary for the project.

Sincerely,

Benjamin Governale

Letter from 39 Glenbrook Drive – Governale (2006)

Benjamin and Kayren Governale
39 Glenbrook Drive
Phoenix, Maryland 21131

November 26, 2006

CASE NUMBER: 06-180-SPHA

Baltimore County Board of Appeals
400 Washington Avenue
Towson, Maryland 21204

Ladies and Gentlemen:

We own the property directly to the rear of 39 Glenbrook Drive, Phoenix, Maryland 21131. This property is identified in the Baltimore County Tax records as # 17-00-001183. The heavily wooded 1.56 acre parcel and included storm drainage woodland separates the Blenview Community from the Sunnybrook Community. We, the Governale's are part of the Blenview Community.

We encourage the Board to rule in favor of allowing the tower and antennas to remain at their present location and height.

Sincerely,

Kayren Governale

Kayren Governale

Benjamin Governale

Benjamin Governale

Letter from 40 Glenbrook Drive – Nelson (2006)

Tom and Kay Nelson
40 Glenbrook Drive
Phoenix, Maryland 21131

November 26, 2006

CASE NUMBER: 06-180-SPHA

Baltimore County Board of Appeals
400 Washington Avenue
Towson, Maryland 21204

Ladies and Gentlemen:

We live *opposite* the Governale family, who reside at 39 Glenbrook Drive. Mr. Governale has explained case 06-180-SPHA to us, and has satisfactorily answered all of our questions about it.

We have no objection to the antennas and tower in their present location and height. The tower and antennas can be seen from our property. We do not object to their visual presence. Their presence increases our level of security to both ourselves and the community.

We encourage the Board to rule in favor of the Goverale family.

Sincerely,

Kay Nelson

Tom Nelson

Letter from 41 Glenbrook Drive – Marino (2005)

Michael Marino
41 Glenbrook Drive
Phoenix, Maryland 21131

October 31, 2005

CASE NUMBER: 06-180-SPHA

Baltimore County
Department of Permits and Land Management
111 West Chesapeake Avenue
Towson, Maryland 21204

Ladies and Gentlemen:

I live *next door* to the Governale family, who *reside* at 39 Glenbrook Drive. Mr. Governale has explained his antenna Variance request to me, and has satisfactorily answered all of my questions about it.

I have no objection to the granting of a Special Exception or Variance to him, and I encourage the Board to do so.

Sincerely,

Michael Marino

Letter from 41 Glenbrook Drive – Lally (2006)
Bought from Marino in 2006

Daniel and Jennifer Lally
41 Glenbrook Drive
Phoenix, Maryland 21131

November 26, 2006

CASE NUMBER: 06-180-SPHA

Baltimore County Board of Appeals
400 Washington Avenue
Towson, Maryland 21204

Ladies and Gentlemen:

We live *next door* to the Governale family, who reside at 39 Glenbrook Drive. Mr. Governale has explained case 06-180-SPHA to us, and has satisfactorily answered all of our questions about it.

We have no objection to the antennas and tower in their present location and height. The tower and antennas can be seen from our property. We do not object to their visual presence. In addition, they had no influence on our purchase of 41 Glenbrook this year. Their presence increases our level of security to both ourselves and to the community.

We encourage the Board to rule in favor of the Governale family.

Sincerely,

Jennifer Lally

Daniel Lally

Letter from 3330 Blenheim Road – Oakley (2005)

Douglas Oakley
3330 Blenheim Road
Phoenix, Maryland 21131

October 31, 2005

CASE NUMBER: 06-180-SPHA

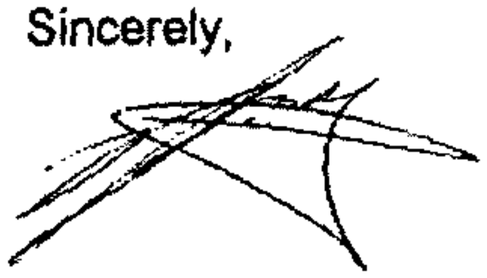
Baltimore County
Department of Permits and Land Management
111 West Chesapeake Avenue
Towson, Maryland 21204

Ladies and Gentlemen:

I live *next door* to the Governale family, who reside at 39 Glenbrook Drive. Mr. Governale has explained his antenna Variance request to me, and has satisfactorily answered all of my questions about it.

I have no objection to the granting of a Special Exception or Variance to him, and I encourage the Board to do so.

Sincerely,



Douglas Oakley

Letter from 3330 Blenheim Road – Oakley (2006)

Douglas Oakley
3330 Blenheim Road
Phoenix, Maryland 21131

November 26, 2006

CASE NUMBER: 06-180-SPHA

Baltimore County Board of Appeals
400 Washington Avenue
Towson, Maryland 21204

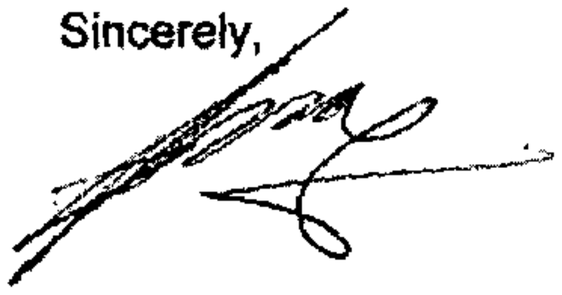
Ladies and Gentlemen:

I live on my Black Angus farm *next door* to the Governale family, who reside at 39 Glenbrook Drive. Mr. Governale has explained case 06-180-SPHA to me, and has satisfactorily answered all of my questions about it.

I have no objection to the antennas and tower in their present location and height. The tower and antennas can be seen from my property. I do not object to their visual presence. Their presence increases the level of security to me and my community.

I encourage the Board to rule in favor of the Governale family.

Sincerely,



Douglas Oakley

Letter from 3412 Blenheim Road -- Allman (2006)

Leo Michael and Linda Allman
3412 Blenheim Road
Phoenix, Maryland 21131

November 26, 2006

CASE NUMBER: 06-180-SPHA

Baltimore County Board of Appeals
400 Washington Avenue
Towson, Maryland 21204

Ladies and Gentlemen:

We live *three houses away from* the Governale family, who reside at 39 Glenbrook Drive.
Mr. Governale has explained case 06-180-SPHA to us, and has satisfactorily answered all our questions about it.

We have no objection to the antennas and tower in their present location and height. The tower and antennas can be seen from our property. We do not object to their visual presence. Their presence increases our level of security to both ourselves and the community.

We encourage the Board to rule in favor of the Governale family.

Sincerely,

Linda Allman

Linda Allman

Leo Michael Allman

EXHIBIT F: NEIGHBORHOOD APPROVAL - 2005

PETITION IN SUPPORT OF ZONING RELIEF
GOVERNALE RESIDENCE
39 Glenbrook Drive

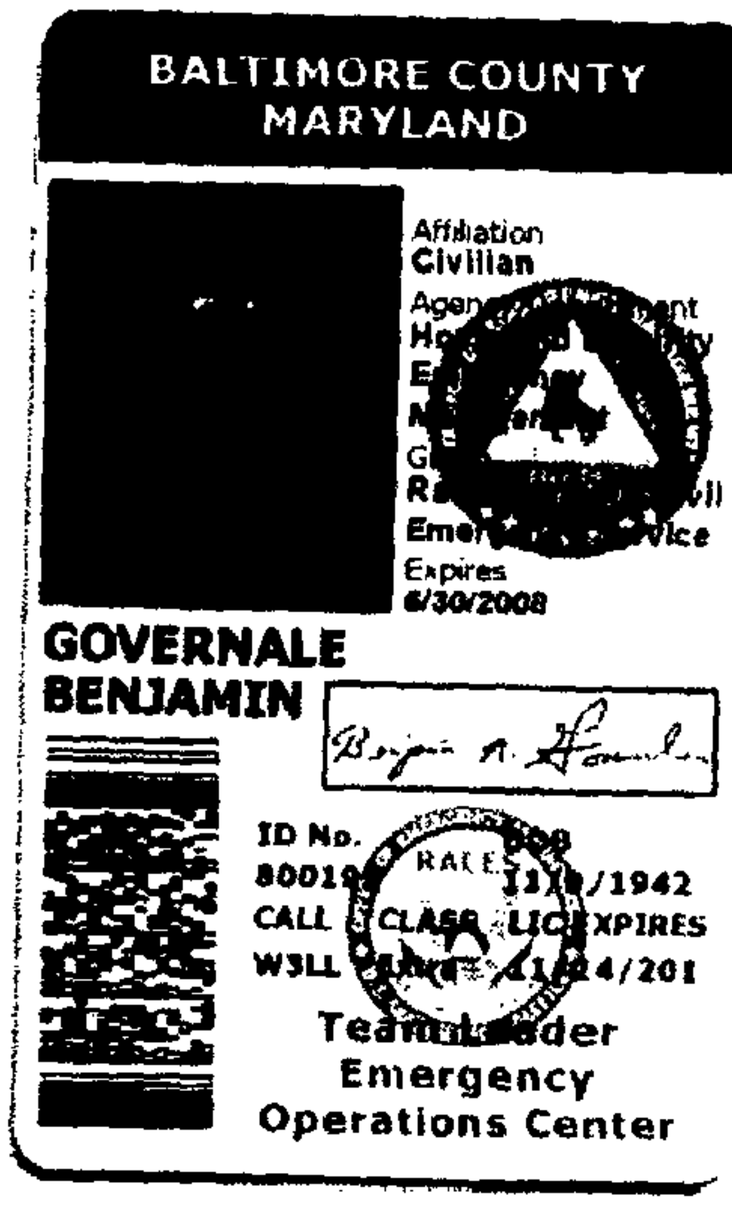
Case No. 06-180-SPHA

Zoning Relief Requested: to permit the continued configuration, height and location of the existing, radio operator antenna on the Governale property as meeting the locational requirements of the Zoning Regulations or, alternatively, grant the necessary variance from the Zoning Regulations to permit the existing radio operator antenna to remain in its present configuration, height and location.

Signature	Print Name	Address
Melba Watkeys	Melba Watkeys	34 Glenbrook Phoenix, AZ
Ken Gore Jr	KEN GORE JR	37 Glenbrook Dr Phoenix AZ
Abigail Gore	ABIGAIL GORE	37 Glenbrook Dr.
Carl Euker III	CARL EUKER	35 GLENBROOK DR.
Michael R. Marino	MICHAEL R. MARINO	41 GLENBROOK DR.
Jane Marino	JANE MARINO	41 GLENBROOK DR
Amanda Marino	Amanda Marino	41 Glenbrook DR
Leo M-Allman III	Leo M-Allman III	3412 Blenheim Rd
Kathleen Nelson	KATHLEEN	40 GLENBROOK DR.
Thomas Nelson	THOMAS NELSON	41 GLENBROOK DR.
	Jenkins Oakley	3330 Brighton Rd

EXHIBIT G: NEIGHBORHOOD AERIAL PHOTO

EXHIBIT H: BALTIMORE CO. EMERGENCY OPERATIONS CTR.-TEAM LEADER ID



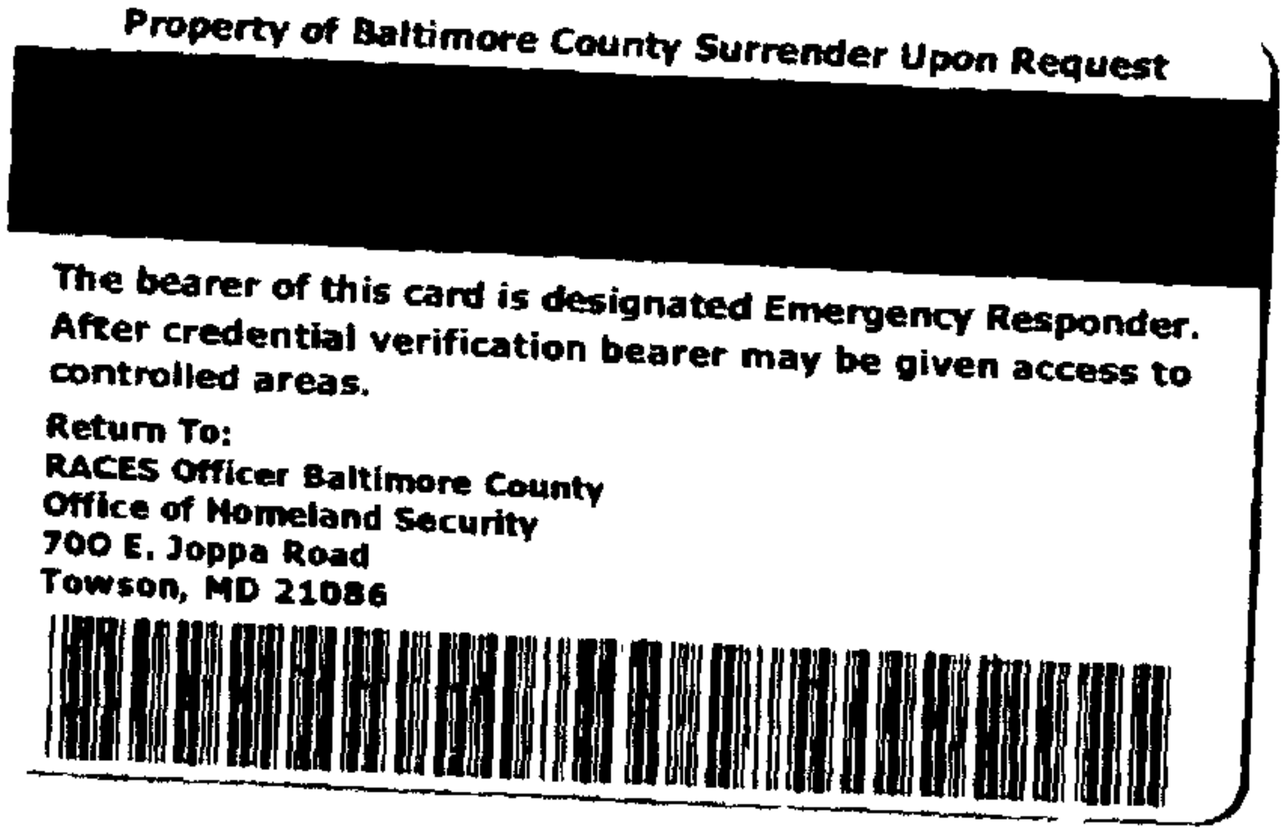


EXHIBIT I: LETTER FROM U.S. TOWER SERVICES LTD.

Sales/Maintenance/Construction
Tel: (301) 874-5885

UNITED STATES TOWER SERVICES LTD.

5263 Agro Drive/Frederick, Maryland 21703-

November 29, 2006

County Board of Appeals of Baltimore County
Old Courthouse, Room 49
400 Washington Avenue
Towson, MD 21204

To the Board:

I am a founder and Vice President of United States Tower Services Ltd., where I have worked since 1970. We are experienced in all aspects of tower construction such as antenna and tower placement, design, fabrication, erection and testing. We have extensive experience with monopoles, self support, guy towers, medium and high frequency fixed and rotatable antennas, including dipoles, log periodics, conicals and biconicals, vertical and conical monopoles, fans and curtains. At present, USTS employs over 40 people.

Examples of our work include the installation of the digital/analog antenna for WETA, Washington, DC, relocation of a 200 foot self-supporting tower and antennas for the US Navy in Alaska, setting up a high frequency (HF) site for the US Air Force in the Azores, and the installation of an 800 foot tower in Brandywine, MD.

I am a graduate of the University of Maryland (1967). After my graduation, I worked in the physics department there as electrical engineer for three years. Since then, my entire business life has been in the tower industry. I am also a radio ham, call sign K3GJB, licensed since 1957. I hold the highest class of license, the extra class license, issued by the FCC.

I am familiar with the characteristics of the self-supporting AN Wireless, model AN-90 tower, and the types of antennas installed at the Governale site.

In over 35 years of experience, which includes prominent roles in the National Association of Tower Erectors (NATE), I can say that I have never seen, nor heard of, a situation in which a tower has fallen a distance greater than its height – including situations in which a tower was deliberately taken down. I know of no example in the literature of the field that relates such an incident. I can't imagine it. I fail to understand how a tower height limitation can be rationally related to a measurement of an antenna's width or turning radius.

Sincerely,

Joseph Bryan Burdette, Vice President
joeburdette@ustowerservices.com

EXHIBIT J: TRIGONOMETRY OF A DEAD FALL

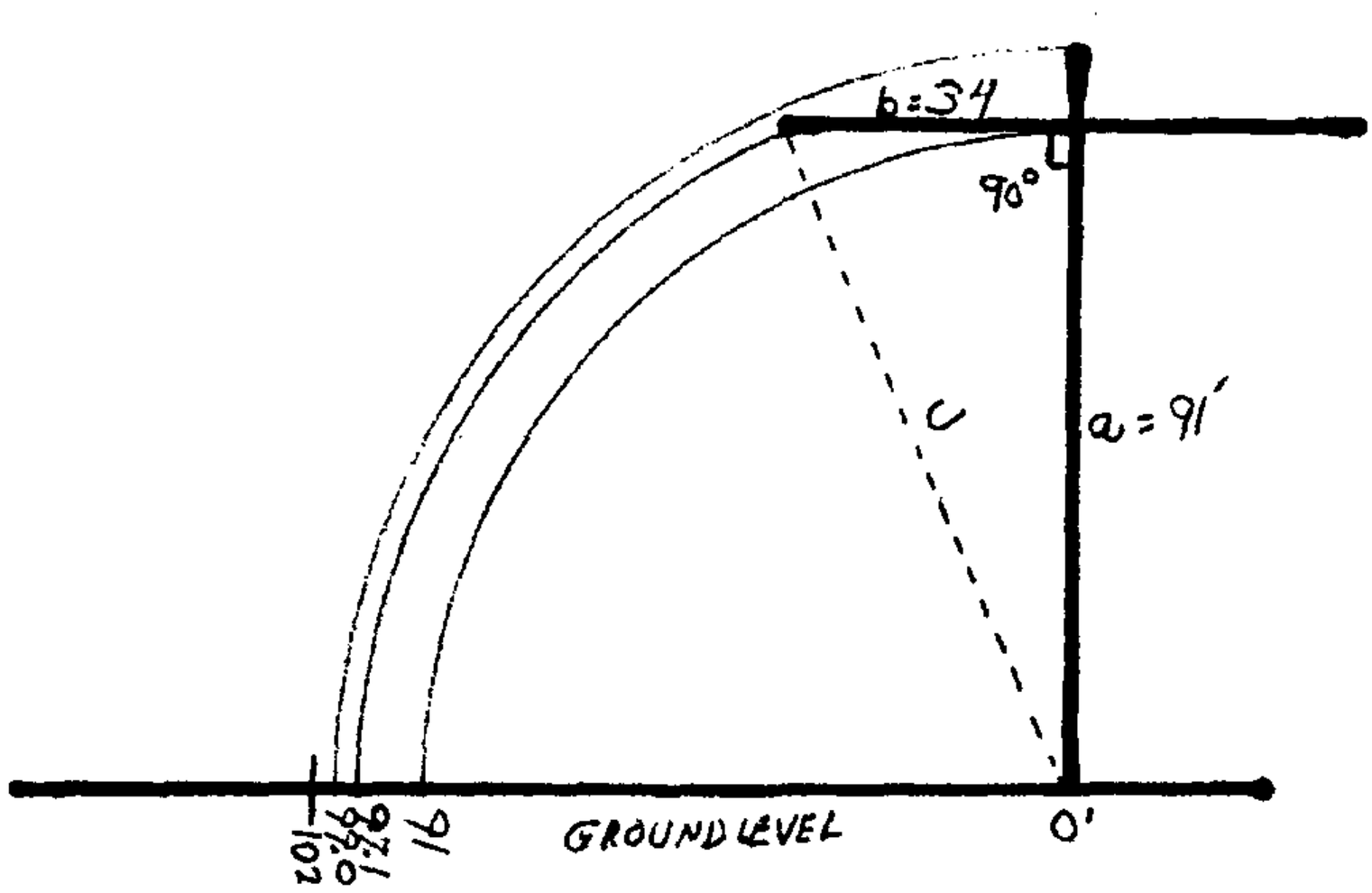
Basic Geometry
for the Right Triangle

$c^2 = a^2 + b^2$ $\quad c = \sqrt{a^2 + b^2}$

a = 91 ft $\quad a^2 = 8281$
b = 34 ft $\quad b^2 = 1156$ hence $c = \sqrt{9437} = 97.1$ feet

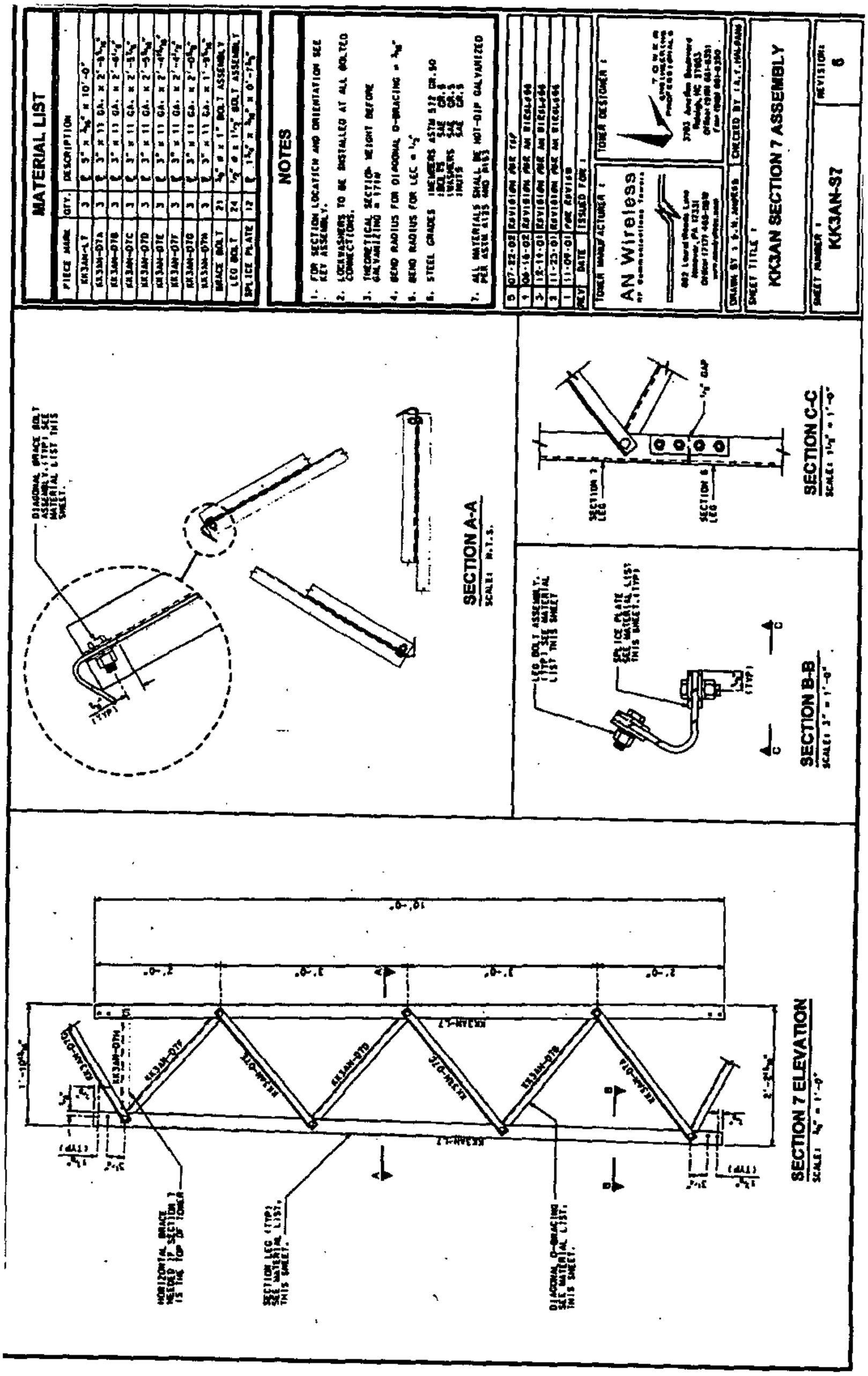
therefore the tip of longest beam element would strike the ground
at 97.1 feet from the base of the tower if the tower failed at ground
level (worst case). This is 4.9 feet short of the property line at 102ft
from the tower base.

see sketch below



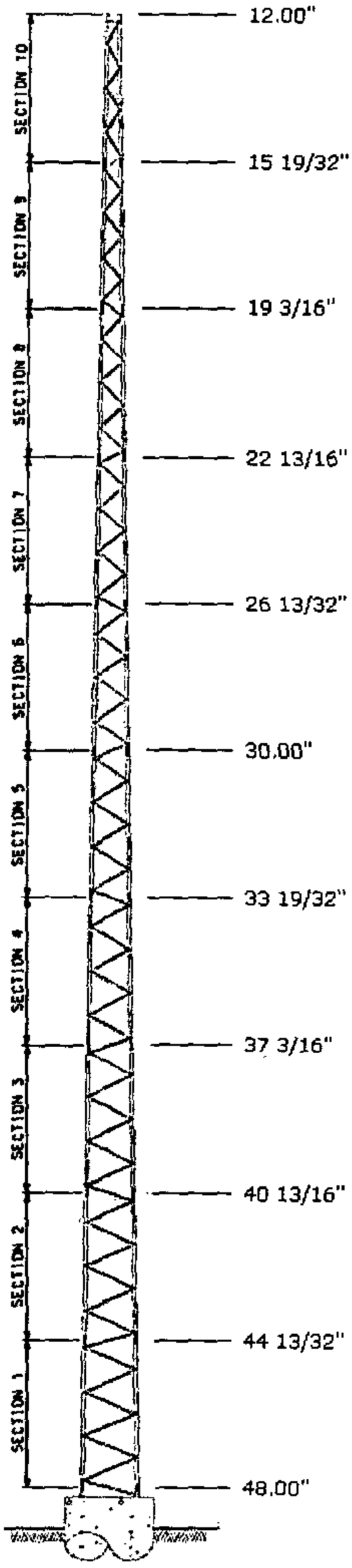
Note: The graphic depicts a monopole as the antenna support structure. The actual antenna support structure is a three legged (triangular), self-supporting, AN Wireless Model AN HD-90, steel lattice tower. See **Exhibit K.** It is designed for windloads greater than this application requires. The Applicant submits that, unless all three leg bolts fail *simultaneously*, the failure mode would be for one leg to buckle first. The structure would then collapse on itself with the failure occurring at the weak point and the top hanging down against the lower portion.

EXHIBIT K: AN WIRELESS, MODEL AN HD-90



The chart above shows construction detail for a typical section. On the chart below, the Applicant's structure is comprised of Sections 1-9.

Section Face Dimensions & Weights



Section 10	131 lbs
Section 9	132 lbs
Section 8	173 lbs
Section 7	178 lbs
Section 6	183 lbs
Section 5	189 lbs
Section 4	228 lbs
Section 3	234 lbs
Section 2	244 lbs
Section 1	279 lbs

Memorandum Opinion and Order in PRB-1

Before the
Federal Communications Commission
Washington, DC 20554

FCC 85-506
36149

In the Matter of	)	
	)	
Federal preemption of state and local regulations pertaining to Amateur radio facilities.	)	**PRB-1**

MEMORANDUM OPINION AND ORDER

Adopted: September 16, 1985 ; Released: September 19, 1985

By the Commission: *Commissioner Rivera not participating.*

Background

1. On July 16, 1984, the American Radio Relay League, Inc (ARRL) filed a Request for Issuance of a Declaratory Ruling asking us to delineate the limitations of local zoning and other local and state regulatory authority over Federally-licensed radio facilities. Specifically, the ARRL wanted an explicit statement that would preempt all local ordinances which provably preclude or significantly inhibit effective reliable amateur radio communications. The ARRL acknowledges that local authorities can regulate amateur installations to insure the safety and health of persons in the community, but believes that those regulations cannot be so restrictive that they preclude effective amateur communications.

2. Interested parties were advised that they could file comments in the matter.[1] With extension, comments were due on or before December 26, 1984,[2] with reply comments due on or before January 25, 1985.[3] Over sixteen hundred comments were filed.

Local Ordinances

3. Conflicts between amateur operators regarding radio antennas and local authorities regarding restrictive ordinances are common. The amateur operator is governed by the regulations contained in Part 97 of our rules. Those rules do not limit the height of an amateur

antenna but they require, for aviation safety reasons, that certain FAA notification and FCC approval procedures must be followed for antennas which exceed 200 feet in height above ground level or antennas which are to be erected near airports. Thus, under FCC rules some antenna support structures require obstruction marking and lighting. On the other hand, local municipalities or governing bodies frequently enact regulations limiting antennas and their support structures in height and location, e.g. to side or rear yards, for health, safety or aesthetic considerations. These limiting regulations can result in conflict because the effectiveness of the communications that emanate from an amateur radio station are directly dependent upon the location and the height of the antenna. Amateur operators maintain that they are precluded from operating in certain bands allocated for their use if the height of their antennas is limited by a local ordinance.

4. Examples of restrictive local ordinances were submitted by several amateur operators in this proceeding. Stanley J. Cichy, San Diego, California, noted that in San Diego amateur radio antennas come under a structures ruling which limits building heights to 30 feet. Thus, antennas there are also limited to 30 feet. Alexander Vrenios, Mundelein, Illinois, wrote that an ordinance of the Village of Mundelein provides that an antenna must be a distance from the property line that is equal to one and one-half times its height. In his case, he is limited to an antenna tower for his amateur station just over 53 feet in height.

5. John C. Chapman, an amateur living in Bloomington, Minnesota, commented that he was not able to obtain a building permit to install an amateur radio antenna exceeding 35 feet in height because the Bloomington city ordinance restricted "structures" heights to 35 feet. Mr. Chapman said that the ordinance, when written, undoubtedly applied to buildings but was now being applied to antennas in the absence of a specific ordinance regulating them. There were two options open to him if he wanted to engage in amateur communications. He could request a variance to the ordinance by way of a hearing before the City Council, or he could obtain affidavits from his neighbors swearing that they had no objection to the proposed antenna installation. He got the building permit after obtaining the cooperation of his neighbors. His concern, however, is that he had to get permission from several people before he could effectively engage in radio communications for which he had a valid FCC amateur license.

6. In addition to height restrictions, other limits are enacted by local jurisdictions—anti-climb devices on towers or fences around them; minimum distances from high voltage power lines; minimum distances of towers from property lines; and regulations pertaining to the structural soundness of the antenna installation. By and large, amateurs do not find these safety precautions objectionable. What they do object to are the sometimes prohibitive, non-refundable application filing fees to obtain a permit to erect an antenna installation and those provisions in ordinances which regulate antennas for purely aesthetic reasons. The amateurs contend, almost universally, that "beauty is in the eye of the beholder." They assert that an antenna installation is not more aesthetically displeasing than other objects that people keep on their property, e.g. motor homes, trailers, pick-up trucks, solar collectors and gardening equipment.

Restrictive Covenants

7. Amateur operators also oppose restrictions on their amateur operations which are contained in the deeds for their homes or in their apartment leases. Since these restrictive

covenants are contractual agreements between private parties, they are not generally a matter of concern to the Commission. However, since some amateurs who commented in this proceeding provided us with examples of restrictive covenants, they are included for information. Mr. Eugene O. Thomas of Hollister, California, included in his comments an extract of the Declaration of Covenants and Restrictions for Ridgemark Estates, County of San Benito, State of California. It provides:

> No antenna for transmission or reception of radio signals shall be erected outdoors for use by any dwelling unit except upon approval of the Directors. No radio or television signals or any other form of electromagnetic radiation shall be permitted to originate from any lot which may unreasonably interfere with the reception of television or radio signals upon any other lot.

Marshall Wilson, Jr. provided a copy of the restrictive covenant contained in deeds for the Bell Martin Addition #2, Irving, Texas. It is binding upon all of the owners or purchasers of the lots in the said addition, his or their heirs, executors, administrators or assigns. It reads:

> No antenna or tower shall be erected upon any lot for the purposes of radio operations.

William J. Hamilton resides in an apartment building in Gladstone, Missouri. He cites a clause in his lease prohibiting the erection of an antenna. He states that he has been forced to give up operating amateur radio equipment except a hand-held 2 meter (144-148 MHz) radio transceiver. He maintains that he should not be penalized just because he lives in an apartment.

Other restrictive covenants are less global in scope than those cited above. For example, Robert Webb purchased a home in Houston, Texas. His deed restriction prohibited "transmitting or receiving antennas extending above the roof line."

8. Amateur operators generally oppose restrictive covenants for several reasons. They maintain that such restrictions limit the places that they can reside if they want to pursue their hobby of amateur radio. Some state that they impinge on First Amendment rights of speech. Others believe that a constitutional right is being abridged because, in their view, everyone has a right to access the airwaves regardless of where they live.

9. The contrary belief held by housing subdivision communities and condominium or homeowner's associations is that amateur radio installations constitute safety hazards, cause interference to other electronic equipment which may be operated in the home (television, radio, stereos) or are eyesores that detract from the aesthetic and tasteful appearance of the housing development or apartment complex. To counteract these negative consequences, the subdivisions and associations include in their deeds, leases or by-laws, restrictions and limitations on the location and height of antennas or, in some cases, prohibit them altogether. The restrictive covenants are contained in the contractual agreement entered into at the time of the sale or lease of the property. Purchasers or lessees are free to choose whether they wish to reside where such restrictions on amateur antennas are in effect or settle elsewhere.

Supporting Comments

10. The Department of Defense (DOD) supported the ARRL and emphasized in its comments that continued success of existing national security and emergency preparedness telecommunications plans involving amateur stations would be severely diminished if state and local ordinances were allowed to prohibit the construction and usage of effective amateur transmission facilities. DOD utilizes volunteers in the Military Affiliate Radio Service (MARS),[4] Civil Air Patrol (CAP) and the Radio Amateur Civil Emergency Service (RACES). It points out that these volunteer communicators are operating radio equipment installed in their homes and that undue restrictions on antennas by local authorities adversely affect their efforts. DOD states that the responsiveness of these volunteer systems would be impaired if local ordinances interfere with the effectiveness of these important national telecommunication resources. DOD favors the issuance of a ruling that would set limits for local and state regulatory bodies when they are dealing with amateur stations.

11. Various chapters of the American Red Cross also came forward to support the ARRL's request for a preemptive ruling. The Red Cross works closely with amateur radio volunteers. It believes that without amateurs' dedicated support, disaster relief operations would significantly suffer and that its ability to serve disaster victims would be hampered. It feels that antenna height limitations that might be imposed by local bodies will negatively affect the service now rendered by the volunteers.

12. Cities and counties from various parts of the United States filed comments in support of the ARRL's request for a Federal preemption ruling. The comments from the Director of Civil Defense, Port Arthur, Texas, are representative:

> The Amateur Radio Service plays a vital role with our Civil Defense program here in Port Arthur and the design of these antennas and towers lends greatly to our ability to communicate during times of disaster.
>
> We do not believe there should be any restrictions on the antennas and towers except for reasonable safety precautions. Tropical storms, hurricanes and tornadoes are a way of life here on the Texas Gulf Coast and good communications are absolutely essential when preparing for a hurricane and even more so during recovery operations after the hurricane has past.

13. The Quarter Century Wireless Association took a strong stand in favor of the Issuance of a declaratory ruling. It believes that Federal preemption is necessary so that there will be uniformity for all Amateur Radio installations on private property throughout the United States.

14. In its comments, the ARRL argued that the Commission has the jurisdiction to preempt certain local land use regulations which frustrate or prohibit amateur radio communications. It said that the appropriate standard in preemption cases is not the extent of state and local interest in a given regulation, but rather the impact of the regulation on Federal goals. Its position is that Federal preemption is warranted whenever local government regulations relate adversely to the operational aspects of amateur communication. The ARRL maintains that localities routinely employ a variety of land use devices to preclude the installation of effective amateur antennas, including height restrictions, conditional use permits, building setbacks and dimensional limitations on antennas. It sees a declaratory ruling of Federal preemption as necessary to cause municipalities to accommodate amateur operator needs in land use planning efforts.

15. James C. O'Connell, an attorney who has represented several amateurs before local zoning authorities, said that requiring amateurs to seek variances or special use approval to erect reasonable antennas unduly restricts the operation of amateur stations. He suggested that the Commission preempt zoning ordinances which impose antenna height limits of less than 65 feet. He said that this height would represent a reasonable accommodation of the communication needs of most amateurs and the legitimate concerns of local zoning authorities.

Opposing Comments

16. The City of La Mesa, California, has a zoning regulation which controls amateur antennas. Its comments reflected an attempt to reach a balanced view.

> This regulation has neither the intent, nor the effect, of precluding or inhibiting effective and reliable communications. Such antennas may be built as long as their construction does not unreasonably block views or constitute eyesores. The reasonable assumption is that there are always alternatives at a given site for different placement, and/or methods for aesthetic treatment. Thus, both public objectives of controlling land use for the public health, safety, and convenience, and providing an effective communications network, can be satisfied. A blanket to completely set aside local control, or a ruling which recognizes control only for the purpose of safety of antenna construction, would be contrary to...legitimate local control.

17. Comments from the County of San Diego state:

> While we are aware of the benefits provided by amateur operators, we oppose the issuance of a preemption ruling which would elevate 'antenna effectiveness' to a position above all other considerations. We must, however, argue that the local government must have the ability to place reasonable limitations upon the placement and configuration of amateur radio transmitting and receiving antennas. Such ability is necessary to assure that the local decision-makers have the authority to protect the public health, safety and welfare of all citizens.
>
> In conclusion, I would like to emphasize an important difference between your regulatory powers and that of local governments. Your Commission's approval of the preemptive requests would establish a "national policy." However, any regulation adopted by a local jurisdiction could be overturned by your Commission or a court if such regulation was determined to be unreasonable.

18. The City of Anderson, Indiana, summarized some of the problems that face local communities:

> I am sympathetic to the concerns of these antenna owners and I understand that to gain the maximum reception from their devices, optimal location is necessary. However, the preservation of residential zoning districts as "liveable" neighborhoods is jeopardized by placing these antennas in front yards of homes. Major problems of public safety have been encountered, particularly vision blockage for auto and pedestrian access. In addition, all communities are faced

> with various building lot sizes. Many building lots are so small that established setback requirements (in order to preserve adequate air and light) are vulnerable to the unregulated placement of antennas. ...the exercise of preemptive authority by the FCC in granting this request would not be in the best interest of the general public.

19. The National Association of Counties (NACO), the American Planning Association (APA) and the National League of Cities (NLC) all opposed the issuance of an antenna preemption ruling. NACO emphasized that federal and state power must be viewed in harmony and warns that Federal intrusion into local concerns of health, safety and welfare could weaken the traditional police power exercised by the state and unduly interfere with the legitimate activities of the states. NLC believed that both Federal and local interests can be accommodated without preempting local authority to regulate the installation of amateur radio antennas. The APA said that the FCC should continue to leave the issue of regulating amateur antennas with the local government and with the state and Federal courts.

Discussion

20. When considering preemption, we must begin with two constitutional provisions. The tenth amendment provides that any powers which the constitution either does not delegate to the United States or does not prohibit the states from exercising are reserved to the states. These are the police powers of the states. The Supremacy Clause, however, provides that the constitution and the laws of the United States shall supersede any state law to the contrary. Article III, Section 2. Given these basic premises, state laws may be preempted in three ways: First, Congress may expressly preempt the state law. See Jones v. Rath Packing Co., 430 U.S. 519, 525 (1977). Or, Congress may indicate its intent to completely occupy a given field so that any state law encompassed within that field would implicitly be preempted. Such intent to preempt could be found in a congressional regulatory scheme that was so pervasive that it would be reasonable to assume that Congress did not intend to permit the states to supplement it. See Fidelity Federal Savings & Loan Ass'n v. de la Cuesta, 458 U.S. 141, 153 (1982). Finally, preemption may be warranted when state law conflicts with federal law. Such conflicts may occur when "compliance with both Federal and state regulations is a physical impossibility," Florida Lime & Avocado Growers, Inc. v. Paul, 373 U.S. 132, 142, 143 (1963), or when state law "stands as an obstacle to the accomplishment and execution of the full purposes and objectives of Congress," Hines v. Davidowitz, 312 U.S. 52, 67 (1941). Furthermore, federal regulations have the same preemptive effect as federal statues, Fidelity Federal Savings & Loan Association v. de la Cuesta, supra.

21. The situation before us requires us to determine the extent to which state and local zoning regulations may conflict with federal policies concerning amateur radio operators.

22. Few matters coming before us present such a clear dichotomy of view point as does the instant issue. The cities, countries, local communities and housing associations see an obligation to all of their citizens and try to address their concerns. This is accomplished through regulations, ordinances or covenants oriented toward the health, safety and general welfare of those they regulate. At the opposite pole are the individual amateur operators and their support

groups who are troubled by local regulations which may inhibit the use of amateur stations or, in some instances, totally preclude amateur communications. Aligned with the operators are such entities as the Department of Defense, the American Red Cross and local civil defense and emergency organizations who have found in Amateur Radio a pool of skilled radio operators and a readily available backup network. In this situation, we believe it is appropriate to strike a balance between the federal interest in promoting amateur operations and the legitimate interests of local governments in regulating local zoning matters. The cornerstone on which we will predicate our decision is that a reasonable accommodation may be made between the two sides.

23. Preemption is primarily a function of the extent of the conflict between federal and state and local regulation. Thus, in considering whether our regulations or policies can tolerate a state regulation, we may consider such factors as the severity of the conflict and the reasons underlying the state's regulations. In this regard, we have previously recognized the legitimate and important state interests reflected in local zoning regulations. For example, in Earth Satellite Communications, Inc., 95 FCC 2d 1223 (1983), we recognized that

> ...countervailing state interests inhere in the present situation...For example, we do not wish to preclude a state or locality from exercising jurisdiction over certain elements of an SMATV operation that properly may fall within its authority, such as zoning or public safety and health, provided the regulation in question is not undertaken as a pretext for the actual purpose of frustrating achievement of the preeminent federal objective and so long as the non-federal regulation is applied in a nondiscriminatory manner.

24. Similarly, we recognize here that there are certain general state and local interests which may, in their even-handed application, legitimately affect amateur radio facilities. Nonetheless, there is also a strong federal interest in promoting amateur communications. Evidence of this interest may be found in the comprehensive set of rules that the Commission has adopted to regulate the amateur service. [5] Those rules set forth procedures for the licensing of stations and operators, frequency allocations, technical standards which amateur radio equipment must meet and operating practices which amateur operators must follow. We recognize the amateur radio service as a voluntary, noncommercial communication service, particularly with respect to providing emergency communications. Moreover, the amateur radio service provides a reservoir of trained operators, technicians and electronic experts who can be called on in times of national or local emergencies. By its nature, the Amateur Radio Service also provides the opportunity for individual operators to further international goodwill. Upon weighing these interests, we believe a limited preemption policy is warranted. State and local regulations that operate to preclude amateur communications in their communities are in direct conflict with federal objectives and must be preempted.

25. Because amateur station communications are only as effective as the antennas employed, antenna height restrictions directly affect the effectiveness of amateur communications. Some amateur antenna configurations require more substantial installations than others if they are to provide the amateur operator with the communications that he/she desires to engage in. For example, an antenna array for international amateur communications will differ from an antenna used to contact other amateur operators at shorter distances. We will not, however, specify any particular height limitation below which a local government may not regulate, nor will we suggest the precise language that must be contained in local ordinances,

such as mechanisms for special exceptions, variances, or conditional use permits. Nevertheless, local regulations which involve placement, screening, or height of antennas based on health, safety, or aesthetic considerations must be crafted to accommodate reasonably amateur communications, and to represent the minimum practicable regulation to accomplish the local authority's legitimate purpose.[6]

26. Obviously, we do not have the staff or financial resources to review all state and local laws that affect amateur operations. We are confident, however, that state and local governments will endeavor to legislate in a manner that affords appropriate recognition to the important federal interest at stake here and thereby avoid unnecessary conflicts with federal policy, as well as time-consuming and expensive litigation in this area. Amateur operators who believe that local or state governments have been overreaching and thereby have precluded accomplishment of their legitimate communications goals, may, in addition, use this document to bring our policies to the attention of local tribunals and forums.

27. Accordingly, the Request for Declaratory Ruling filed July 16, 1984, by the American Radio Relay League, Inc., IS GRANTED to the extent indicated herein and in all other respects, IS DENIED.

FEDERAL COMMUNICATIONS COMMISSION
William J. Tricarico
Secretary

Footnotes

[1]Public Notice, August 30, 1984, Mimeo. No. 6299, 49 F.R. 36113, September 14, 1984.

[2]Public Notice, December 19,1984, Mimeo. No. 1498.

[3]Order, November 8, 1984, Mimeo, No. 770.

[4]MARS is solely under the auspices of the military which recruits volunteer amateur operators to render assistance to it. The Comission is not involved in the MARS program.

[5]47 CFR Part 97.

[6]We reiterate that our ruling herein does not reach restrictive covenants in private contractual agreements. Such agreements are voluntarily entered into by the buyer or tenant when the agreement is executed and do not usually concern this Commission.

Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of	)	
	)	
Modification and Clarification of Policies and Procedures Governing Siting and Maintenance of Amateur Radio Antennas and Support Structures, and Amendment of Section 97.15 of the Commission's Rules Governing the Amateur Radio Service:	)	RM-8763

ORDER

Adopted: November 18, 1999 Released: November 19, 1999

By the Deputy Chief, Wireless Telecommunications Bureau:

I. Introduction and Executive Summary

1. In this Order, we address a Petition for Rule Making (Petition), filed on February 7, 1996, by The American Radio Relay League, Inc. (ARRL or Petitioner), asking that the Commission review and modify its policies and procedures pertaining to the Commission's limited preemption of state and local regulations affecting amateur radio facilities. The Petitioner also requests that the Commission amend Section 97.15 of the Commission's Rules to clarify the Commission's preemptive intent with respect to such state and local regulations. We have carefully reviewed the requests, and the supporting arguments, and conclude that the modifications and clarifications suggested by Petitioner would not serve the public interest, convenience and necessity. Therefore, the Petition is denied.

II. Background

2. In 1984, ARRL petitioned the Commission for a declaratory ruling that would limit local regulatory control of amateur

stations. It was believed that local building codes and zoning regulations had limited the communications ability of licensees in the amateur service. An outdoor antenna is a necessary component for most types of amateur service communications. Municipalities and local land use regulatory authorities regulated the heights, placement and dimensions of antennas. In PRB-1, resolving the ARRL's declaratory ruling petition, the Commission noted that these regulations often result in conflict because the effectiveness of the communications that emanate from an amateur radio station is directly dependent upon the location and the height of the antenna. Consequently in PRB-1, the Commission enunciated the Federal policy toward state and local regulatory restrictions on amateur station facilities.

3. In the MO&O, the Commission declared a limited preemption of state and local regulations governing amateur station facilities, including antennas and support structures. The Commission determined that there was a strong Federal interest in promoting amateur service communications, and that state and local regulations that preclude amateur service communications are in direct conflict with Federal objectives and must be preempted. Furthermore, the Commission stated that a local ordinance or zoning regulation must make reasonable accommodation for amateur communications and must constitute the minimum practicable regulation to accomplish the local authority's legitimate purpose. However, the Commission did not extend the limited preemption to covenants, conditions and restrictions (CC&Rs) in deeds and in condominium by-laws because they are contractual agreements between private parties. Petitioner, inter alia, requests the extension of the limited preemption to such CC&Rs.

4. Petitioner also requests other clarifications to PRB-1, as follows: (a) that local governments must make a reasonable accommodation for amateur radio antennas, rather than balancing their own local interests against the Federal interest in amateur radio; (b) that local governments could not specify a lower height maximum than sixty to seventy feet for an amateur radio antennna structure; (c) that overly burdensome conditions in land use authorizations or imposition of excessive costs is preempted; (d) that denial of a particular use permit or special exception does not relieve a local government from having to make a reasonable accommodation for amateur communications; (e) that conditional use permit procedures can be used to regulate amateur radio antennas, but only as an adjunct to a reasonable height restriction; and, (f) that land use restrictions pertaining to safety that limit the overall height of an amateur radio antenna structure, or restrict installation of an antenna altogether, are invalid unless there is no other alternative available that is less burdensome and still accomplishes the same purpose. The Commission sought comment on the Petition on February 21, 1996.

5. Since the adoption of the Commission's limited premption policy in PRB-1, Congress enacted Section 704 of the Telecommunications Act of 1996, concerning the siting of personal wireless service facilities. We note that Section 704 of the Telecom Act encompasses commercial mobile radio services, unlicensed wireless services and common carrier wireless exchange access services. Thus, Section 704 of the Telecom Act, which, among other things, bars state or local regulations that prohibit or have the effect of prohibiting the provision of personal wireless services, does not apply to stations or facilities in the amateur radio service.

III. Discussion

6. The Commission's policy with respect to restrictive covenants is clearly stated in the MO&O establishing a limited

preemption of state and local regulations. In the MO&O, the Commission stated that PRB-1 does not reach restrictive covenants in private contractual agreements. The Petitioner argues that enforcement of a covenant by the court constitutes "state action", thus converting what otherwise would be a private matter into a matter of state regulation and, thus, subject to the Commission's limited preemption policy. Notwithstanding the clear policy statement that was set forth in PRB-1 excluding restrictive covenants in private contractual agreements as being outside the reach of our limited preemption, we nevertheless strongly encourage associations of homeowners and private contracting parties to follow the principle of reasonable accommodation and to apply it to any and all instances of amateur service communications where they may be involved. Although we do not hesitate to offer such encouragement, we are not persuaded by the Petition or the comments in support thereof that specific rule provisions bringing the private restrictive covenants within the ambit of PRB-1 are necessary or appropriate at this time. Having reached this conclusion, we need not resolve the issue of whether, or under what circumstances, judicial enforcement of private covenants would constitute "state action."

7. Petitioner further requests a clarification of PRB-1 that local authorities must not engage in balancing their enactments against the interest that the Federal Government has in amateur radio, but rather must reasonably accommodate amateur communications. We do not believe a clarification is necessary because the PRB-1 decision precisely stated the principle of "reasonable accommodation". In PRB-1, the Commission stated: "Nevertheless, local regulations which involve placement, screening, or height of antennas based on health, safety, or aesthetic considerations must be crafted to accommodate reasonably amateur communications, and to represent the minimum practicable regulation to accomplish the local authority's legitimate purpose." Given this express Commission language, it is clear that a "balancing of interests" approach is not appropriate in this context.

8. Petitioner also requests establishment of sixty or seventy feet as the minimum height in a metropolitan area for an amateur antenna structure so that local authorities could not specify a lower height maximum for an amateur antenna. Petitioner argues that such a minimum height would minimize interaction between amateur stations and home electronic equipment and provide reasonable antenna efficiency at different amateur frequencies, MF through UHF and beyond. Petitioner also contends that structures of that height and above can be so located as to minimize the visual impact, and that retractable antennas could be used to address unusual aesthetic situations, such as in historic or scenic zones. We do not believe that it would be prudent or that it is appropriate to set such a standard for amateur antennas and their supporting structures because of varying circumstances that may occur when a particular antenna configuration is under consideration, such as terrain or man-made obstructions. We believe that the policy enunciated in PRB-1 is sound. PRB-1 did not specify a particular height limitation below which a local government may not regulate. The Commission did not want to mandate specific provisions that a local authority must include in a zoning ordinance. We continue to believe that the standards the Commission set, that is, "reasonable accommodation" and "minimum practicable regulation", have worked relatively well. Therefore, we are not persuaded that changes to the Commission's policy of leaving the specifics of zoning regulations to the local authority, including provisions concerning the height of an amateur antenna, are necessary at this time.

9. Petitioner further requests that the Commission

specifically preempt overly burdensome conditions and excessive costs levied by a local authority in connection with engineering certifications or issuance of antenna permits. Specifically, Petitioner argues that assessment of unusual costs for processing an antenna permit application cannot be used by the local authority as a means of indirectly prohibiting the antenna. Petitioner states that the same argument is true of conditional use permits that require an amateur antenna to be screened from view by the installation of mature vegetation. According to the ARRL, if full vegetative screening cannot be accomplished in a cost-effective manner, a condition requiring such screening is a de facto prohibition. Although Petitioner concedes that a municipality may require amateur operators to pay reasonable expenses to obtain amateur permits, the Petitioner objects to the imposition of unreasonable expenses because such expenses would discourage or prohibit the installation of amateur antennas. Petitioner also requests that the Commission declare as invalid certain land use restrictions based on safety considerations, such as setbacks on the property where the antenna is to be erected, unless there are no other alternatives that would accomplish the same purpose. Finally, Petitioner requests that the Commission specify that, if a local authority denies a conditional use permit or a special exception request, it still has the obligation to make a reasonable accommodation for amateur communications. We return once again to the position that we have stated earlier in this Order, that is, that the standards of "reasonable accommodation" and "minimum practicable regulation" are sufficiently efficacious as guideposts for state, local and municipal authorities. We believe that the effectiveness of these guidelines or standards can be gauged by the fact that a local zoning authority would recognize at the outset, when crafting zoning regulations, the potential impact that high antenna towers in heavily-populated urban or suburban locales could have and, thus, would draft their regulations accordingly. In addition, we believe that PRB-1's guidelines brings to a local zoning board's awareness that the very least regulation necessary for the welfare of the community must be the aim of its regulations so that such regulations will not impinge on the needs of amateur operators to engage in amateur communications.

IV. Conclusion

10. In our view, Petitioner has not demonstrated that the clarifications requested are necessary. Accordingly, we conclude that the public interest would best be served by denying the ARRL request for modification and clarification of Commission policies and procedures concerning the limited preemption of state and local regulations that affect amateur service radio facilities.

V. Ordering Clause

11. Accordingly, IT IS ORDERED that, pursuant to Sections 4(i) and 303(r) of the Communications Act of 1934, as amended, 47 U.S.C. §§ 154(i) and 303(r), the petition for rule making, RM-8763, filed by The American Radio Relay League, Inc. on February 7, 1996, IS HEREBY DENIED. This action is taken under the delegated authority contained in Sections 0.131 and 0.331 of the Commission's Rules, 47 C.F.R. §§ 0.131 and 0.331.

FEDERAL COMMUNICATIONS COMMISSION

Kathleen O'Brien Ham

Deputy Chief, Wireless
Telecommunications Bureau j:\prd\depont\prbclor2.mjd

Introduced June 5, 1997; Planning Board Hearing July 10, 1997; Supplement to June 5 Report October 29, 1997; Revised Staff Report November 10, 1997; Addendum to Revised Staff Report November 19, 1997; Final Report November 20, 1997

Legislative Project 96-06

PROPOSED AMENDMENTS TO THE BALTIMORE COUNTY ZONING REGULATIONS REGARDING WIRELESS TELECOMMUNICATION FACILITIES

A Final Report of the Baltimore County Planning Board
Adopted November 20, 1997

PROJECT DESCRIPTION

This report is in response to Council Resolutions 55-96 and 27-97 which request the Planning Board to consider whether the Zoning Regulations need to be updated to reflect the increased demand for antennas and towers for wireless telecommunication.

BACKGROUND

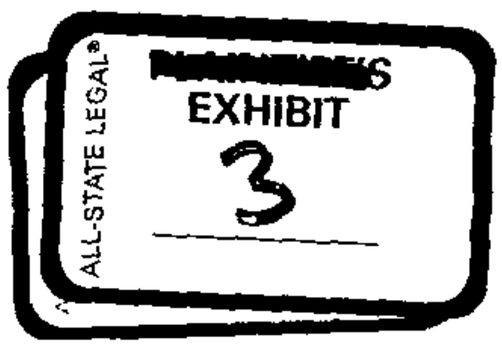
The Zoning Regulations were most recently revised regarding telecommunication structures in 1986. They permit antennas and towers as follows:

	Antenna	Tower <=200' high	Tower >200' high
RC, DR, RO	SE	SE*	SE*
MR	By right if the antenna will not be more than 50 feet above grade level	R	SE
OR2, OT, BL, BM, BR, ML, MLR, MR, MH	By right if the antenna will not be more than 50' above grade level	R**	SE

R= By Right; SE= By Special Exception

* Must be set back from the property line at least twice the height of the tower
** Must be set back at least 200 feet from a residential or RO zone line

In 1994, the Planning Board recommended, in response to a Council Resolution, that the Zoning Regulations not be further amended but that all regulations regarding telecommunications equipment and structures be consolidated into one section of the BCZR. Council held a public hearing on March 7, 1994 but did not take further action on the report.



Since the Planning Board sent its recommendations to Council, Congress has comprehensively overhauled the way radio, television and telephone communications are regulated. The Telecommunications Act of 1996 encourages market growth and network building by removing impediments to competition. As a result of these changes, the Federal Communications Commission (FCC) can approve licenses to allow multiple carriers to provide the same services within the same geographic market. Applications to erect new antennas and towers have dramatically increased in Baltimore County and across the nation. Technological innovations, including digitizing, which provides clearer reception, are leading to the need for a larger number of antenna locations.

DISCUSSION

The Telecommunications Act of 1996 acknowledges the role of local government with regard to regulating the placement and construction of antennas and towers:

> Except as provided in this paragraph, nothing in this Act shall limit or affect the authority of a State or local government or instrumentality thereof over decisions regarding the placement, construction, and modification of wireless service facilities. [Telecommunications Act of 1996, § 704(a); 47 USC § 332(c)(7)(A)].

The Act places several constraints on the scope of local authority. The Act explicitly prohibits local government from imposing environmental regulations stricter than the FCC's.

Section 704(a) of the Act also states that local governments, in regulating the placement and construction of wireless equipment for "personal wireless facilities" (which includes cellular, paging and Personal Communication Services facilities) cannot "unreasonably" discriminate among providers by "prohibit[ing] or have[ing] the effect of prohibiting the provision of such services." Local government must act on an antenna application within a "reasonable" time period and support its decision in written findings based on "substantial evidence." The scope of this language is ambiguous. However, the conference committee report provides some guidance as to Congress's intent. According to the report, Congress did not intend that a locality treat the placement of facilities uniformly throughout a jurisdiction, regardless of the zone or district in which the facility is to be located:

> It is not the intent of the bill that if a State or local government grants a permit in a commercial district, it must also grant a permit for a competitor's 50-foot tower in a residential district. [Telecommunications Act of 1996, Conference Report 104-458, p. 208.]

On the other hand, the conference committee report makes clear that local government cannot ban the provision of wireless services.

The County's policy favoring the placement of towers in non-residential zones appears not to violate the Act, based on the conference committee's report. The Zoning Regulations do not prevent a tower from being located within a residential zone, but provide a different approval process and setback standards for such towers. A possible area of concern, based on the Act, is that it is not clear whether the Zoning Regulations permit wireless telecommunications facilities in the Service-Employment, the Performance Based Business zones and the Maritime zones. Unless a use is listed, it is not permitted. This affects the ability of providers to obtain sites to provide services.

COMMENTS FOLLOWING JULY 10, 1997 PUBLIC HEARING

The Planning Board held a public hearing on July 10, 1997 and received numerous comments. In response to comments made at the public hearing, and by the Office of Law and other County agencies, the County recommends changes to the Zoning Regulations to further the objective of co-location of antennas. The Planning Board also recommends that the County organize a Tower Review Committee, consisting of the Directors of Planning and the Office of Information Technology, and other government agencies considered appropriate for a particular site as well as a Council-designated citizen-at-large. This group will track the location of all towers and work with providers to determine the need for new tower locations. When considering a new tower application, representatives of communities where the tower could be located should be added to the group. Acting in an advisory capacity, the purpose of the group will be to coordinate co-location. The Tower Review Committee will also work with the State and Baltimore Gas and Electric with regard to possible antenna locations at their properties.

RECOMMENDATIONS

The Baltimore County Zoning Regulations, 1955, as amended, should be further amended as follows. **Boldfaced** text denotes language to be added to the Zoning Regulations. [Bracketed text] indicates text to be deleted from the Zoning Regulations.

1. In Section 101, add the following definitions:

Wireless telecommunication antenna: A directional or omnidirectional device which transmits or receives communications including radio, television, personal wireless services (commercial mobile services, unlicensed wireless services and common carrier wireless exchange services) and its related equipment housed at its base, but not including an amateur radio operator's antenna. A wireless telecommunication antenna is mounted on a wireless telecommunication tower or on another structure or building.

Wireless telecommunication tower: A self-supporting, guyed or freestanding structure erected for the purpose of supporting one or more wireless communication antennas.

2. Delete Section 426 and Subsection 502.7.C. Enact a new Section 426 as follows:

426.1 Statement of Legislative Policy for the Siting of Wireless Telecommunication Antennas

A. It is the intent of Baltimore County that wireless telecommunication antennas be placed on existing structures wherever feasible.

B. It is the intent of Baltimore County that, if it is necessary to construct a wireless telecommunication tower, the tower be designed to accommodate multiple wireless telecommunication antennas and sited so as to minimize its visibility.

C. It is further the intent of Baltimore County that, if it is necessary to construct a wireless telecommunication tower, the tower be erected in a medium or high intensity commercial zone wherever such a site is available, and constructed so as to minimize its visibility from residential areas.

426.2 Wireless Telecommunication Antennas and Towers

	Antennas*		Towers	
	How Permitted	Maximum Antenna Height and Antenna Diameter	<200 ft. high	> =200 ft. high
Residential Zone RC, RCC, CR District, DR, ROA	R	15 feet high, diameter three feet	SE	SE
Transitional Zones Service-Employment, RO, OR1, BMM, BMYC, BMB, CB,	R	15 feet high, diameter three feet	SE	SE
Medium Intensity Commercial OR2, BLR, BL, BM, BR, MR, ML, MLR	R	Not regulated	R	SE
High Intensity Commercial O3, OT, MH	R	Not regulated	R	SE

R= By Right; SE= By Special Exception

* This column refers to antennas located on a building, structure or tower which was legally erected prior to the installation of the antenna. The number of antennas or antenna clusters placed on a building, structure or tower is not regulated.

426.3 Wireless Telecommunication Towers are subject to the following standards:

A. For all wireless telecommunication towers:

1. *Before submitting a petition for a special exception or an application for a* building permit for a wireless telecommunication tower, the applicant shall meet with the County's Tower Review Committee. —

a. **The Tower Review Committee shall include the Directors of the Office of Planning and the Office of Information Technology, or designees; an at-large citizens' representative appointed by Council and such other government agencies or community groups deemed appropriate by the Directors with regard to a particular site.**

b. **The applicant shall indicate the maximum number of wireless telecommunication carriers whose equipment the structure can support and such other location and technical information as requested by the County.**

c. **The Tower Review Committee shall evaluate the proposal with regard to the Statement of Legislative Intent in 426.1 and may provide advisory comments.**

2. **No stroboscopic lights are permitted on a tower, unless required by the Federal Aviation Administration (FAA).**

3. **Setbacks**

   a. **A wireless telecommunication tower shall be set back from any property line a distance equivalent to at least the height of the tower.**

   b. **The tower shall be set back from any residential or transitional zone line at least 200 feet.**

4. **The tower, antenna and any supporting lines shall be of a neutral color except as may be required by the FAA. The owner of the wireless communications facility is required to maintain, replace or repair any hazardous or unsafe condition flaking or worn exterior paint, or conditions caused by acts of vandalism.**

5. **The height of a wireless telecommunication tower is measured from the base of the tower to the tip of the highest antenna placed on the tower.**

7. **Upon completion of the tower, and every five years thereafter, a professional engineer registered in Maryland shall certify that the structure meets all safety requirements**

8. **Antennas may be installed by right on any legally existing tower, regardless of whether the tower was approved by special exception.**

9. **The applicant shall annually certify to the Director of Permits and Development Management the number of antennas on the tower.**

10. **Any special exception for the operation of a wireless telecommunication tower shall become void upon notice of cessation or termination by the owner and the tower may be considered abandoned. The right to resume the use of an abandoned tower may be terminated.**

11. **Removal of Towers**

a. **Prior to obtaining a building permit for a wireless telecommunication tower, the applicant shall provide security to the County in a form and amount sufficient to accomplish the tower's removal. Removal of the tower shall mean all above ground structures, including paving.**

b. **The Director of Permits and Development Management (the code official) shall issue an order for the removal of the tower if it is abandoned or unsafe.**

i. **Notwithstanding the failure of the owner to notify the Director of Permits and Development Management, any wireless telecommunication tower which has not been in actual and continuous operation as a telecommunication tower for a period of twelve consecutive months shall be presumed to have been abandoned..**

ii. **A wireless telecommunication tower which has been determined by the code official to constitute a fire hazard or to be otherwise dangerous to human life or the public welfare, or to involve illegal or improper occupancy or inadequate maintenance, shall be considered unsafe. The code official shall issue to the owner an order to correct the deficiencies. If the owner does not correct the deficiencies within the time period ordered by the code official, the code official shall issue an order for removal of the tower.**

c. Procedure

i. **The owner shall have 15 days to contest the order and request a hearing.**

ii. **The hearing shall be conducted within 30 days of the filing of the request for a hearing.**

iii. **Appeals shall be as provided in §1-7(g) of the Baltimore County Code, 1988, as amended, except that if the owner does not request, or fails to appear at, the hearing, the order shall be a non-appealable, final order of the code official.**

iv. **If the owner fails to comply with a final order, the code official may procure compliance in accordance with the procedure authorized in §1-7.1(b) except that only those expenses exceeding the security obtained by the County prior to the issuance of the building permit shall become a lien on the property.**

B. For wireless telecommunication towers permitted by special exception:

1. The petitioner shall have the burden of demonstrating, through written documentation, that:

   a. The petitioner has made a diligent search for mounting the antenna on an existing building, structure or wireless telecommunication tower; and

   b. That due to location, elevation, engineering, technical feasibility, or inability to obtain a lease or ownership of a location elsewhere, the building of a tower at the proposed location is warranted; and

   c. The tower has been designed to accommodate at least two other personal wireless services antennas, to the extent technically feasible; and

   d. The height of the tower is no higher than what is required to enable present and future co-location of antennas.

   e. The Zoning Commissioner shall review the petitioner's submittal with regard to the County's goals for co-location and community conservation, as stated in 426.1.

2. In a residential or transitional zone:

   a. In addition to the requirements of 426.3.B.1, the petitioner shall have the burden of demonstrating, with written documentation, that there is no available, suitable site for the wireless telecommunication tower in a medium or high intensity commercial zone, or that due to topographic or other unique features, the proposed site will better meet the intent of 426.1.B than a site in a medium or high intensity commercial zone; and

   b. The tower shall be located on a lot of at least three acres except where the petitioner can prove that a site less than three acres would better meet the intent of 426.1.B.

   c. The Zoning Commissioner may require the tower to be camouflaged by taking the form of a structure or natural formation found in the area.

426.4 Each structure housing equipment shall meet minimum setback requirements from the property line. Notwithstanding the provisions of Section 102.2, if multiple equipment structures are placed on the same property, no yard or setback shall be required between them. If located in a residential or transitional zone, the structure housing equipment shall be screened in accordance with the Landscape

Manual (Class A screening requirements) and shall be faced with brick unless the Director of Planning approves the use of an alternate material.

426.5 Notwithstanding the provisions of Section 307 (Variances), in cases where a variance to a height or area requirement for a wireless telecommunication tower, antenna or a structure housing antenna equipment is requested, the Zoning Commissioner may grant the variance if the petitioner proves that the variance requested is the minimum needed to enable present or future co-location of antennas.

4. Enact a new Section 427 and provide references to it in all zones where amateur radio antennas are permitted, deleting duplicative text in each zone; this does not change the substance of the current regulations.

Section 427

427 --- Radio antennas and related equipment, including any supporting structure, shall be considered an accessory structure or use and as such shall be permitted by right provided that:

A. They are operated by an amateur radio operator who is licensed by the Federal Communications Commission and whose domicile is on the lot where the facility is placed;

B. No supporting structure is located within 20 feet of any property line;

C. No antenna extends closer than the front building line to any street on which the lot fronts;

D. No antenna shall be higher than 100 feet or the horizontal distance to the nearest property line, whichever is less, above grade level;

West Reporter Image (PDF)

906 F.2d 994, 67 Rad. Reg. 2d (P & F) 1629

United States Court of Appeals,
Fourth Circuit.
John F. WILLIAMS, Plaintiff-Appellant,
v.
CITY OF COLUMBIA; City of Columbia Zoning Board of Adjustment; J.M. McCulloch; Zack Weston; Katheryn Bellfield; Shirley Curry; Marsha Monteith; Edgar L. Morris; Richard M. Unger, In their official capacities as members of the City of Columbia Zoning Board of Adjustment; Nathanial B. Land, Jr., In his official capacity as Zoning Administrator of the City of Columbia, Defendants-Appellees,
The American Radio Relay League, Incorporated, Amicus Curiae.
No. 89-1068.
Argued May 9, 1990.
Decided June 29, 1990.
As Amended July 10, 1990.

Amateur radio operator brought civil rights action challenging local zoning board's decision to deny application for special exception to antenna height limitation. The United States District Court for the District of South Carolina, Clyde H. Hamilton, J., 707 F.Supp. 207, granted summary judgment for zoning board, and operator appealed. The Court of Appeals, Dupree, Senior District Judge, sitting by designation, held that: (1) FCC policy of limited federal preemption of local zoning laws affecting radio communications furthered federal interests, and (2) local zoning ordinance did not violate operator's free speech or equal protection rights.
Affirmed.

West Headnotes

[1] KeyCite Notes

170B Federal Courts
170BVI State Laws as Rules of Decision
170BVI(C) Application to Particular Matters
170Bk433 k. Other Particular Matters. Most Cited Cases

Federal courts must accord state agency's fact-finding same preclusive effect to which it would be entitled in state courts as long as agency acted in judicial capacity and parties had adequate opportunity to litigate.

[2] KeyCite Notes

92 Constitutional Law
92XII Due Process of Law
92k278.2 Zoning, Building, and Planning Regulations
92k278.2(2) k. Proceedings and Review. Most Cited Cases

Proceeding in city zoning board of adjustment in South Carolina, in which amateur radio operator's application for exception to allow construction of radio antenna was heard, was not inadequate and did not violate due process rights of operator who was represented by counsel and was permitted to present extensive evidence. U.S.C.A. Const.Amends. 5, 14.

[3] KeyCite Notes

414 Zoning and Planning
414IX Variances or Exceptions
414IX(B) Proceedings and Determination
414k542 Determination
414k543 k. Vote of Members of Board, and Bias or Disqualification. Most Cited Cases

No evidence of bias against applicant for special exception to zoning regulations existed on part of zoning board of adjustment, other than resulting adverse decision.

[4] KeyCite Notes

414 Zoning and Planning
414IX Variances or Exceptions
414IX(A) In General
414k502 Particular Structures or Uses
414k502.1 k. In General. Most Cited Cases
(Formerly 414k502)

Federal Communications Commission (FCC) policy of limited rather than complete federal preemption of local zoning laws affecting amateur radio communications permitted local Zoning Board of Adjustment to consider extent to which amateur radio operator seeking to erect radio communications antenna would further federal interests, for purposes of determining whether operator was entitled to special exemption to construct radio antenna.

[5] KeyCite Notes

92 Constitutional Law
92XII Due Process of Law
92k278.2 Zoning, Building, and Planning Regulations
92k278.2(1) k. In General. Most Cited Cases

414 Zoning and Planning KeyCite Notes
414II Validity of Zoning Regulations
414II(A) In General
414k41 k. Delegation of Power in General. Most Cited Cases

Local zoning ordinance prohibiting construction of radio antennas over certain height struck balance between weighing federal against local interests and giving discretion to local officials, and, thus, ordinance did not confer unbridled and standardless discretion in local zoning board of adjustment in violation of due process. U.S.C.A. Const.Amends. 5, 14.

[6] KeyCite Notes

92 Constitutional Law
92V Personal, Civil and Political Rights

92k90 Freedom of Speech and of the Press
92k90.1 Particular Expressions and Limitations
92k90.1(9) k. Telecommunications. Most Cited Cases

414 Zoning and Planning KeyCite Notes
414II Validity of Zoning Regulations
414II(B) Regulations as to Particular Matters
414k62 Architectural and Structural Designs; Value
414k65 k. Height of Buildings and Structures. Most Cited Cases

Local zoning ordinance prohibiting construction of radio antennas above a certain height did not violate right to free speech of amateur radio operator who sought special exception for construction of antenna; zoning ordinance was content-neutral time, place and manner restriction.

[7] KeyCite Notes

92 Constitutional Law
92XI Equal Protection of Laws
92k228.2 k. Zoning, Planning, and Building Regulations. Most Cited Cases

414 Zoning and Planning KeyCite Notes
414II Validity of Zoning Regulations
414II(B) Regulations as to Particular Matters
414k62 Architectural and Structural Designs; Value
414k65 k. Height of Buildings and Structures. Most Cited Cases

Local zoning ordinance prohibiting construction of radio antennas above certain height did not violate equal protection rights of amateur radio operator, in light of at least rational distinction between antennas and chimneys, spires and other structures.

***995** Richard Ashby Farrier, Jr., argued, John F. Kuppens, on brief, Nelson, Mullins, Riley & Scarborough, Columbia, S.C., for appellant.
James Shelton Meggs, argued, Roy D. Bates, on brief, City Attorney's Office, Columbia, S.C., for appellees.
Charles Freret, Christopher D. Imlay, Booth, Freret & Imlay, Washington, D.C., for amicus curiae.

Before RUSSELL and SPROUSE, Circuit Judges, and DUPREE, Senior United States District Judge for the Eastern District of North Carolina, sitting by designation.

DUPREE, Senior District Judge:
This appeal from a grant of summary judgment entered by the district court in favor of defendants-appellees presents a conflict between a City of Columbia, South Carolina (the City), zoning ordinance requiring a special exception for radio antennas exceeding seventeen feet in height and the desires of plaintiff-appellant John F. Williams to erect an antenna of sufficient height to communicate with all areas of the world. For the reasons set forth below, we find no error and affirm the judgment of the district court.

I.

Williams was granted an amateur radio license by the FCC, pursuant to the Communications Act of

1934, as amended, 47 U.S.C. §§ 151, *et seq.*, and thereafter began preparations for an antenna system that would be twenty-eight feet high when retracted and fifty-five to sixty-five feet high when fully extended. Since the City's zoning ordinance requires anyone wanting to erect an antenna over seventeen feet to apply for a special exception to the Zoning Board of Adjustment (ZBA), *see* City of Columbia Zoning Ordinance § 6-3099, Williams presented the matter to the ZBA at a public hearing on November 10, 1987. His request for a special exception was denied on November 11, 1987.

Williams subsequently filed suit in federal court on August 25, 1988, alleging the City's zoning ordinance to be invalid based on the federal preemption of an FCC declaratory ruling, *Amateur Radio Preemption*, 101 F.C.C.2d 952, 50 Fed.Reg. 38813 (1985) (PRB-1), and certain provisions of the Constitution. By order filed February 28, 1989, the district court ordered the ZBA to rehear Williams' application in order to perform the reasonable accommodation analysis required by PRB-1. 707 F.Supp. 207.

***996** On April 18, 1989, the ZBA again denied the application for a special exception, this time certifying that it did so in accordance with PRB-1. By order filed July 31, 1989, the district court denied Williams' motion for summary judgment on the preemption issue and ordered further briefing on the constitutional issues. By order filed October 2, 1989, the district court denied Williams' motion for reconsideration of the preemption issue and granted defendants' motion for summary judgment on all other issues, whereupon Williams filed this appeal.

II.

Initially, Williams argues that the district court erred in concluding that the findings of the ZBA should be left undisturbed so long as they were not "arbitrary and capricious" or "clearly erroneous." Williams asserts that those standards are inapplicable, because the case involves questions of law or mixed questions of law and fact which must be reviewed by the district court *de novo*. *Rawl v. United States*, 778 F.2d 1009, 1014 n. 9 (4th Cir.1985), *cert. denied*, 479 U.S. 814, 107 S.Ct. 67, 93 L.Ed.2d 25 (1986). However, we find that the district court's deference to the ZBA extended only to findings of fact and that the court gave appropriate review to the legal questions involved.

[1] In general, federal courts must accord a state agency's fact-finding the same preclusive effect to which it would be entitled in state courts where the agency acted in a judicial capacity and the parties had an adequate opportunity to litigate. *University of Tennessee v. Elliott*, 478 U.S. 788, 797-99, 106 S.Ct. 3220, 3225-27, 92 L.Ed.2d 635 (1986). Williams argues, however, that the lack of opportunity to cross-examine witnesses precluded an adequate opportunity to litigate and called into question whether the ZBA was acting in a judicial capacity. He also argues that his due process rights were violated since the ZBA was not a fair and impartial tribunal. *Goldberg v. Kelly*, 397 U.S. 254, 271, 90 S.Ct. 1011, 1022, 25 L.Ed.2d 287 (1970).

[2] As a preliminary matter, there is a strong argument that Williams has waived this ground by not requesting a change in the procedure to allow for cross-examination and by not objecting to the district court's order of a rehearing before the ZBA. Even if Williams is deemed not to have waived his objections to the fairness of ZBA procedures, we are unconvinced that the ZBA proceedings, where Williams was represented by counsel and permitted to present extensive evidence, were either inadequate or violative of due process. *See United States v. Utah Construction and Mining Company*, 384 U.S. 394, 422, 86 S.Ct. 1545, 1560, 16 L.Ed.2d 642 (1966).

[3] Moreover, there is no evidence of bias against Williams by the ZBA other than the resulting adverse decision and an inference from the fact that Williams had named the members of the ZBA as defendants in his federal suit. The district court below correctly pointed out that presuming bias against Williams and disqualifying the ZBA from consideration of the matter would encourage all applicants for zoning variances to file federal suits against local authorities, thereby converting federal courts into super zoning boards.

III.

[4] Williams' principal argument is that the zoning ordinance should be invalidated pursuant to PRB-1 because it operates to preclude amateur radio communications and it does not represent the minimum practicable regulation to accomplish the City's legitimate purpose.

In PRB-1, the FCC announced a policy of limited rather than complete federal preemption of local zoning laws which affect amateur radio communications. The text of PRB-1 states that:

22. Few matters coming before us present such a clear dichotomy of viewpoint as does the instant issue. The cities, counties, local communities and housing associations see an obligation to all of their citizens and try to address their concerns. This is accomplished through regulations, ordinances or covenants oriented toward the health, safety ***997** and general welfare of those they regulate. At the opposite pole are the individual amateur operators and their support groups who are troubled by local regulations which may inhibit the use of amateur stations or, in some instances, totally preclude amateur communications···· In this situation, we believe it is appropriate to strike a balance between the federal interest in promoting amateur operations and the legitimate interests of local governments in regulating local zoning matters. The cornerstone on which we will predicate our decision is that a reasonable accommodation may be made between the two sides.

* * * * * *

24. ··· [W]e recognize here that there are certain general state and local interests which may, in their even-handed application, legitimately affect amateur radio facilities. Nonetheless, there is also a strong federal interest in promoting amateur communications···· Upon weighing these interests, we believe a limited preemption policy is warranted. State and local regulations that operate to preclude amateur communications in their communities are in direct conflict with federal objectives and must be preempted.

25. Because amateur station communications are only as effective as the antennas employed, antenna height restrictions directly affect the effectiveness of amateur communications···· We will not, however, specify any particular height limitation below which a local government may not regulate, nor will we suggest the precise language that must be contained in local ordinances, such as mechanisms for special exceptions, variances, or conditional use permits. Nevertheless, local regulations which involve placement, screening, or height of antennas based on health, safety, or aesthetic considerations must be crafted to accommodate reasonably amateur communications, and to represent the minimum practicable regulation to accomplish the local authority's legitimate purpose.

The present case is made more difficult by the relative paucity of previous opinions applying PRB-1 to specific zoning ordinances. In *Bodony v. Incorporated Village of Sands Point*, 681 F.Supp. 1009, 1013 (E.D.N.Y.1987), the court struck down a twenty-five-foot height limitation as applied to plaintiff's radio antenna where the action of the local zoning board was "devoid of any effort to make 'a reasonable accommodation ··· between the two sides.' " In *Bulchis v. City of Edmonds*, 671 F.Supp. 1270, 1274 (W.D.Wash.1987), the court granted summary judgment to plaintiff seeking a conditional use permit for a seventy-foot retractable radio antenna where the application of a zoning ordinance to plaintiff did not provide for reasonable accommodation of amateur radio communication. In *Howard v. City of Burlingame*, No. C-87-5329 (N.D.Cal. July 29, 1988) (1988 WESTLAW 169074), the court invalidated a zoning ordinance governing radio antennas where the city "failed to explore alternatives to a blanket denial" of plaintiff's application for a special permit.

In contrast to previous cases where zoning ordinances were found to be violative of PRB-1, it appears that by seeking a compromise with Williams, the City applied its zoning ordinance in compliance with FCC regulations. Specifically, the record reveals that the ZBA investigated the possibility of accommodating Williams' request while simultaneously preserving the aesthetic beauty and safety of

the neighborhood by suggesting a restriction of hours of operation, but these attempts at compromise were rejected by Williams. Moreover, the ZBA's rejection of Williams' previous application for a special exception does not preclude him from now filing an application for a smaller structure or for an antenna which would only be fully extended during nighttime hours.

We disagree with the position taken by the American Radio Relay League as amicus curiae that Williams must be allowed to build whatever he wants. They contend that "a municipality cannot, consistent with the FCC's preemption regulation, limit amateur*998 radio antennas under any circumstances, to ··· any ··· nonfunctional height (in this case, anything significantly less than the 65 feet requested by the appellant)." Amicus Brief at 6. However, absent a full federal preemption in this area, the law cannot be that municipalities have no power to restrict antennas to heights below that desired by radio licensees. The law requires only that the City balance the federally recognized interest in amateur radio communications with local zoning concerns. The fact that Williams would only be satisfied if that balance results in the City allowing him to build an antenna of whatever height he chooses does not entitle him to relief.

In an argument closely related to the preemption issue, Williams attacks the fact that the ZBA denied the application for a special exception in part due to Williams' lack of participation in activities for the Department of Defense and other emergency relief organizations and the presence of other available radio operators in the area. The ZBA concluded, and the district court accepted as a finding of fact, that Williams used his radio for recreational purposes and could not assist in emergency communications. Williams asserts that the ZBA abused its discretion and invaded the province of the FCC by independently evaluating the need for his participation in the amateur radio network.

However, since Williams' whole case centers on the proposition that he is entitled to a special exception merely because he needs it, the ZBA must be able to consider his specific needs and the way in which he would use his antenna. This is particularly true in light of the ZBA's "duty of striking 'a balance between the federal interest in promoting amateur operations and the legitimate interests of local governments in regulating local matters.' " Bodony, 681 F.Supp. at 1013. Rather than precluding local zoning boards from considering the extent to which individuals seeking to erect antennas would further federal interests, as Williams argues, we find that PRB-1 requires such an analysis.

IV.

[5] Next, Williams argues that the zoning ordinance is void for vagueness because it contains no standards for variances. However, since the zoning ordinance is clearly written to require all antennas measuring over seventeen feet to get the approval of the ZBA, the void for vagueness label does not fit the facts of this case. See, e.g., Jordan v. De George, 341 U.S. 223, 231, 71 S.Ct. 703, 707-08, 95 L.Ed. 886 (1951) (the test for vagueness is "whether the language conveys sufficiently definite warning as to the proscribed conduct").

Rather than a vagueness challenge, Williams seems to be asserting that the ordinance violates due process by conferring unbridled and standardless discretion in the ZBA. See, e.g., Shuttlesworth v. City of Birmingham, 394 U.S. 147, 89 S.Ct. 935, 22 L.Ed.2d 162 (1969). However, the ZBA was not, as Williams argues, operating in a standardless vacuum. The criteria to be used by the ZBA in deciding whether to grant a special exception are contained in Section 6-3192 of the City's zoning ordinance and include "adverse impact of the proposed use on the aesthetic character of the environs, to include possible need for screening from view."

Of course, any city enacting a zoning ordinance must strike a balance between a standard which is on the one hand so definite that it runs afoul of the requirement of PRB-1 to weigh federal against local interests, and on the other hand so vague that it gives too much discretion to local officials. See, e.g., Secretary of State of Maryland v. Joseph H. Munson Company, 467 U.S. 947, 964 n. 12, 104 S.Ct. 2839, 2850-51 n. 12, 81 L.Ed.2d 786 (1984) (stating that a statute that provided for exemptions "whenever necessary" was inherently suspect, since it placed discretion in the hands of an official to grant or deny a license). We find that the City's zoning ordinance, which allows for special exceptions

based on the standards enumerated in Section 6-3192, strikes that balance in a way that is permissible as a matter of law.

***999** V.

Finally, Williams argues that the zoning ordinance violates his right to equal protection because it infringes the fundamental right of free speech and it irrationally treats antennas *differently* than other structures.

[6] Regarding the first prong of Williams' *equal protection* argument, the zoning ordinance is a content-neutral time, place and *manner* restriction, and therefore is not an unconstitutional *infringement of the right* to free speech. *See* Young v. American Mini Theatres, Inc., 427 U.S. 50, 62-63, 96 S.Ct. 2440, 2448-49, 49 L.Ed.2d 310 (1976) (holding that zoning regulations are a permissible means of restricting certain types of speech to certain locales within a city). The denial of Williams' application for a special exception was not based on the content of his proposed speech, but was an attempt to promote legitimate content-neutral interests. Guschke v. City of Oklahoma City, 763 F.2d 379, 385 (10th Cir.1985).

[7] Regarding the second prong, we agree with the district court's determination that there is at least a rational distinction between antennas, which are ordinarily not considered part of a building, and chimneys, spires and other structures, which are integral parts of a building. *See* Bulchis, 671 F.Supp. at 1274 (concluding that there is no basis for the equal protection argument); Howard v. City of Burlingame, 1988 WESTLAW 169074 (holding that distinction between various types of antennas has a rational basis). Therefore, the ordinance is not violative of equal protection.

VI.

For the foregoing reasons, the judgment of the district court is

AFFIRMED.

Williams v. City of Columbia
906 F.2d 994, 67 Rad. Reg. 2d (P & F) 1629

END OF DOCUMENT

West Reporter Image (PDF)

Tools

Antenna Restrictions 'How To' Chart

RIB Home · FCC Rules · Antenna Restrictions · RFI · International Operating · U.S. Frequency Allocations · Bandplans · Frequency Coordinators · License Renewal, Changes · Digital Mode Technical Descriptions · Add'l Info · FCC Links · FAQ · Contact Us

IMPORTANT NOTICE:

This brief outline is not a substitute for getting legal advice. ARRL has heard from amateurs who did not obtain legal advice before trying to handle an antenna restriction, and the result was getting a decision that was not to the ham's liking. Amateurs facing zoning difficulties are highly encouraged to 1) contact an attorney and 2) obtain Antenna Zoning for the Radio Amateur. *ARRL Volunteer Counsel -- lawyers who are hams -- are listed on the ARRLWeb. The book,* Antenna Zoning for the Radio Amateur, *is filled with excellent ideas on how to prepare for, and make your presentation and application to a local zoning board. The book is a complete treatise on this subject, and can be ordered on-line or by calling toll free 1-888-277-5289 or by contacting your Amateur Radio book dealer. The cost of the book, which includes a CD-ROM with good examples of zoning presentations, is less than the fee for most zoning applications.* ***Remember: at the hearing, your presentation will be 80% of the battle, and 100% of the basis for any record, if the case ends up going to court.***

LOCAL GOVERNMENT ZONING RESTRICTION "HOW TO" CHART

What is the Type of Antenna Restriction?

- Local Government Zoning Ordinance Restrictions--Continue.
- Covenants, Conditions and Restrictions--Go to the section on Covenant Restrictions.
- Rental/Lease Restrictions--Go to the section on Lease Restrictions.

Is the local government zoning ordinance a "reasonable accommodation," given your residential environment?

If yes, obtain permit and erect antenna. If no, continue.

What is considered to be a "reasonable accommodation?"

It depends on the:

- Antenna desired.
- Size of property/setback limits.
- Height of antenna (generally, a 60-foot antenna might be considered "reasonable" in a single-family residence in a subdivision).
- Other variables.

Must I always obtain a building permit for my antenna installation?

Yes, if the local government requires one, and most do. Never erect an antenna structure without first checking local ordinances and complying with their guidelines or you may face substantial fines ***per day*** by the local government for any violations. The only exception is for antennas not regulated by the ordinance. For example, most wire antennas are exempt from local ordinance regulation, but this is not always the case.

Must I obtain a permit even if the ordinance does not make "reasonable accommodation" for amateur radio communications?

Yes. It is always the responsibility of the amateur to demonstrate why the ordinance is unreasonable and why it should be changed.

How can an unreasonable ordinance be changed?

Follow these steps:

1) Get a copy of the ordinance.

2) Read the ordinance.

3) Follow zoning ordinance requirements.

4) See ARRL PRB-1 Package on-line.

5) For the best advice, obtain *Antenna Zoning for the Radio Amateur.*

6) For local guidance and support, contact local clubs.

7) Contact ARRL Section and Division level officials who may be able to assist.

8) For legal advice contact an ARRL Volunteer Counsel.

9) Make a presentation before local zoning officials:

- Your presentation should emphasize local public service activities.
- Dress appropriately (no radios or call-letter ball caps).

10) When reasonable, obtain the permit and erect the antenna.

For which items may local government planners zone?

Planners must reasonably accommodate amateur communications to accomplish the local government's legitimate purpose such as regulation of:

- Height
- Antenna placement
- Aesthetics
- Setback
- Safety (including RF safety)
- Property value considerations

Has your state codified PRB-1?

If yes, use it in your presentation; Several states have codified PRB-1 as a state statute.

If no:

Has Your State Codified PRB-1?

- PRB-1 is a Federal preemptive regulation, which is binding in all states and supersedes all conflicting local ordinances, although it is intentionally generalized and not specific in its instructions. Much interpretation is left to

If not, and you would like for it to, here are suggestions. (Note:

municipal governments.

PRB-1 does not cover covenant or private land use restrictions.)

- Consider helping to obtain a state statute.
- Contact ARRL Section Manager for guidance in contacting the appropriate Section level officials.
- See this link for examples, especially:
  - Alaska
  - Idaho
  - Nevada
  - Oregon
  - Virginia
  - Wyoming

Does PRB-1 apply only to Amateur Radio?

Yes, it does not apply to commercial antennas or any non-amateur antennas.

Is your area's ordinance reasonable now?

If yes, obtain the permit and erect the antenna.

If no because the ordinance tries to regulate RFI, see the RFI preemption section of the ARRLWeb and see Steps 1-8.

If no because the ordinance requires an excessive fee, see Steps 1-8.

If no because the height limitation is fixed and not subject to a conditional or special use permit process, see Steps 1-8.

If no because setback limits are excessive, see Steps 1-8.

If no because the ordinance requires a conditional use permit or variance for all antennas, which often means obtaining permission from all neighbors and paying a non-refundable fee, see Steps 1-8.

If no because the community zones for other than height, setback, placement, health, property values or aesthetic restrictions, see Steps 1-8.

My community says the ordinance IS "reasonable accommodation" but I don't feel that it is. What's next?

See Steps 1-8; obtain legal advice from an ARRL Volunteer Counsel (an amateur who is a lawyer). Consider contacting an ARRL Volunteer Consulting Engineer (an amateur who is a register professional engineer)

Challenge the ordinance on its face or as it applies to you. This is a legal procedure that is potentially extremely expensive and time consuming, and not at all guaranteed of success.

COVENANT RESTRICTION "HOW TO" CHART

What is the Type of Antenna Restriction?

- Local Government Zoning Restriction--See section on Local Government Restrictions.
- Covenants, Conditions and Restriction (Homeowners Association)--Continue.

- Rental/Lease Restriction--See section on Lease Restrictions.

Will the homeowners association approve a modest antenna?

If yes, erect antenna to their specifics; operate low power.

If no, make presentation before homeowners association:

- Emphasize public service.
- Address concerns about RFI and aesthetics.

Note that PRB-1 *does not* currently cover covenant or private land use regulations.

Why may covenants have no limitations on small DBS dishes and TV antennas, but carry limitations for amateur antennas?

Private land use regulation of Amateur antennas is not preempted by the Telecommunications Act of 1996, but most private land use regulation of DBS dishes and TV antennas is. Congress was interested in promoting competition (and thus lowering costs and improving service) in video delivery services. That legislation had nothing to do with Amateur Radio. ARRL is working to provide extension of the PRB-1 protections for amateurs. Watch ARRL news sources. To help the ARRL effort and for a sample letter you can write your Congressional representatives about providing relief for amateurs see this news story.

RENTAL/LEASE RESTRICTION "HOW TO" CHART

What is the Type of Antenna Restriction?

- Local Government Zoning Restriction--See the section on Local Government Restrictions.
- Covenants, Conditions and Restriction (Homeowners Association)--See the section on Covenants.
- Rental/Lease Restriction--Continue.

Will the landlord permit an amateur antenna?

If yes, erect antenna to the landlord's specifications.

If no, make a presentation before the landlord:

- Emphasize public service.
- Address RFI and aesthetics concerns.

Note that PRB-1 does not cover leases or rental agreements.

Will the landlord still not permit an amateur antenna?

If no, operate mobile or portable. Or move to a less restrictive dwelling. When you review a lease with a landlord, write language into your lease permitting an amateur antenna with the desired specifications.

Note: If you rent a dwelling, you are bound by your lease. PRB-1 does not apply. Landlords are not required to permit your antenna.

Page last modified: 10:34 AM, 16 Jun 2006 ET
Page author: reginfo@arrl.org

Baltimore County
Department of Permits and
Development Management

Code Inspections and Enforcement
County Office Building
111 West Chesapeake Avenue
Towson, MD 21204

PAGE #1

Code Enforcement: 410-887-3351
Building Inspection: 410-887-3953
Plumbing Inspection: 410-887-3620
Electrical Inspection: 410-887-3960

BALTIMORE COUNTY UNIFORM CODE ENFORCEMENT CORRECTION NOTICE

Citation/Case No.	Property No.	Zoning:
05-5573	17-00-001183	RC-6

Name(s): BENJAMIN A. GOVERNALE
KAYLEN P. GOVERNALE

Address: 39 GLENBROOK DRIVE PHOENIX, MD 21131

Violation Location: "SAME AS ABOVE"

DID UNLAWFULLY VIOLATE THE FOLLOWING BALTIMORE COUNTY LAWS:

101°, 102.1°, 1A07° 426A - BCZR
32-3-102 - B.C.C

ERECTION OF A RADIO ANTENNA THAT IS CLOSER THAN 100 FT. TO THE NEAREST PROPERTY LINE.
PRESENT LOCATION FAILS TO COMPLY WITH BUILDING PERMIT NO. 551665 IN TERMS OF SIDE YARD SETBACK (102') & REAR YARD SETBACK (103').
FURTHERMORE, ANTENNA FAILS TO COMPLY WITH THE ACTUAL

YOU ARE HEREBY ORDERED TO CORRECT THESE VIOLATION(S) ON OR BEFORE:

On or Before:	Date Issued:

FAILURE TO COMPLY WITH THE DEADLINE STATED IS A MISDEMEANOR. A CONVICTION FOR EACH VIOLATION SUBJECTS YOU TO POTENTIAL FINES OF $200, $500, OR $1000 PER DAY, PER VIOLATION, DEPENDING ON VIOLATION, OR 90 DAYS IN JAIL, OR BOTH.

Print Name

INSPECTOR: _____

STOP WORK NOTICE

PURSUANT TO INSPECTION OF THE FOREGOING VIOLATIONS, YOU SHALL CEASE ALL WORK UNTIL THE VIOLATIONS ARE CORRECTED AND/OR PROPER PERMITS OBTAINED. WORK CAN RESUME WITH THE APPROVAL OF THE DIVISION OF CODE INSPECTIONS AND ENFORCEMENT. THESE CONDITIONS MUST BE CORRECTED NOT LATER THAN:

Not Later Than:	Date Issued:

INSPECTOR NAME: _____
(PRINT NAME)

Copy Distribution: White: Agency Yellow: Violation Site Pink: Defendant Goldenrod: Remains in Book

Rev. 5/05

ALL-STATE LEGAL®
EXHIBIT
6

Baltimore County
Department of Permits and
Development Management

Code Inspections and Enforcement
County Office Building
111 West Chesapeake Avenue
Towson, MD 21204

PAGE # 2

Code Enforcement: 410-887-3351
Building Inspection: 410-887-3953
Plumbing Inspection: 410-887-3620
Electrical Inspection: 410-887-3960

BALTIMORE COUNTY UNIFORM CODE ENFORCEMENT CORRECTION NOTICE

Citation/Case No.	Property No.	Zoning:
05-5573		

Name(s):

Address:

Violation Location:

DID UNLAWFULLY VIOLATE THE FOLLOWING BALTIMORE COUNTY LAWS:

drawing of this "monopole radio tower" as submitted at the time of the permit application on 4-6-04.

Either establish an appointment review date with Zoning Review (410-887-3391) to file a variance petition or remove this accessory structure from the property.

YOU ARE HEREBY ORDERED TO CORRECT THESE VIOLATION(S) ON OR BEFORE:

On or Before:	Date Issued:
9-5-05	8-4-05

FAILURE TO COMPLY WITH THE DEADLINE STATED IS A MISDEMEANOR. A CONVICTION FOR EACH VIOLATION SUBJECTS YOU TO POTENTIAL FINES OF $200, $500, OR $1000 PER DAY, PER VIOLATION, DEPENDING ON VIOLATION, OR 90 DAYS IN JAIL, OR BOTH.

Print Name: JAMES A. THOMPSON, SUPERVISOR

INSPECTOR: J. A. Thompson

STOP WORK NOTICE

PURSUANT TO INSPECTION OF THE FOREGOING VIOLATIONS, YOU SHALL CEASE ALL WORK UNTIL THE VIOLATIONS ARE CORRECTED AND/OR PROPER PERMITS OBTAINED. WORK CAN RESUME WITH THE APPROVAL OF THE DIVISION OF CODE INSPECTIONS AND ENFORCEMENT. THESE CONDITIONS MUST BE CORRECTED NOT LATER THAN:

Not Later Than:	Date Issued:

INSPECTOR NAME: _____
(PRINT NAME)

Copy Distribution: White: Agency Yellow: Violation Site Pink: Defendant Goldenrod: Remains in Book

APPLICATION FOR PERMIT
BALTIMORE COUNTY MARYLAND
DEPARTMENT OF PERMITS & DEVELOPMENT MANAGEMENT
TOWSON, MARYLAND 21204

DATE: 4/6/04
OEA: ACT
HISTORIC DISTRICT/BLDG. ☐ YES ☒ NO ☐ DO NOT KNOW

PERMIT #: ~~B~~ 551665
RECEIPT #: A493098
CONTROL #: RR
XREF #:

FEE: 50.00+12.50
PAID: ~~50.00~~ 62.50
PAID BY: after
INSPECTOR:

I HAVE CAREFULLY READ THIS APPLICATION AND KNOW THE SAME IS CORRECT AND TRUE, AND THAT IN DOING THIS WORK ALL PROVISIONS OF THE BALTIMORE COUNTY CODE AND APPROPRIATE STATE REGULATIONS WILL BE COMPLIED WITH WHETHER HEREIN SPECIFIED OR NOT AND WILL REQUEST ALL REQUIRED INSPECTIONS.

PROPERTY ADDRESS 39 GLENBROOK DRIVE
SUITE/SPACE/FLOOR
SUBDIV: BLENVIEW
TAX ACCOUNT #: 1700001183 DISTRICT/PRECINCT 10/4 10 04

OWNER'S INFORMATION (LAST,FIRST)
NAME: BENJAMIN GOVERNALE
ADDR: 39 GLENBROOK DRIVE
PHOENIX MD 21131

DOES THIS BLDG. HAVE SPRINKLERS YES — NO —

APPLICANT INFORMATION
NAME: BENJAMIN GOVERNALE
COMPANY:
STREET 39 GLENBROOK DRIVE
CITY,ST,ZIP PHOENIX MD 21131
PHONE #: 410-666-9185 MHIC # MHBR #
APPLICANT SIGNATURE: B. A. Governale DRC#
PLANS: CONST 2 PLOT 1 PLAT 0 DATA 0 EL 1 PL 2
TENANT
CONTR: Owner
ENGNR:
SELLR:

DESCRIBE PROPOSED WORK: Construct a 100' High monopole radio tower on rear of property must clear all overhead wires. mfg. specs to be on site or no inspections will be given. Replaces expired permit B 4849-99 2 yrs permit per applicant, cannot be renewed.

TYPE OF IMPROVEMENT
1. ✓ NEW BLDG CONST
2. ___ ADDITION
3. ___ ALTERATION
4. ___ REPAIR
5. ___ WRECKING
6. ___ MOVING
7. ___ OTHER

TYPE OF USE

RESIDENTIAL
01. ___ ONE FAMILY
02. ___ TWO FAMILY
03. ___ THREE AND FOUR FAMILY
04. ___ FIVE OR MORE FAMILY (ENTER NO UNITS)
05. ___ SWIMMING POOL
06. ___ GARAGE
07. ✓ OTHER Tower

NON-RESIDENTIAL
08. ___ AMUSEMENT, RECREATION, PLACE OF ASSEMBLY
09. ___ CHURCH, OTHER RELIGIOUS BUILDING
10. ___ FENCE (LENGTH HEIGHT)
11. ___ INDUSTRIAL, STORAGE BUILDING
12. ___ PARKING GARAGE
13. ___ SERVICE STATION, REPAIR GARAGE
14. ___ HOSPITAL, INSTITUTIONAL, NURSING HOME
15. ___ OFFICE, BANK, PROFESSIONAL
16. ___ PUBLIC UTILITY
17. ___ SCHOOL, COLLEGE, OTHER EDUCATIONAL
18. ___ SIGN
19. ___ STORE ___ MERCANTILE ___ RESTAURANT SPECIFY TYPE
20. ___ SWIMMING POOL SPECIFY TYPE
21. ___ TANK, TOWER
22. ___ TRANSIENT HOTEL, MOTEL (NO. UNITS)
23. ___ OTHER

TYPE FOUNDATION: 1. SLAB 2. BLOCK 3. CONCRETE
BASEMENT: 1. FULL 2. PARTIAL 3. NONE

TYPE OF CONSTRUCTION: 1. ___ MASONRY 2. ___ WOOD FRAME 3. ___ STRUCTURE STEEL 4. ___ REINF. CONCRETE

TYPE OF HEATING FUEL: 1. ___ GAS 2. ___ OIL 3. ___ ELECTRICITY 4. ___ COAL

TYPE OF WATER SUPPLY: 1. ___ PUBLIC SYSTEM ___ EXISTS ___ PROPOSED; 2. ✓ PRIVATE SYSTEM ✓ EXISTS ___ PROPOSED

TYPE OF SEWAGE DISPOSAL: 1. ___ PUBLIC SEWER ___ EXISTS ___ PROPOSED; 2. ✓ PRIVATE SYSTEM ✓ SEPTIC ___ EXISTS ___ PROPOSED; ___ PRIVY ___ EXISTS ___ PROPOSED

CENTRAL AIR: 1. ___ 2. ___
ESTIMATED COST OF MATERIALS AND LABOR: $ 2200.
PROPOSED USE: SFA + Tower
EXISTING USE: SFD

OWNERSHIP: 1. ✓ PRIVATELY OWNED 2. ___ PUBLICLY OWNED 3. ___ SALE 4. ___ RENTAL

RESIDENTIAL CATEGORY: 1. ✓ DETACHED 2. ___ SEMI-DET. 3. ___ GROUP 4. ___ TOWNHSE 5. ___ MIDRISE 6. ___ HIRISE
#EFF: #1BED: #2BED: #3BED: TOT BED: TOT APTS/CONDOS:
1 FAMILY BEDROOMS
GARBAGE DISPOSAL 1. Y... 2. N... BATHROOMS CLASS 04
POWDER ROOMS KITCHENS LIBER 038 FOLIO 020

BUILDING SIZE
FLOOR 0
WIDTH
DEPTH
HEIGHT 100'
STORIES
LOT #'S
CORNER LOT 1. ___ YES 2. ___ NO

LOT SIZE AND SETBACKS
SIZE 1.56 AC
FRONT STREET
SIDE STREET
FRONT SETBK NC
SIDE SETBK 102/102'
SIDE STR SETBK
REAR SETBK 103'
ZONING

APPROVAL SIGNATURES		DATE
BLD INSP		
BLD PLAN		
FIRE		
SEDI CTL		
ZONING	Jan 4/6/04	4-6-04
PUB SERV		
ENVRMNT	416 Final Mo Concurrent	4/6/04
PERMITS	DAS/ACT	

MAKE CHECKS PAYABLE TO BALTIMORE COUNTY MARYLAND -- NO PERMIT FEES REFUNDED

Deupied ker

PROTESTANTS EXHIBITS 06-180-SPHA

PROT 1A-J - PHOTOS FROM Below -

1A- view Front GOVERALE PROP

1B- " " " "

1C- " " " " - Depicts SUPPORT STRUCTURE - Guide wires

1D- From Leek MAIL BOX

1E- BACK LEEK YARD

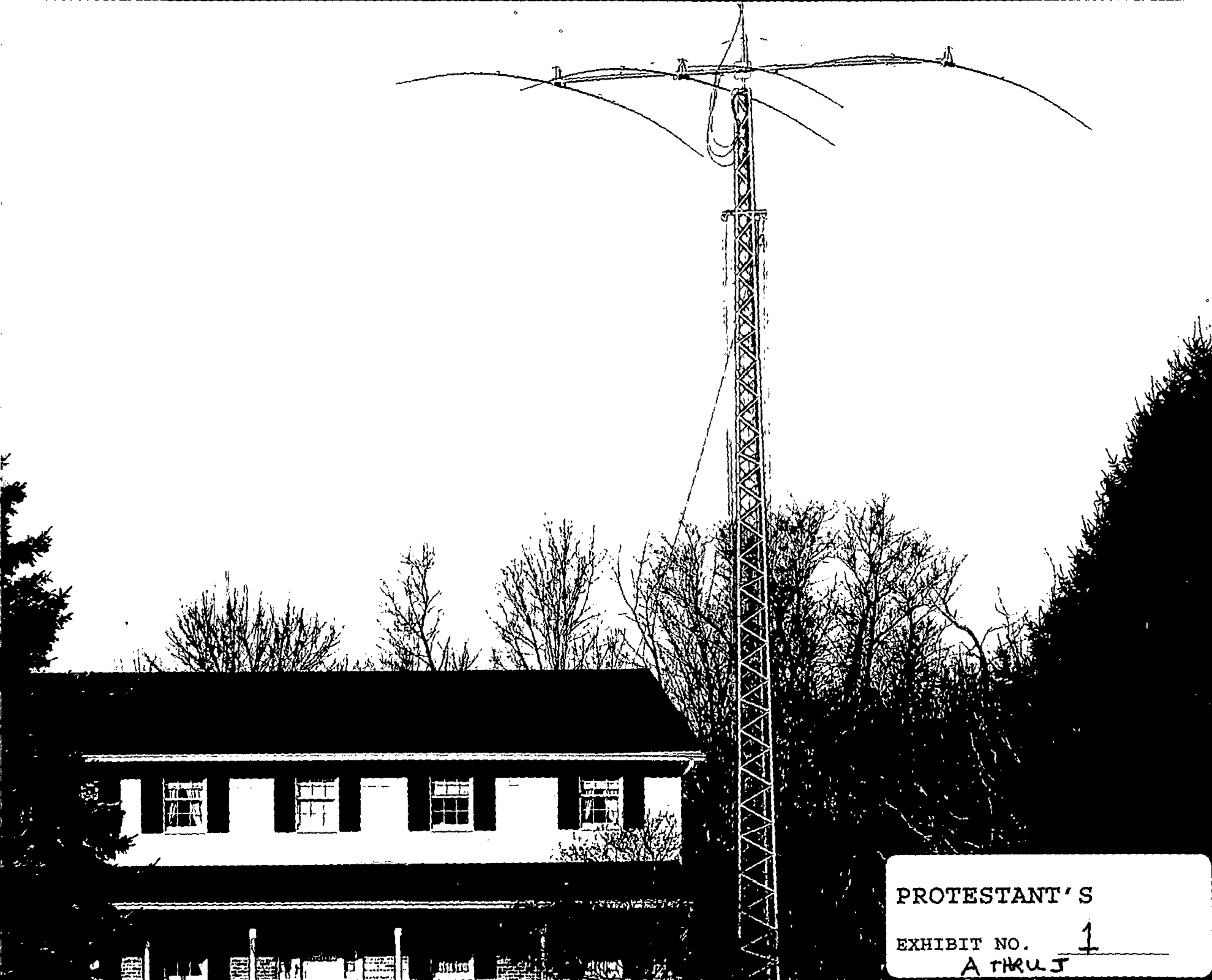
1F- LeeK BACK YARD

1G- Leek Front YARD

1H- BACK CORNER LEEK YARD

1I- " YARD-LeeK

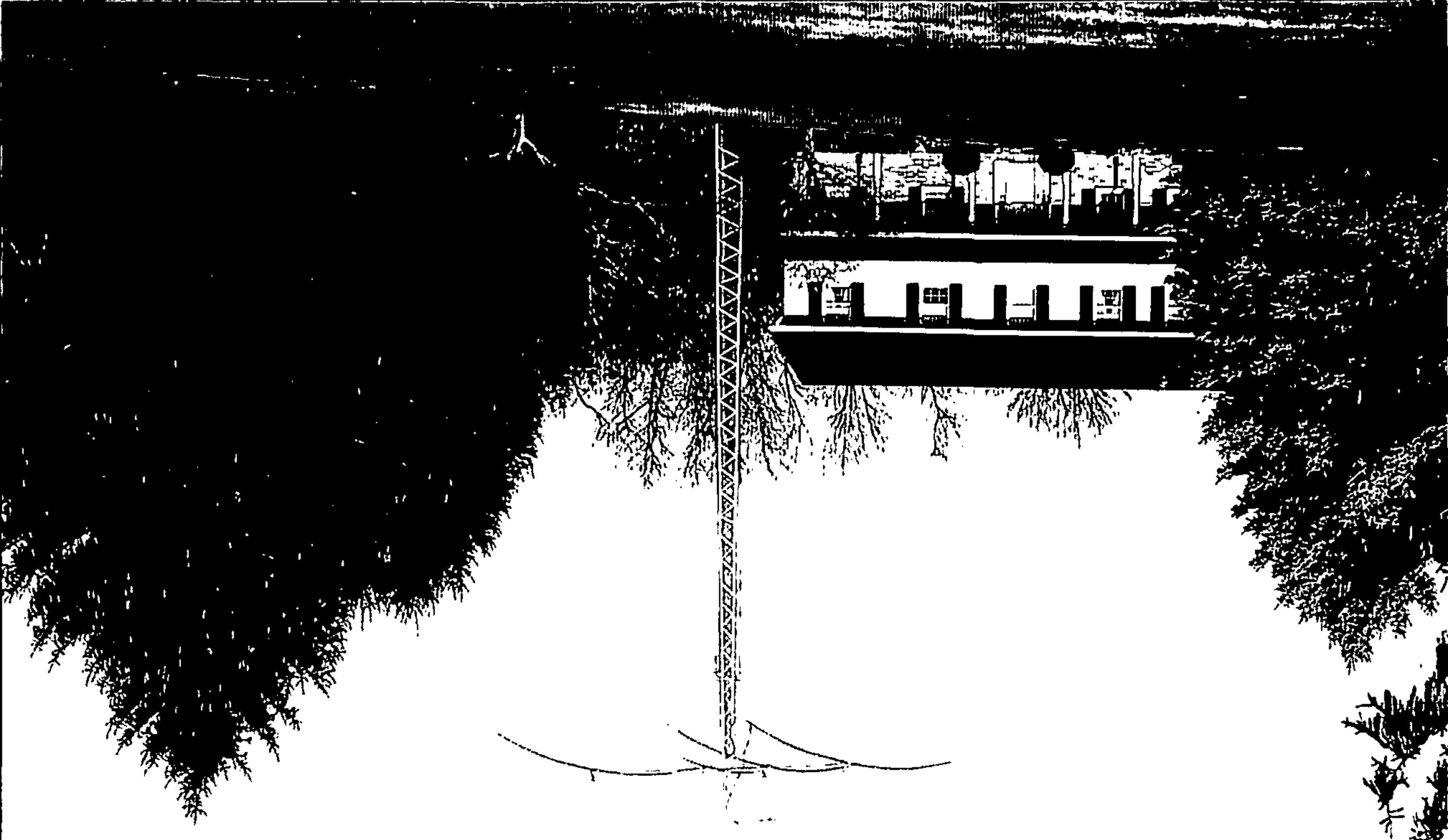
1J- BACK YARD Leek

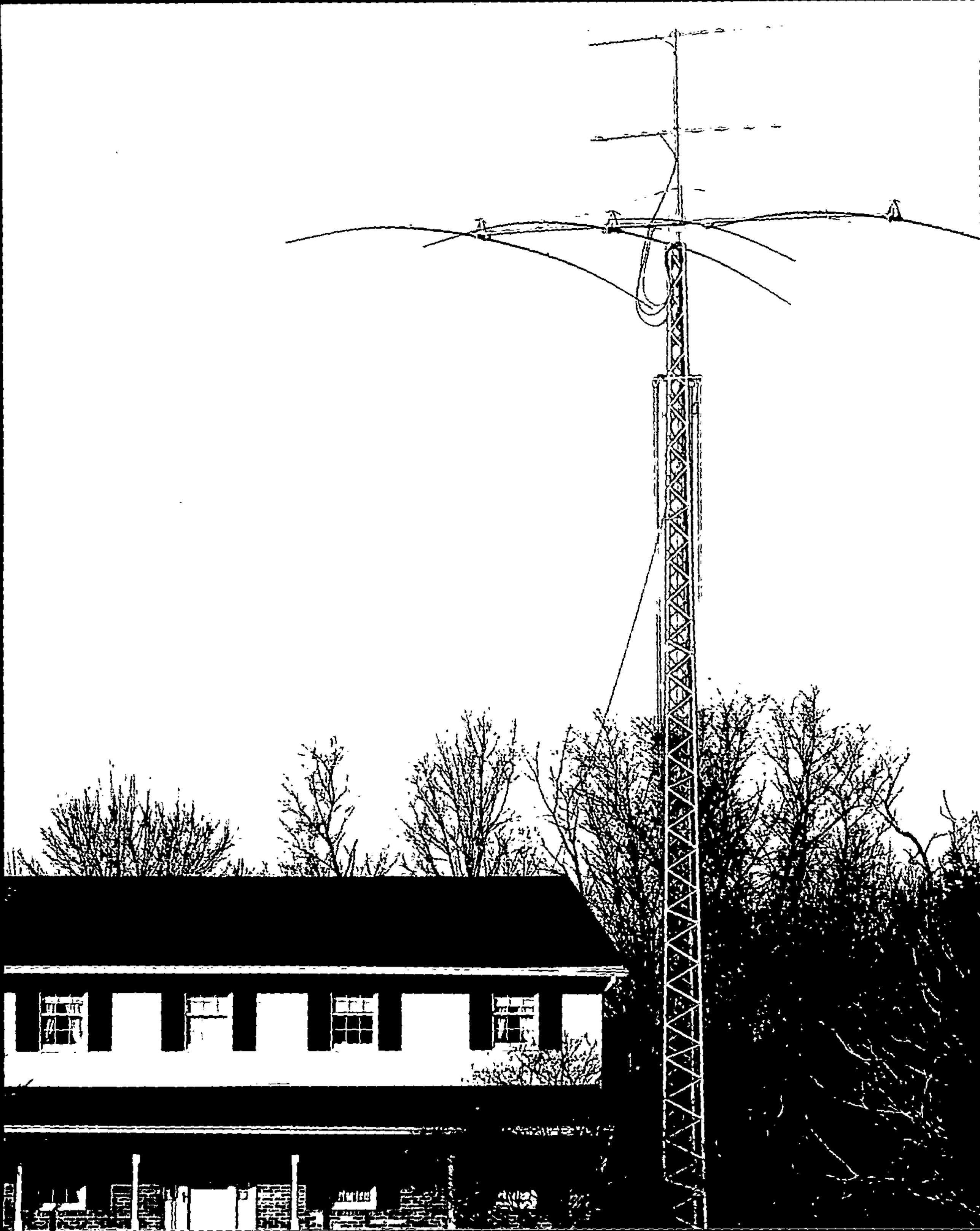


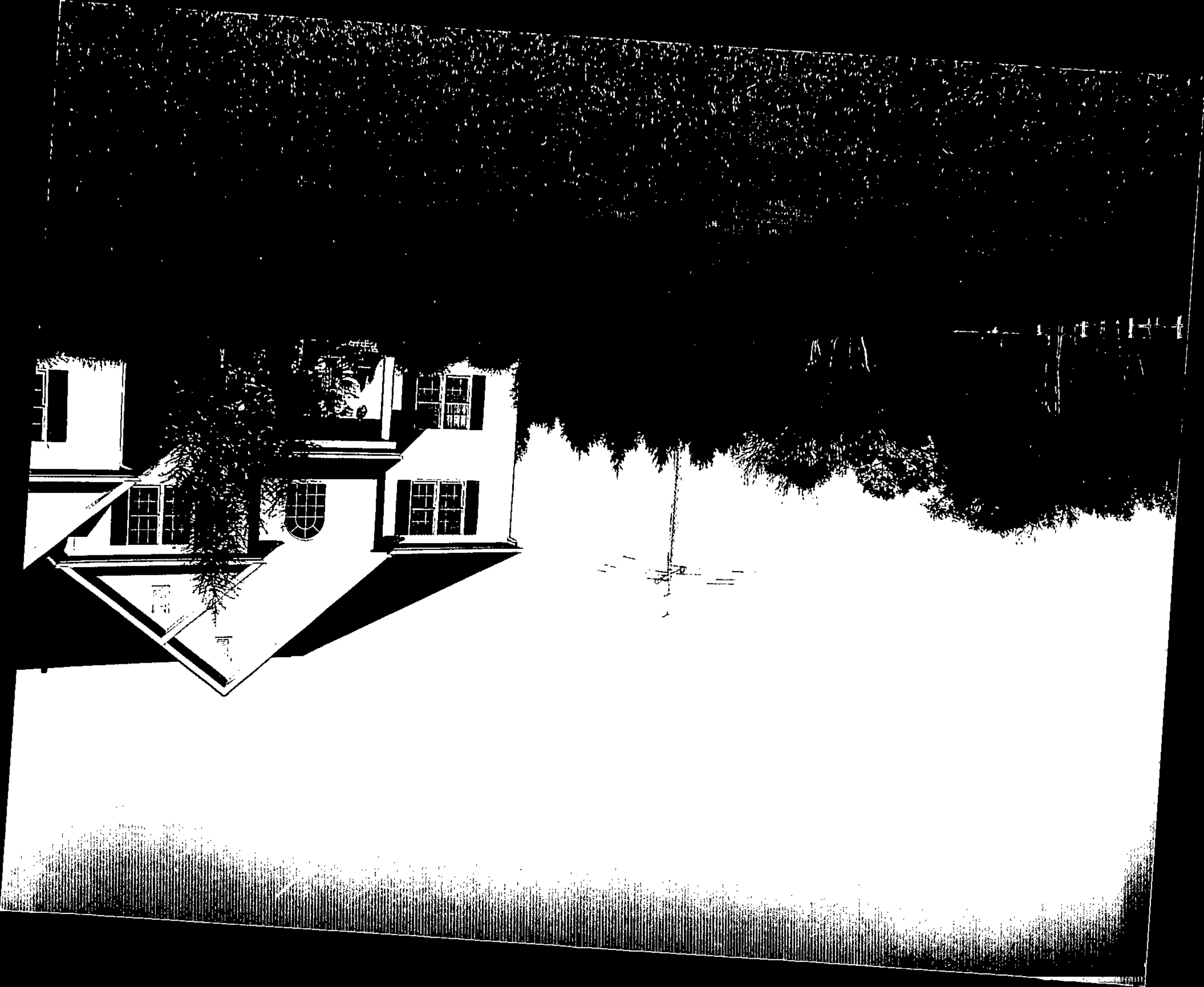
PROTESTANT'S

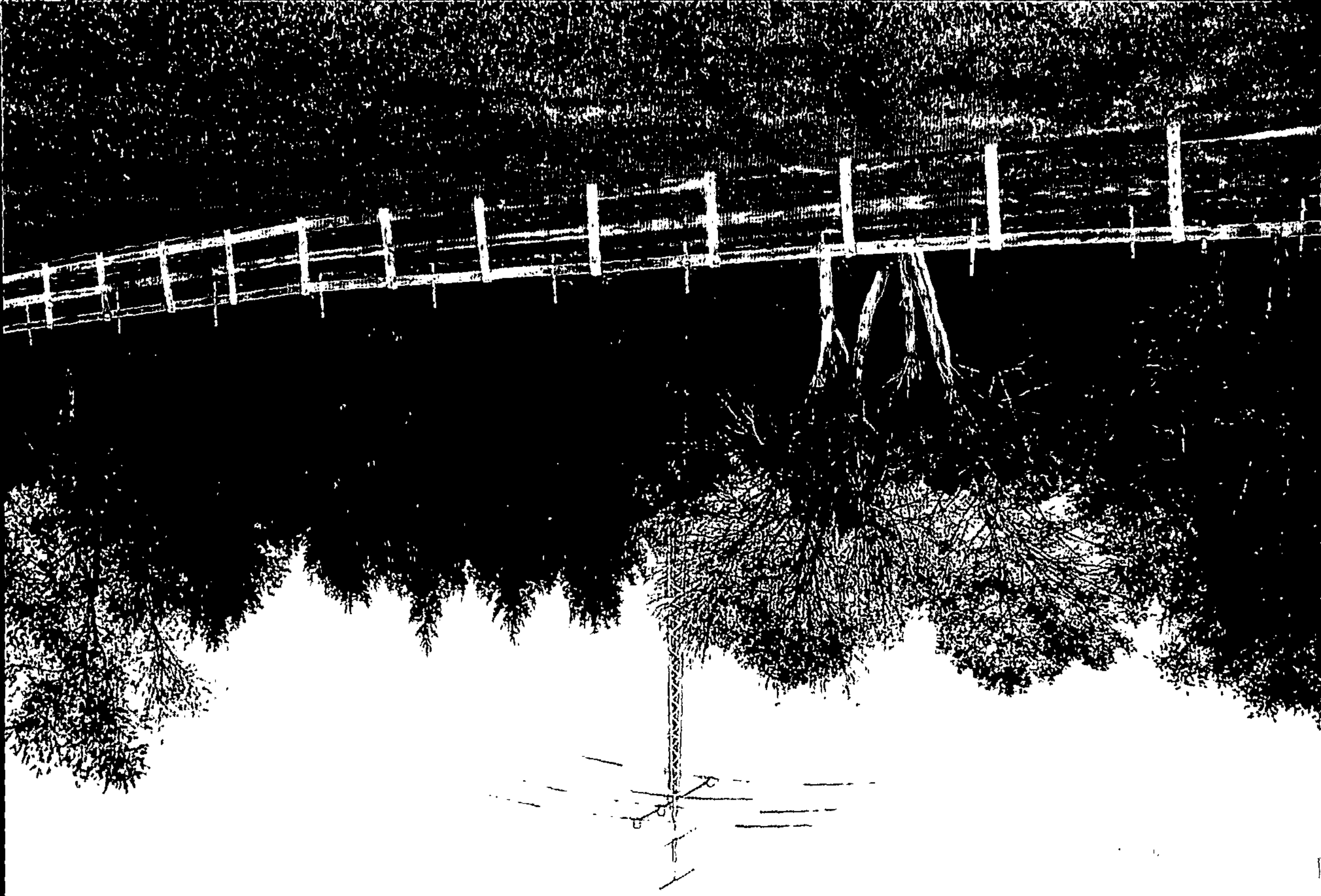
EXHIBIT NO. 1

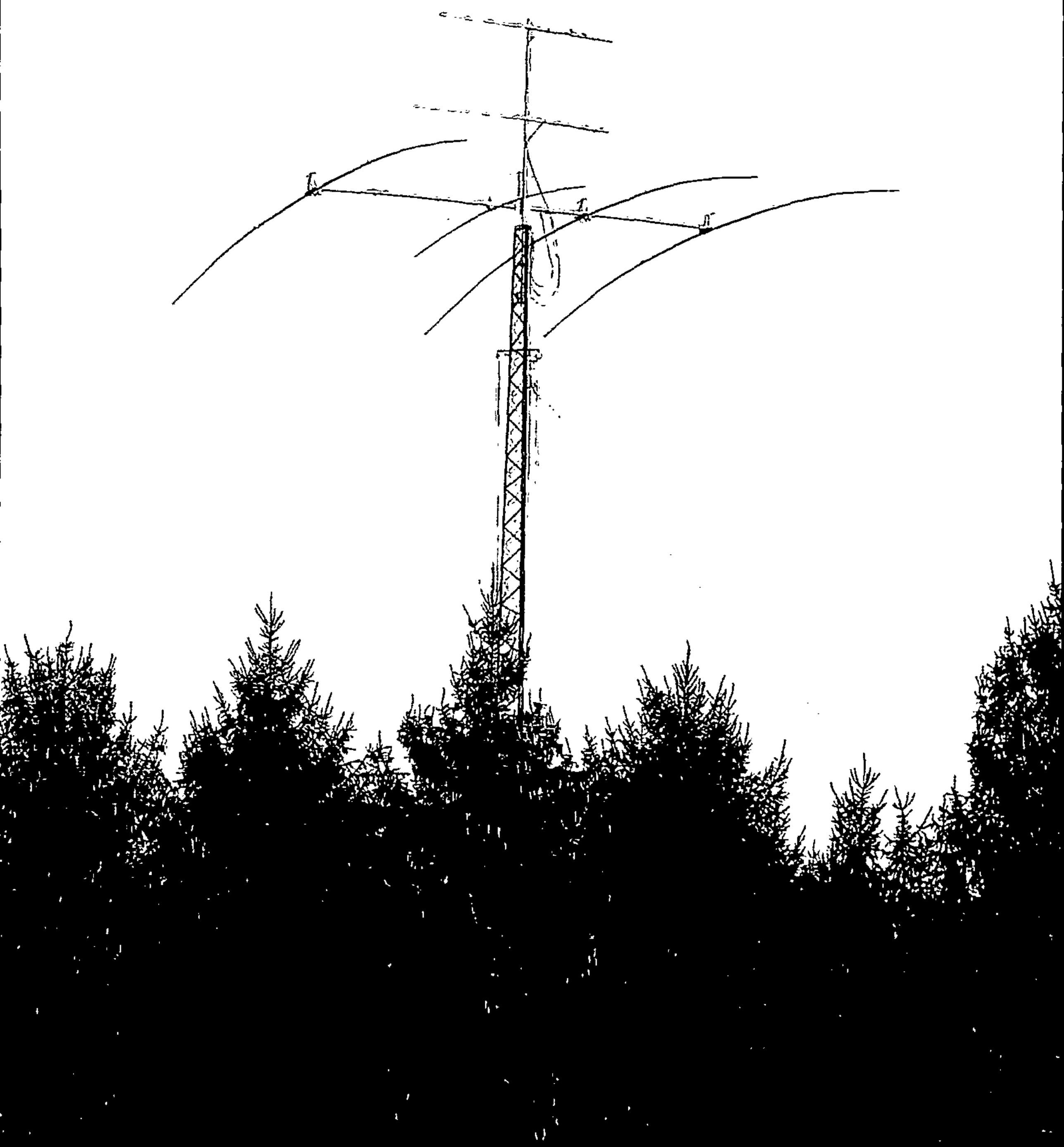
A THRU J











MATT & JENNIFER INSKEEP

November 15, 2005

RE: Antenna at 39 Glenbrook Drive

To: Baltimore County Code Enforcement Office,

As you are aware, an extremely large antenna was constructed at 39 Glenbrook Drive recently. While I have never passed this road on my way to our residence the new tower now looms over our neighborhood and yard. Since we do not have any reason to travel back towards Glenbrook Drive and I assume that they must have posted for such a huge variance to put in a commercial looking antenna we had no idea that this was coming, yet it is our neighborhood that is truly obstructed with this antenna.

I believe Mr. Governale should have the right to put up an antenna for his personal use, but not one of this magnitude that interferes with everyone else's rights to enjoy the views of the neighborhood and skyline that we originally moved to. While this antenna does negatively affect the property values of our recently built house and other million dollar plus homes as well as more established older homes, the issue is that it is offensive to all within sight of it. Furthermore, we had no visibility to it before it was erected because if it was posted it was not made evident to those who were most obstructed by it. Moreover, in many cases a letter notifying those residences within 100 yards of the property or Antenna in this case is sometimes required and this did not happen either. We did not get any notice and surely would have objected. You may be included to leave this antenna up since the original permit was already issued, but in light of the fact that all of us on Dale brook Drive, the area directly behind the antenna knew nothing about it until it was constructed I urge you to remove it. Could you imagine if Mr. Governale has the right to erect this eyesore what the rest of the area would look like if others put one up and why would that be fair to those who moved here, paying a premium with the thought of clear unobstructed views. What is to stop the next neighbor after this precedence or your neighbor?

I respectfully request this antenna be removed.

Sincerely,

Matt Inskeep

PROTESTANT'S

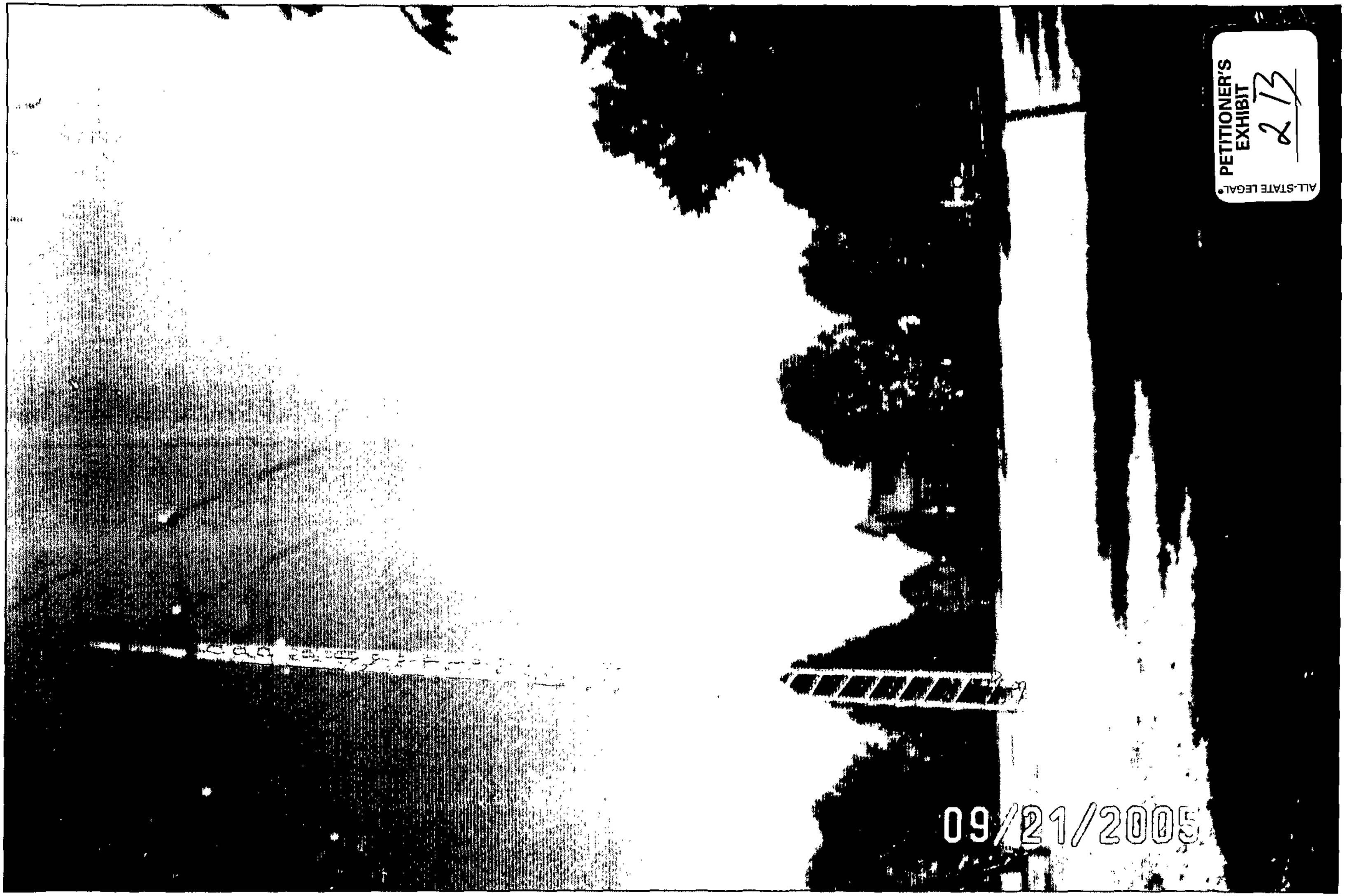
EXHIBIT NO. 2

Case No.: 06-180 A SPH

Exhibit Sheet

	Petitioner/Developer	Protestant
No. 1	SITE PLAN	PHOTOGRAPHS 1A thru ~~1G~~ 1J
No. 2	2A Photo - from front 2B Photo from Rear	LETTER from MATT INSKEEP
No. 3	W3LL - Amateur Radio License	
No. 4	47 CFR 97.113 PROHIBITED TRANSMISSIONS	
No. 5	BLDG PERMIT B551665 & DIAGRAM No.5A	
No. 6	11 letters of Support from neighbors	
No. 7	VIEW MAP - Neighbors who have written letters	
No. 8	BCZR 426.5 (D) HEIGHT DETERMINATION STANDARD	
No. 9		
No. 10		
No. 11		
No. 12		


PETITIONER'S
EXHIBIT
2A
ALL-STATE LEGAL
09/21/2005


PETITIONER'S
EXHIBIT
2 13
ALL-STATE LEGAL
09/21/2005

UNITED STATES OF AMERICA
FEDERAL COMMUNICATIONS COMMISSION

AMATEUR RADIO LICENSE
W3LL

GOVERNALE, BENJAMIN A

39 GLENBROOK DR

PHOENIX, MD 21131

FCC Registration Number (FRN) 0003521481

Special Conditions/Endorsements

Grant Date	Effective Date	Print Date	Expiration Date
08/27/2002	08/27/2002	10/24/2005	11/24/2012

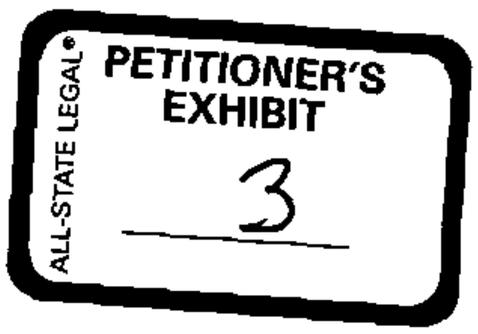
File Number	Operator Privileges	Station Privileges
	Amateur Extra	PRIMARY

THIS LICENSE IS NOT TRANSFERABLE

(Licensee's Signature)

FCC 660 APRIL 2002

Source: http://wireless2.fcc.gov/UlsApp/UlsSearch/printAuth_amateur.jsp?licKey=792794



[Code of Federal Regulations]
[Title 47, Volume 5]
[Revised as of October 1, 2004]
From the U.S. Government Printing Office via GPO Access
[**CITE: 47CFR97.113**]

[Page 593]

TITLE 47--TELECOMMUNICATION

CHAPTER I--FEDERAL COMMUNICATIONS COMMISSION (CONTINUED)

PART 97_AMATEUR RADIO SERVICE--Table of Contents

Subpart B_Station Operation Standards

Sec. 97.**113** Prohibited transmissions.

(a) No amateur station shall transmit:

(1) Communications specifically prohibited elsewhere in this part;

(2) C**ommunications for hire or for material compensation**, direct or indirect, paid or promised, except as otherwise provided in these rules;

(3) **Communications in which the station licensee or control operator has a pecuniary interest, *including communications on behalf of an* employer.** Amateur operators may, however, notify other amateur operators of the availability for sale or trade of apparatus normally used in an amateur station, provided that such activity is not conducted on a regular basis;

(4) Music using a phone emission except as specifically provided elsewhere in this section; communications intended to facilitate a criminal act; messages in codes or ciphers intended to obscure the meaning thereof, except as otherwise provided herein; obscene or indecent words or language; or false or deceptive messages, signals or identification;

(5) Communications, on a regular basis, which could reasonably be furnished alternatively through other radio services.

(b) An amateur station shall not engage in any form of broadcasting, nor may an amateur station transmit one-way communications except as specifically provided in these rules; nor shall an amateur station engage in any activity related to program production or news gathering for broadcasting purposes, except that communications directly related to the immediate safety of human life or the protection of property may be provided by amateur stations to broadcasters for dissemination to the public where no other means of communication is reasonably available

before or at the time of the event.

(c) A control operator may accept compensation as an incident of a teaching position during periods of time when an amateur station is used by that teacher as a part of classroom instruction at an educational institution.

(d) The control operator of a club station may accept compensation for the periods of time when the station is transmitting telegraphy practice or information bulletins, provided that the station transmits such telegraphy practice and bulletins for at least 40 hours per week; schedules operations on at least six amateur service MF and HF bands using reasonable measures to maximize coverage; where the schedule of normal operating times and frequencies is published at least 30 days in advance of the actual transmissions; and where the control operator does not accept any direct or indirect compensation for any other service as a control operator.

(e) No station shall retransmit programs or signals emanating from any type of radio station other than an amateur station, except propagation and weather forecast information intended for use by the general public and originated from United States Government stations and communications, includingincidental music, originating on United States Government frequencies between a space shuttle and its associated Earth stations. Prior approval for shuttle retransmissions must be obtained from the National Aeronautics and Space Administration. Such retransmissions must be for the exclusive use of amateur operators. Propagation, weather forecasts, and shuttle retransmissions may not be conducted on a regular basis, but only occasionally, as an incident of normal amateur radio communications.

(f) No amateur station, except an auxiliary, repeater, or space station, may automatically retransmit the radio signals of other amateur station.

[58 FR 43072, Aug. 13, 1993; 58 FR 47219, Sept. 8, 1993]

BALTIMORE COUNTY, MARYLAND

DEPARTMENT OF PERMITS AND DEVELOPMENT MANAGEMENT

TOWSON, MARYLAND 21204

TIMOTHY M. KOTROCO
DIRECTOR

JOHN R. REISINGER
BUILDINGS ENGINEER

BUILDING PERMIT

PERMIT #: B551665 CONTROL #: RR DIST: 10 PREC: 04
DATE ISSUED: 04/06/2004 TAX ACCOUNT #: 1700001183 CLASS: 04

PLANS: CONST 0 PLOT 1 R PLAT DATA ELEC YES PLUM NO
LOCATION: 39 GLENBROOK DR
SUBDIVISION: BLENVIEW

OWNERS INFORMATION
NAME: BENJAMIN GOVERNALE
ADDR: 39 GLENBROOK DR PHOENIX MD 21131

TENANT:
CONTR: BENJAMIN GOVERNALE (OWNER)
ENGNR:
SELLR:
WORK: CONSTRUCT A 100' HIGH MONOPOLE RADIO TOWER
ON REAR OF PROPERTY. MUST CLEAR ALL OVER-
HEAD WIRES.MFG.SPECS TO BE ON SITE OR NO
INSPECTIONS WILL BE GIVEN. REPLACES EXPIRED
PERMIT B484929. TWO(2)YEARS PERMIT AS REQUESTED
BY APPLICANT,PERMIT CANNOT BE RENEWED
BLDG. CODE:
RESIDENTIAL CATEGORY: DETACHED OWNERSHIP: PRIVATELY OWNED

PROPOSED USE: SFD + TOWER
EXISTING USE: SFD

TYPE OF IMPRV: NEW BULDING CONTRUCTION
USE: OTHER - RESIDENTIAL
FOUNDATION: BASEMENT:
SEWAGE: PRIV. EXISTS WATER: PUBLIC EXIST

LOT SIZE AND SETBACKS

SIZE: 0210.00 X 0000.00
FRONT STREET:
SIDE STREET:
FRONT SETB: NC
SIDE SETB: 102'/102'
SIDE STR SETB:
REAR SETB: 103'

ALL-STATE LEGAL®
PETITIONER'S EXHIBIT
5

PLEASE REFER TO PERMIT NUMBER WHEN MAKING INQUIRIES.

PROPERTY ID NUMBER 17-00-001183

105'
103'

102' 102'

HOUSE
GARAGE

100

ELEVATION VIEW

PROPERTY ID NUMBER: 17-00-014319 (NO. REVERSED LOCATIONS)

SAME OWNER FOR BOTH PROPERTIES

PETITION IN SUPPORT OF ZONING RELIEF
GOVERNALE RESIDENCE
39 Glenbrook Drive

Case No. 06-180-SPHA

Zoning Relief Requested: to permit the continued configuration, height and location of the existing, radio operator antenna on the Governale property as meeting the locational requirements of the Zoning Regulations or, alternatively, grant the necessary variance from the Zoning Regulations to permit the existing radio operator antenna to remain in its present configuration, height and location.

Signature	Print Name	Address
Melba Watkeys	Melba Watkeys	34 Glenbrook Dr Phoenix, MD
Ken Gore Jr	KEN GORE JR	37 Glenbrook Dr Phoenix MD
Abigail Gore	ABIGAIL GORE	37 Glenbrook Dr.
Carl Euker III	CARL EUKER	35 GLENBROOK DR.
Michael R. Marino	MICHAEL R. MARINO	41 GLENBROOK DR.
Jane Marino	JANE MARINO	41 GLENBROOK DR
Amanda Marino	Amanda Marino	41 Glenbrook DR
Leo M. Allman Jr	LEO M. ALLMAN JR	3412 Blenheim Rd
Kathleen Nelson	KATHLEEN	40 GLENBROOK DR.
Thomas Nelson	THOMAS NELSON	40 GLENBROOK DR.
	LOUIS ORKEY	5350 Bismarck Rd

ALL-STATE LEGAL®
PETITIONER'S EXHIBIT
6

Kenneth Gore
37 Glenbrook Drive
Phoenix, Maryland 21131

October 31, 2005

CASE NUMBER: 06-180-SPHA

Baltimore County
Department of Permits and Land Management
111 West Chesapeake Avenue
Towson, Maryland 21204

Ladies and Gentlemen:

I live *next door* to the Governale family, who reside at 39 Glenbrook Drive. Mr. Governale has explained his antenna Variance request to me, and has satisfactorily answered all of my questions about it.

I have no objection to the granting of a Special Exception or Variance to him, and I encourage the Board to do so.

Sincerely,

Kenneth B Gore, Jr.

Kenneth Gore

Michael Marino
41 Glenbrook Drive
Phoenix, Maryland 21131

October 31, 2005

CASE NUMBER: 06-180-SPHA

Baltimore County
Department of Permits and Land Management
111 West Chesapeake Avenue
Towson, Maryland 21204

Ladies and Gentlemen:

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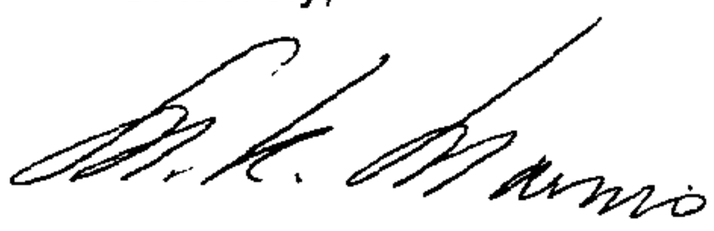
Sincerely,



Michael Marino

Carl Euker
35 Glenbrook Drive
Phoenix, Maryland 21131

October 31, 2005

CASE NUMBER: 06-180-SPHA

Baltimore County
Department of Permits and Land Management
111 West Chesapeake Avenue
Towson, Maryland 21204

Ladies and Gentlemen:

I live *next door* to the Governale family, who reside at 39 Glenbrook Drive. Mr. Governale has explained his antenna Variance request to me, and has satisfactorily answered all of my questions about it.

I have no objection to the granting of a Special Exception or Variance to him, and I encourage the Board to do so.

Sincerely,

Carl Euker

Douglas Oakley
3330 Blenheim Road
Phoenix, Maryland 21131

October 31, 2005

CASE NUMBER: 06-180-SPHA

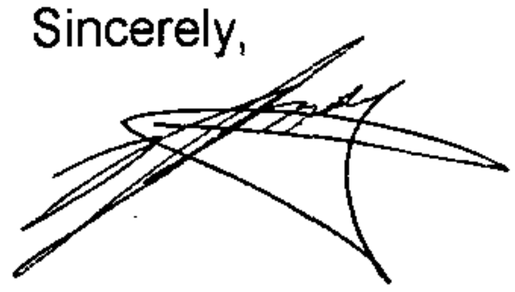
Baltimore County
Department of Permits and Land Management
111 West Chesapeake Avenue
Towson, Maryland 21204

Ladies and Gentlemen:

I live *next door* to the Governale family, who reside at 39 Glenbrook Drive. Mr. Governale has explained his antenna Variance request to me, and has satisfactorily answered all of my questions about it.

I have no objection to the granting of a Special Exception or Variance to him, and I encourage the Board to do so.

Sincerely,



Douglas Oakley

Benjamin Governale
39 Glenbrook Drive
Phoenix, Maryland 21131

November 4, 2005

CASE NUMBER: 06-180-SPHA

Baltimore County
Department of Permits and Land Management
111 West Chesapeake Avenue
Towson, Maryland 21204

In re: **Parcel #17-00-001183, and the Radio Antenna Project at 39 Glenbrook Drive**

Ladies and Gentlemen:

I own the property directly to the rear of and abutting 39 Glenbrook Drive, Phoenix, Maryland 21131. This property is identified in the Baltimore County Tax records as # 17-00-001183. The heavily wooded 1.56 acre parcel separates the Blenview Community from the Sunnybrook Community. The parcel at 39 Glenbrook Drive is part of the Blenview Community.

As owner of both parcels, I am, of course, completely familiar with the proposal before the Department. As owner of parcel # 17-00-001183, I am pleased to say that the owner of that parcel has no objection to any aspect of the project, and encourages the board to grant such relief as may be necessary for the project.

With the filing of this letter, each and every property owner whose property abuts 39 Glenbrook Drive has filed a letter encouraging the County to grant such relief as may be necessary for the project.

Sincerely,

Benjamin Governale

Leo Michael (Mick) Allman
3412 Blenheim Road
Phoenix, Maryland 21131

November 02, 2005

CASE NUMBER: 06-180-SPHA

Baltimore County
Department of Permits and Land Management
111 West Chesapeake Avenue
Towson, Maryland 21204

Ladies and Gentlemen:

I live *three houses away from* the Governale family, who reside at 39 Glenbrook Drive.
Mr. Governale has explained his antenna Variance request to me, and has satisfactorily answered all of my questions about it.

I have no objection to the granting of a Special Exception or Variance to him, and I encourage the Board to do so.

Sincerely,

Leo Michael (Mick) Allman

Tom Nelson
40 Glenbrook Drive
Phoenix, Maryland 21131

November 02, 2005

CASE NUMBER: 06-180-SPHA

Baltimore County
Department of Permits and Land Management
111 West Chesapeake Avenue
Towson, Maryland 21204

Ladies and Gentlemen:

I live *opposite* the Governale family, who reside at 39 Glenbrook Drive. Mr. Governale has explained his antenna Variance request to me, and has satisfactorily answered all of my questions about it.

I have no objection to the granting of a Special Exception or Variance to him, and I encourage the Board to do so.

Sincerely,

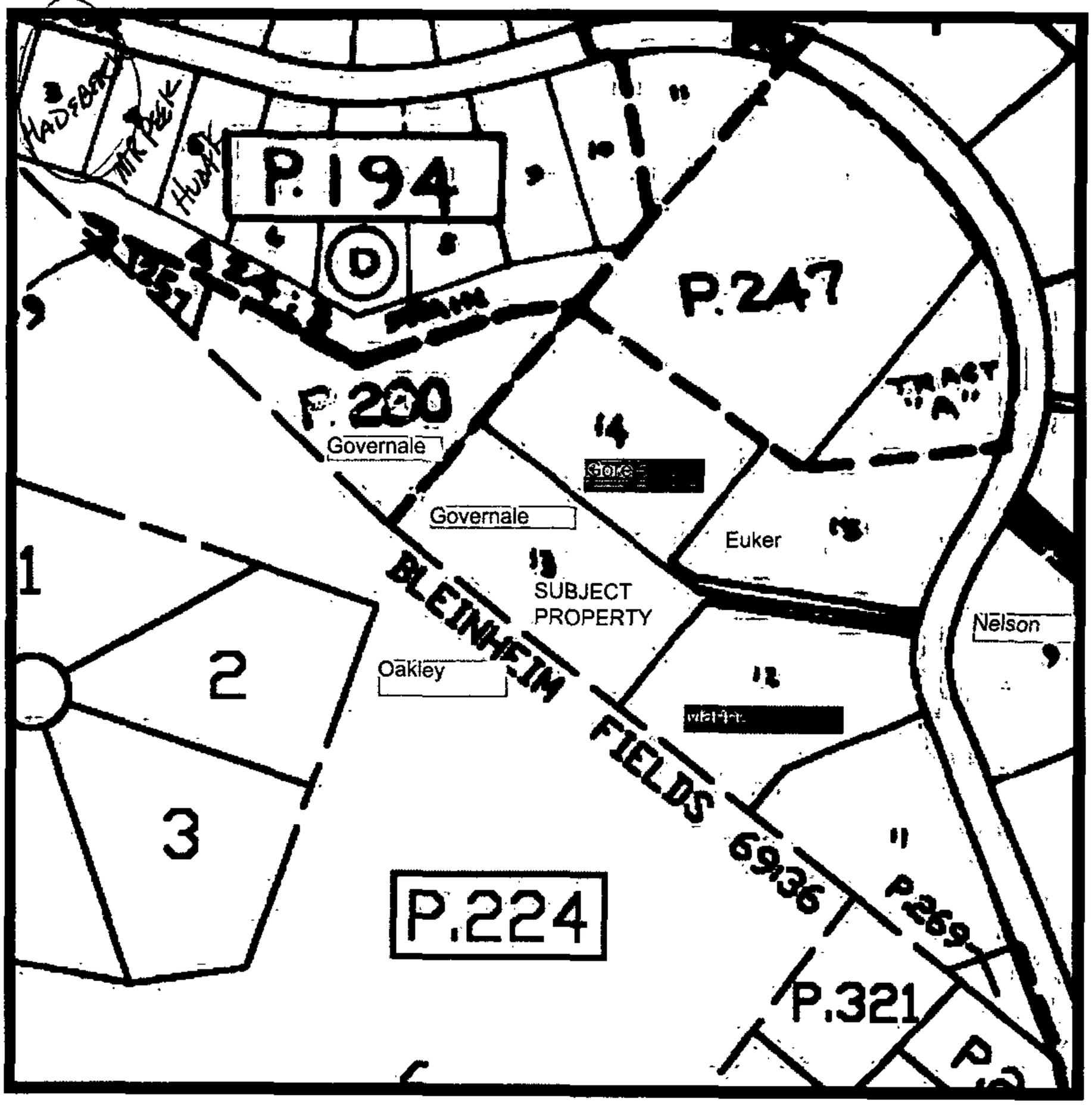
Thomas Nelson

Tom Nelson

Maryland Department of Assessments and Taxation
BALTIMORE COUNTY
Real Property Data Search

Go Back
View Map
New Search

District - 10 **Account Number** - 1700001183



PETITIONER'S EXHIBIT 7

426.5 Location and height restrictions for wireless telecommunications towers and antennas. In this section, the following words have the meanings indicated:

A. "R" means by right.

B. "SE" means by special exception.

C. The column for antennas refers to antennas located on a tower, building or structure legally existing prior to the installation of the antenna even if the tower, building or structure was approved by special exception.

D. The height of a tower is measured from the base of the tower to the tip of the tower or the tip of the highest antenna on the tower, whichever distance is greater.

		Antennas	**Towers**	
	How Permitted	**Maximum Antenna Height and Antenna Diameter**	**<200 ft. High**	**>=200 ft. High**
Residential Zones R.C., R.C.C., C.R.	R	15 feet high, diameter 3 feet	SE	SE
District, D.R., R-O-A			R if in an R.C. Zone within the rights-of-way of public utility overhead electrical transmission lines carrying more than 69,000 volts, provided that the height of the tower does not exceed 250 feet	

RADIO OPERATOR ANTENNA -- A wireless antenna used in conjunction with radio transmitting and receiving facilities used by a resident amateur radio operator possessing an amateur radio operator's license issued by the Federal Communications Commission. [Bill No. 30-1998]

Section 426A, Radio Operator Antennas [Bill No. 30-1998]

A. A radio operator antenna and related equipment, including any supporting structure, is considered an accessory structure or use and is permitted by right in any zone if the radio antenna and the related equipment meets the requirements of this section.

B. A radio operator antenna shall be operated by an amateur radio operator who is licensed by the Federal Communications Commission and whose domicile is on the lot where the antenna and the related equipment is placed.

C. A supporting structure for a radio operator antenna may not be located within 20 feet of any property line.

D. A radio operator antenna may not extend closer than the front building line to any street on which the lot fronts.

E. A radio operator antenna may not be higher than the lesser of 100 feet or the horizontal distance to the nearest property line above grade level.

426.5 Location and height restrictions for wireless telecommunications towers and antennas. In this section, the following words have the meanings indicated:

A. "R" means by right.

B. "SE" means by special exception.

C. The column for antennas refers to antennas located on a tower, building or structure legally existing prior to the installation of the antenna even if the tower, building or structure was approved by special exception.

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		Antennas	**Towers**	
	How Permitted	**Maximum Antenna Height and Antenna Diameter**	**<200 ft. High**	**>=200 ft. High**
Residential Zones R.C., R.C.C., C.R.	R	15 feet high, diameter 3 feet	SE	SE
District, D.R., R-O-A			R if in an R.C. Zone within the rights-of-way of public utility overhead electrical transmission lines carrying more than 69,000 volts, provided that the height of the tower does not exceed 250 feet	

Webster's Third New International Dictionary

OF THE ENGLISH LANGUAGE UNABRIDGED

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EDITORIAL STAFF

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SPRINGFIELD, MASSACHUSETTS, U.S.A.

1heigh-ho \'ˈ=\ *interj* [*heigh* + *ho*] — used typically to express boredom, weariness, or sadness and sometimes to serve as a cry of encouragement

2heigh-ho \'ˌ=\ *n* -S : 3FLICKER

1height *also* **hight** \'hīt, *usu* -īd.+V *also* -īth *sometimes* -īth\ *n* -S [ME *heighthe, heighte, heghte, heyeth*, fr. OE *hīehthu, hēhthu;* akin to OHG *hōhida* height, ON *hæth*, Goth *hauhitha;* derivatives fr. the root of E *1high*] **1 a** : the highest part of something material ⟨finally reached the ~ of the mountain⟩ : uppermost section or area or region : top part : SUMMIT, APEX, PINNACLE ⟨plunged down from the ~ of the tower⟩ **b** : the highest point of something not material ⟨at the ~ of fame⟩ : most advanced point : ZENITH ⟨the ~ of culture⟩ : most extreme degree ⟨the ~ of stupidity⟩ : fullest possible degree ⟨at the ~ of success⟩ : CULMINATION ⟨the ~ of all their desires⟩ ⟨the ~ of passion⟩ : most active or intense part : CLIMAX ⟨the ~ of an argument⟩ ⟨at the very ~ of the storm⟩ **2 a** (1) : the distance extending from the bottom to the top of something standing upright ⟨measured the ~ of the building⟩ or from the bottom to an arbitrarily chosen upper point ⟨the tree has a ~ of five feet at its first branch⟩ (2) : the distance extending from the lowest point to the highest point of an animal body esp. of a human being in a natural standing position ⟨a man who is six feet in ~⟩ or from the lowest point to an arbitrarily chosen upper point ⟨a dog two feet in ~ at the shoulder⟩ : STATURE **b** (1) : the extent of elevation above a level ⟨the land reaches a ~ of 600 feet above sea level⟩ : distance extending upwards : ALTITUDE ⟨impossible to know the exact ~ reached by the rocket⟩ (2) : the degree of approximation of the tongue to the palate in pronouncing a vowel **3** : the quality of possessing sufficient or considerable or relatively great highness or stature or altitude ⟨a triumphal arch that would have been more impressive if it had had more ~⟩ **4 a** : an extent of land (as a hill, mountain, or plateau) rising to a considerable degree above the surrounding country : a lofty eminence **b** : a high place or point or position ⟨the ~s and depths of love⟩ **5 a** *obs* : an advanced degree of distinction (as in rank) : notable excellence : SUPERIORITY ⟨exceeded by the ~ of happier men —Shak.⟩ **b** (1) *obs* : HAUGHTINESS (2) *archaic* : loftiness of mind or spirit ⟨with something of the old Roman ~ about him —Charles Lamb⟩ **6** *obs* **a** : degree of geographical latitude **b** : position (as of a ship) off a coast

2height *also* **hight** \'hīt, 'hīkt\ *vt* -ED/-ING/-S *dial* : HEIGHTEN

height·en \'hīt²n\ *vb* **heightened; heightened; heightening** \-t(ə)niŋ\ **heightens** [*1height* + *-en*] *vt* **1 a** (1) : to increase the amount or degree or detail or extent of : AUGMENT, AMPLIFY ⟨~*ing* his speed —Edith Sitwell⟩ ⟨conflict has ~*ed* citizens' awareness of what they want —Constance Green⟩ ⟨this only ~*s* our admiration —Edmund Wilson⟩ ⟨~*ed* their campaign against news censorship —*Americana Annual*⟩ (2) : to make (as a color, an emotional experience) brighter or more glowing or more intense : DEEPEN, INTENSIFY ⟨happiness ~*ed* the natural ruddiness of her cheeks⟩ (3) : to delineate more sharply : make more evident : bring out more strongly : point up : HIGHLIGHT ⟨shade ~*s* the brightness of light —Havelock Ellis⟩ ⟨the benevolent expression of his face was ~*ed* in later years by his white hair and beard —F.H.Dewey & E.S.Bates⟩ (4) : to make more acute : SHARPEN ⟨which had ~*ed* his appreciation of the more austere pleasures of the afternoon —Archibald Marshall⟩ (5) : to make more poignant ⟨their sorrow was ~*ed* by their forced absence from home⟩ (6) : to increase the impact of : STRENGTHEN ⟨rapid action ~*s* the effect of the drama⟩ **b** (1) : to give physical height to or increase the physical height of : raise high or higher : ELEVATE ⟨the building had been ~*ed* by the addition of a second story⟩ (2) : to raise above the ordinary or trite : make better by adding stature or distinction to ⟨how can we use this fact to ~ our civilization —C.A.Lindbergh b. 1902⟩ **2** *obs* : to cause to be elated or excited : EXALT ⟨being ~*ed* with this victory —James Ussher⟩ ~ *vi* **1** *archaic* : to become great or greater in physical height : GROW, RISE ⟨as we rode up the carriageway, the rock seemed to ~ marvelously —J.H. Newman⟩ **2 a** : to become great or greater in amount, degree, detail, or extent ⟨his youthful impatience ~*ed* — A.J.Cronin⟩ **b** : to become brighter (as of a color) or more glowing or more intense ⟨though the color had ~*ed* in his cheek, he did not flinch from his friend's gaze —James Joyce⟩

syn see INTENSIFY

height finder *n* : a device used to determine the height of an airborne object

height gauge *n* **1** : a gauge having a micrometer or a vernier scale for measuring heights **2** : a C-shaped metal device for measuring the foot-to-face height

estate (5) : one who receives some of the pro ceased person by operation of law, by virtue a any of various other ways **b** : one who receive to receive property during the lifetime of a ⟨made his friend ~ of the farm after deciding to l **2** : one who inherits or is entitled to succeed t rank, title, or office upon the death or remov by other cause (as abdication) of the holder ⟨~ cipality of Monaco⟩ ⟨succession to the throne ~ following his abdication⟩ **3** : one to wh other than property (as a position of leadership, in a tradition or culture, a natural talent, a quality is transmitted or seems to be transmitted in acc or apart from the wish of a predecessor and wit the necessity of direct succession ⟨looked upon h logical ~ of the slain dictator⟩ ⟨was the ~ of traditions of scholarship in Europe —R.W.South

2heir \"\ *vt* -ED/-ING/-S *now chiefly dial* : INHERI

heir apparency *n*, *pl* **heir apparencies** : APPARE

heir apparent *n*, *pl* **heirs apparent** [ME] **1** : a right to an inheritance is indefeasible in law if he legal ancestor ⟨became *heir apparent* to the thro grandfather . . . was killed —*Current Biog.*⟩ **2** SUMPTIVE — not used technically **3** : one whos (as to a position or role) appears certain under cumstances ⟨*heir apparent* to Mr. Churchill as pr —*U.S. News & World Report*⟩ ⟨the Council of parliamentary *heir apparent* of a federated Eu Wike & A.Z.Rubinstein⟩

heir at law *n*, *pl* **heirs at law** **1** *Eng common law* whom an intestate's real property as distinguish personal estate is vested by operation of law will or by curtesy or by right of dower — calle *heir;* compare DEVISEE, LEGATEE **2** *usu* **heir-at-la** : an heir in whom by operation of the law of inte sion the heritable estate and part or all of the mo decedent are vested — called also *heir of line, heir legal heir*

heir·dom \-rdəm\ *n* -S **1** *archaic* : HERITAGE : HEIRSHIP

heir·ess \'erəs, 'ar-\ *n* -ES : a female heir; *esp* : a to great wealth

heiress apparent *n*, *pl* **heiresses apparent** **1** : a apparent **2** : HEIRESS PRESUMPTIVE — not used

heiress presumptive *n*, *pl* **heiresses presumptive** heir presumptive ⟨*heiress presumptive* to the Bri —*N.Y. Herald Tribune*⟩

heir general *n*, *pl* **heirs general** [ME *heire gene* AT LAW

heir in tail *n*, *pl* **heirs in tail** : one who expects to becomes a tenant in possession of a fee-tail estate in the death of a tenant of the estate under special ru mon law or statute governing succession to such a contrasted with the rules of inheritance under a descent

heir·less \'ˌ=ləs\ *adj* : having no heir

heir·loom \'ˌ=ˌlüm\ *n* [ME *heirlome*, fr. *heir* + *lome* tool — more at LOOM] **1** : a piece of property (as charter) that is viewed by law or special custom settlement as an inseparable part of an inheritance inherited with the inheritance **2** : something havi monetary or sentimental value or significance that on either by or apart from formal inheritance generation to another ⟨the pin is a family ~⟩ ⟨a ~ that must, at all cost, be preserved intact —Edwa

heirmos *var of* HIRMOS

heir of entail *n*, *pl* **heirs of entail** **1** : HEIR IN TAIL *law* : an heir called to the succession by a destinatio of tailzie

heir of inventory *n*, *pl* **heirs of inventory** *Scots la* FICIARY HEIR

heir of line *n*, *pl* **heirs of line** *Scots law* : HEIR AT L

heir of provision *n*, *pl* **heirs of provision** *Scots l* who may or may not be an heir-at-law and who is succeed to property by the provisions of a deed or a or a bond : an heir by destination

heir of the body *n*, *pl* **heirs of the body** : a lineal he contrasted with a collateral heir

heir portioner *n*, *pl* **heirs portioners** **1** *Scots law* : o or more female heirs coming in the absence of male i a succession to an estate and sharing equally acco degree of consanguinity, the share of any deceased

Drilled

PETITIONERS EXHIBITS — 06-180-SPHA

EX#1 ENTIRE RECORD BELOW - NO OBJECTION

EX#2 SITE PLAN

EX#3 Definition of Radio Operator ANTENNA

EX#4 SECTION 426A- BCZR Definition

EX#5 SECTION 426.5 BCZR - WIRELESS COMM. TOWERS

EX#6 WEBSTERS Def. Of HEIGHT

EX7 PHOTOS

A) House

B) Antenna -

C) Antenna + House

EX8 BUILDING PERMIT B551665

EX9 DEPT. TAX + ASSESSMENT MAP

EX10 Letter FROM BURDETTE TO APPEALS BD

EX11 RADIO License

EX12 Sect 97.13 FEDERAL REGULATIONS - TITLE 47

EX13 PLOT PLAN

EX14 Letters OF SUPPORT FROM NEIGHBORS

EX15- MATH CALCULATIONS

EX16. PHOTOS A-O OTHER TOWERS IN AREA

EX17- Resume Imlay

EX18 MEMORANDUM OPINION AND ORDER IN PRB-1

EX19- ANTENNA HEIGHT AND COMMUNICATIONS EFFECTIVENESS

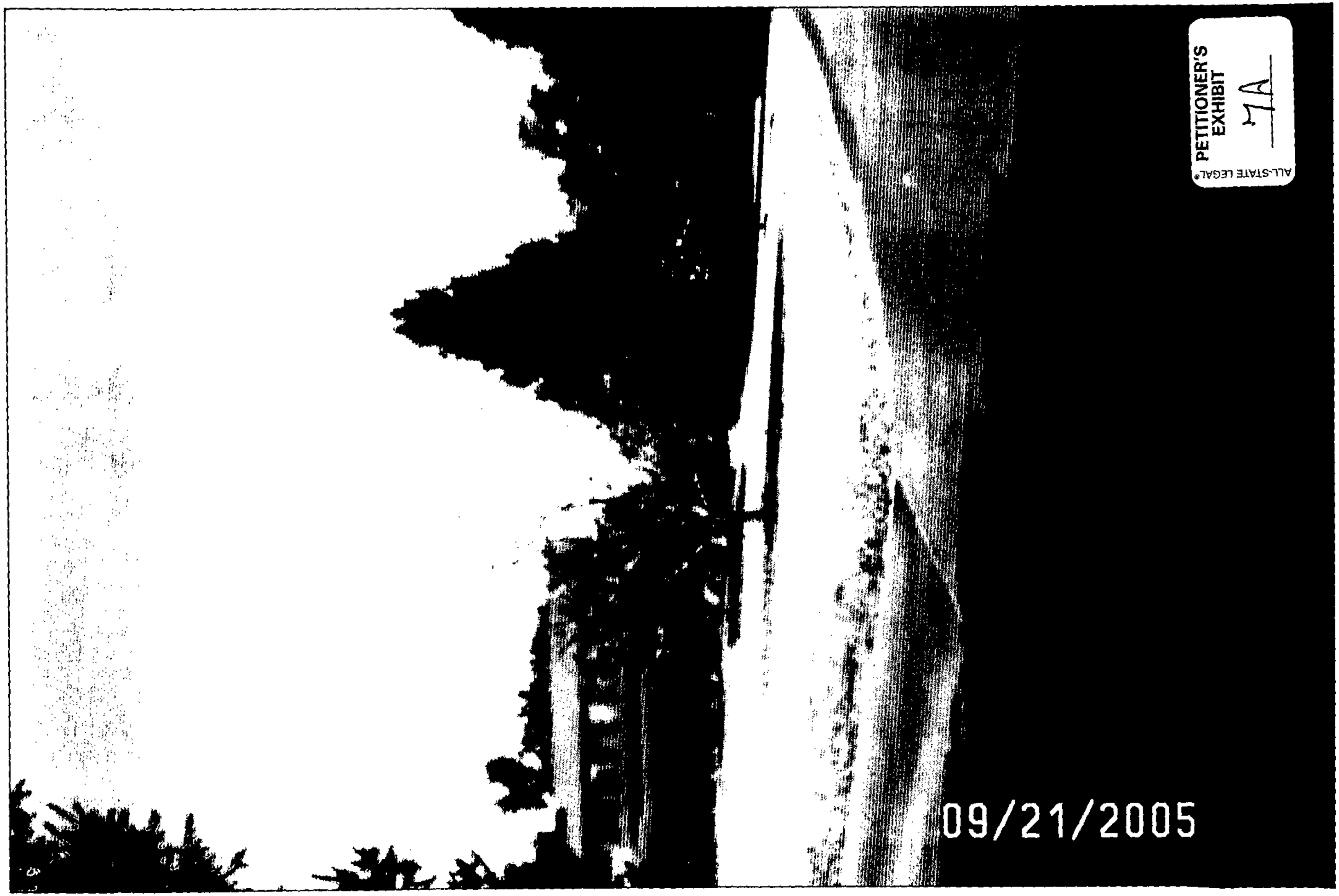
EX20- NEEDS ANALYSIS - BY EVANS + NITZBERG

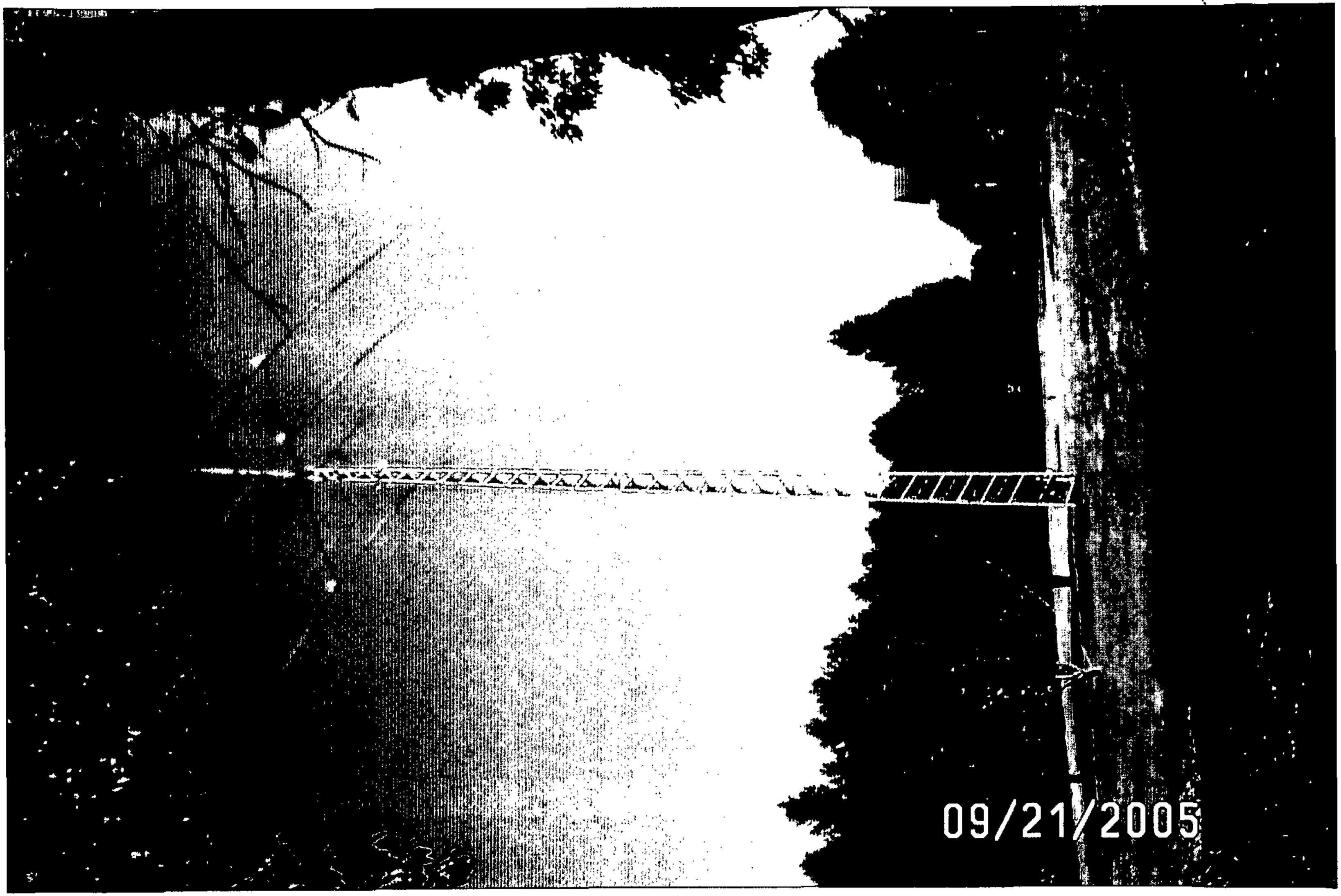
EX21- REPORT "EFFECTS OF TREES ON GIANT PROPAGATION PATHS"

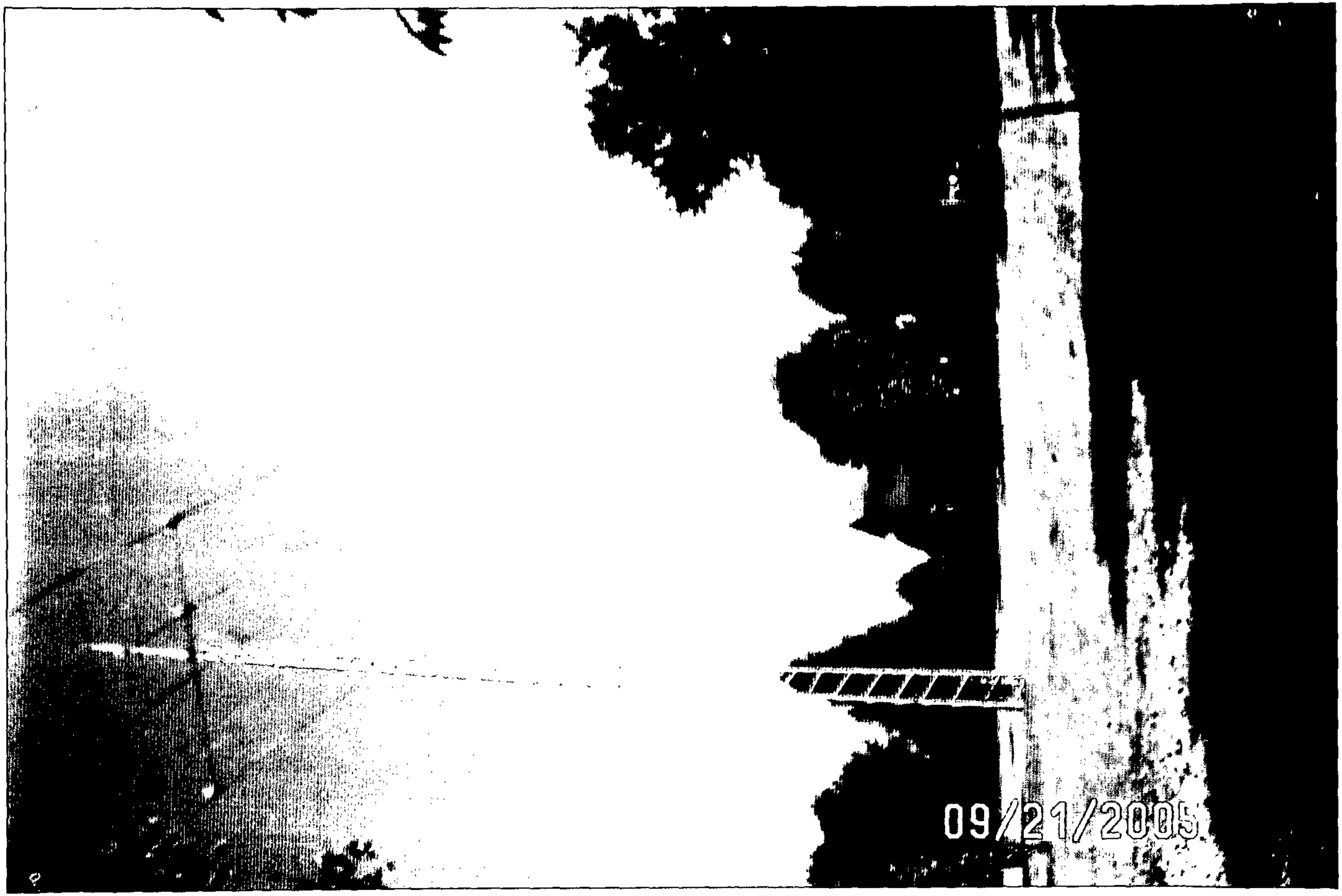
EX22- COUNTY HILL 3098

EX23- Amendments Plan BD Report

EX24- ZON. COMM OPINION


PETITIONER'S
EXHIBIT
7A
ALL-STATE LEGAL
09/21/2005


09/21/2005


09/21/2005

BALTIMORE COUNTY, MARYLAND

DEPARTMENT OF PERMITS AND DEVELOPMENT MANAGEMENT

TOWSON, MARYLAND 21204

TIMOTHY M. KOTROCO
DIRECTOR

JOHN R. REISINGER
BUILDINGS ENGINEER

BUILDING PERMIT

PERMIT #: B551665 CONTROL #: RR DIST: 10 PREC: 04
DATE ISSUED: 04/06/2004 TAX ACCOUNT #: 1700001183 CLASS: 04

PLANS: CONST 0 PLOT 1 R PLAT DATA ELEC YES PLUM NO
LOCATION: 39 GLENBROOK DR
SUBDIVISION: BLENVIEW

OWNERS INFORMATION
NAME: BENJAMIN GOVERNALE
ADDR: 39 GLENBROOK DR PHOENIX MD 21131

TENANT:
CONTR: BENJAMIN GOVERNALE (OWNER)
ENGNR:
SELLR:
WORK: CONSTRUCT A 100' HIGH MONOPOLE RADIO TOWER
ON REAR OF PROPERTY. MUST CLEAR ALL OVER-
HEAD WIRES.MFG.SPECS TO BE ON SITE OR NO
INSPECTIONS WILL BE GIVEN. REPLACES EXPIRED
PERMIT B484929. TWO(2)YEARS PERMIT AS REQUESTED
BY APPLICANT,PERMIT CANNOT BE RENEWED
BLDG. CODE:
RESIDENTIAL CATEGORY: DETACHED OWNERSHIP: PRIVATELY OWNED

PROPOSED USE: SFD + TOWER
EXISTING USE: SFD

TYPE OF IMPRV: NEW BULDING CONTRUCTION
USE: OTHER - RESIDENTIAL
FOUNDATION: BASEMENT:
SEWAGE: PRIV. EXISTS WATER: PUBLIC EXIST

LOT SIZE AND SETBACKS

SIZE: 0210.00 X 0000.00
FRONT STREET:
SIDE STREET:
FRONT SETB: NC
SIDE SETB: 102'/102'
SIDE STR SETB:
REAR SETB: 103'

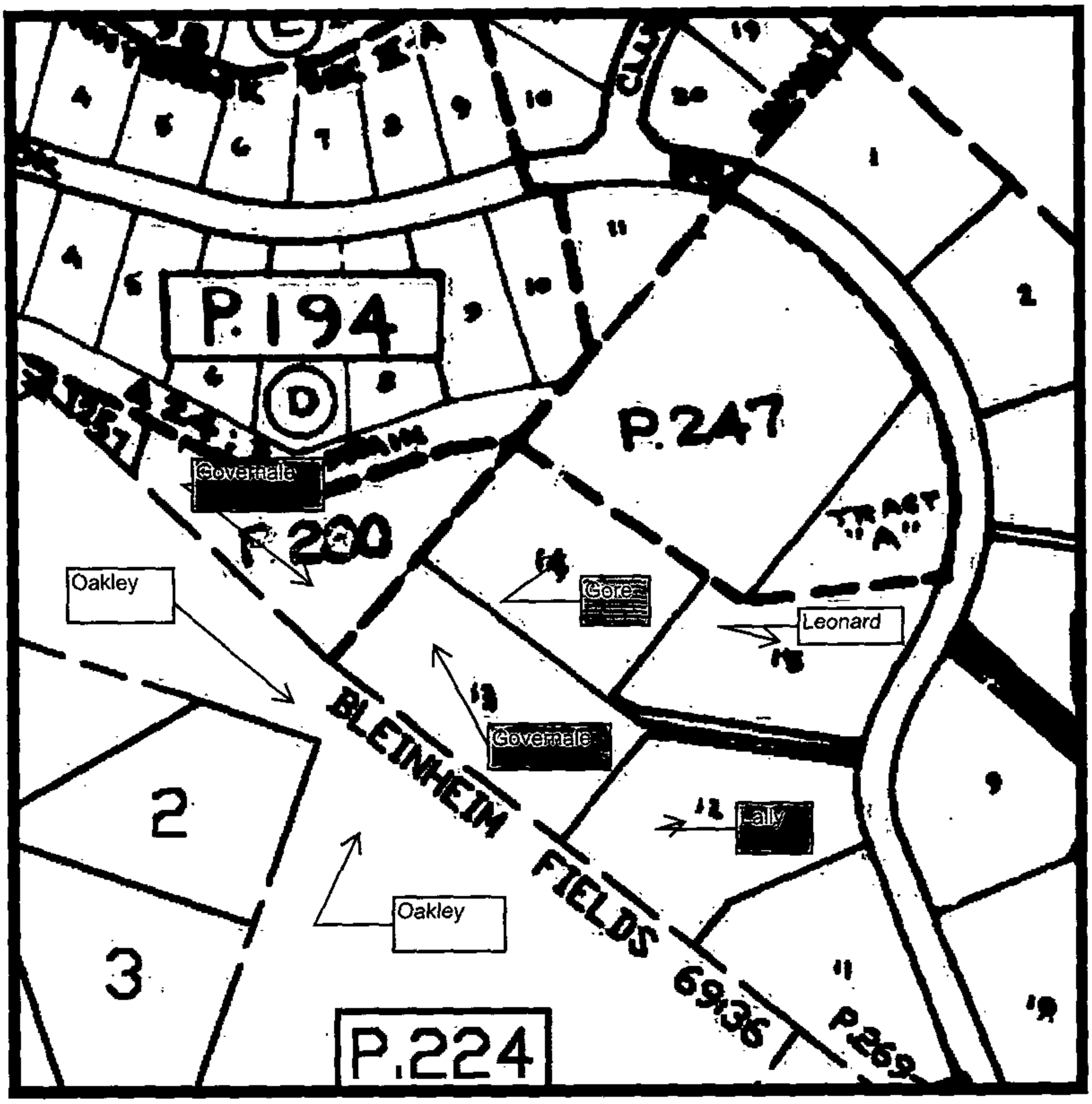
ALL-STATE LEGAL®
PETITIONER'S EXHIBIT
8

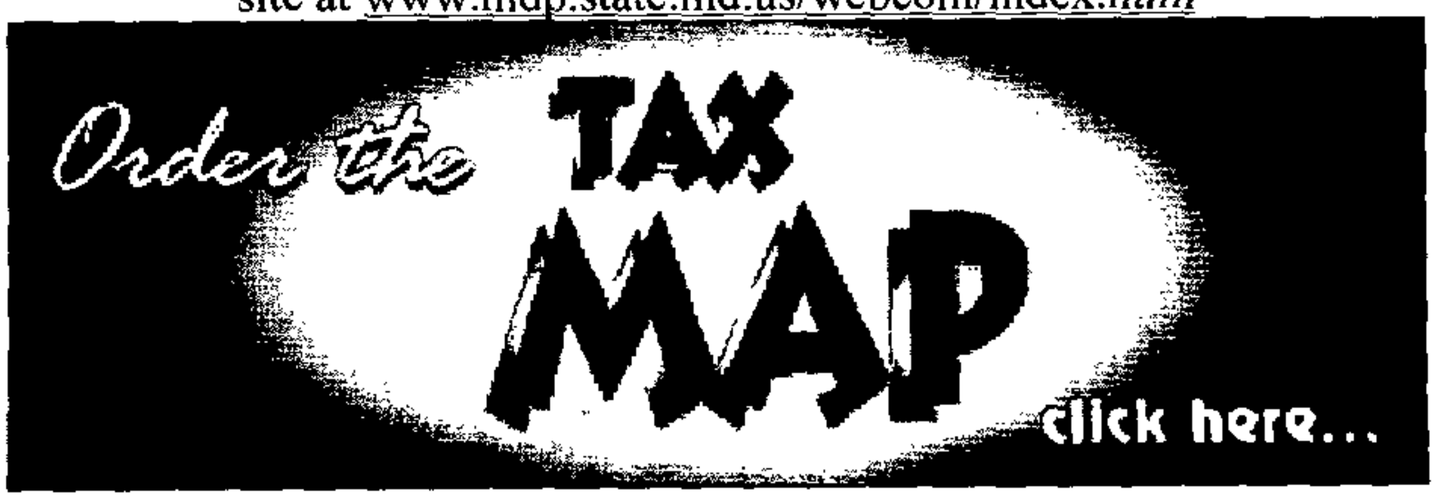
PLEASE REFER TO PERMIT NUMBER WHEN MAKING INQUIRIES.

Maryland Department of Assessments and Taxation
BALTIMORE COUNTY
Real Property Data Search

Go Back
View Map
New Search

District - 10**Account Number** - 1700001184





PETITIONER'S EXHIBIT
9

Sales/Maintenance/Construction
Tel: (301) 874-5885

UNITED STATES TOWER SERVICES LTD.

5263 Agro Drive/Frederick, Maryland 21703-7963

November 29, 2006

County Board of Appeals of Baltimore County
Old Courthouse, Room 49
400 Washington Avenue
Towson, MD 21204

To the Board:

I am a founder and Vice President of United States Tower Services Ltd., where I have worked since 1970. We are experienced in all aspects of tower construction such as antenna and tower placement, design, fabrication, erection and testing. We have extensive experience with monopoles, self support, guy towers, medium and high frequency fixed and rotatable antennas, including dipoles, log periodics, conicals and biconicals, vertical and conical monopoles, fans and curtains. At present, USTS employs over 40 people.

Examples of our work include the installation of the digital/analog antenna for WETA, Washington, DC, relocation of a 200 foot self-supporting tower and antennas for the US Navy in Alaska, setting up a high frequency (HF) site for the US Air Force in the Azores, and the installation of an 800 foot tower in Brandywine, MD.

I am a graduate of the University of Maryland (1967). After my graduation, I worked in the physics department there as electrical engineer for three years. Since then, my entire business life has been in the tower industry.I am also a radio ham, call sign K3GJB, licensed since 1957. I hold the highest class of license, the extra class license, issued by the FCC.

I am familiar with the characteristics of the self-supporting AN Wireless, model AN-90 tower, and the types of antennas installed at the Governale site.

In over 35 years of experience, which includes prominent roles in the National Association of Tower Erectors (NATE), I can say that I have never seen, nor heard of, a situation in which a tower has fallen a distance greater than its height – including situations in which a tower was deliberately taken down. I know of no example in the literature of the field that relates such an incident. I can't imagine it. I fail to understand how a tower height limitation can be rationally related to a measurement of an antenna's width or turning radius.

Sincerely,

Joseph Bryan Burdette, Vice President
joeburdette@ustowerservices.com

PETITIONER'S
EXHIBIT
10

UNITED STATES OF AMERICA
FEDERAL COMMUNICATIONS COMMISSION

AMATEUR RADIO LICENSE
W3LL

GOVERNALE, BENJAMIN A

39 GLENBROOK DR

PHOENIX, MD 21131

FCC Registration Number (FRN) 0003521481

Special Conditions/Endorsements

Grant Date	Effective Date	Print Date	Expiration Date
08/27/2002	08/27/2002	10/24/2005	11/24/2012

File Number	Operator Privileges	Station Privileges
	Amateur Extra	PRIMARY

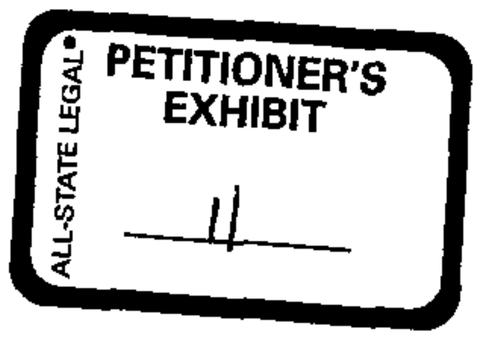
THIS LICENSE IS NOT TRANSFERABLE

(Licensee's Signature)

FCC 660

APRIL 2002

Source: http://wireless2.fcc.gov/UlsApp/UlsSearch/printAuth_amateur.jsp?licKey=792794



C

Effective: May 03, 2006

Code of Federal Regulations Currentness
Title 47. Telecommunication
Chapter I. Federal Communications Commission (Refs & Annos)
Subchapter D. Safety and Special Radio Services
Part 97. Amateur Radio Service (Refs & Annos)
Subpart B. Station Operation Standards

➡§ 97.113 Prohibited transmissions. [*EMPHASES ADDED*]

(a) **No amateur station shall transmit**:

(1) Communications specifically prohibited elsewhere in this Part;

(2) **Communications for hire or for material compensation**, direct or indirect, paid or promised, except as otherwise provided in these rules;

(3) **Communications in which the station licensee or control operator has a pecuniary interest, including communications on behalf of an employer.** Amateur operators may, however, notify other amateur operators of the availability for sale or trade of apparatus normally used in an amateur station, provided that such activity is not conducted on a regular basis;

(4) Music using a phone emission except as specifically provided elsewhere in this section; communications intended to facilitate a criminal act; messages encoded for the purpose of obscuring their meaning, except as otherwise provided herein; obscene or indecent words or language; or false or deceptive messages, signals or identification.

(5) Communications, on a regular basis, which could reasonably be furnished alternatively through other radio services.

(b) An amateur station shall not engage in any form of broadcasting, nor may an amateur station transmit one-way communications except as specifically provided in these rules; nor shall an amateur station engage in any activity related to program production or news gathering for broadcasting purposes, except that communications directly related to the immediate safety of human life or the protection of property may be provided by amateur stations to broadcasters for dissemination to the public where no other means of communication is reasonably available before or at the time of the event.

(c) A control operator may accept compensation as an incident of a teaching position during periods of time when an amateur station is used by that teacher as a part of classroom instruction at an educational institution.

(d) The control operator of a club station may accept compensation for the periods of time when the station is transmitting telegraphy practice or information bulletins, provided that the station transmits such telegraphy practice and bulletins for at least 40 hours per week;

47 C.F.R. § 97.113

schedules operations on at least six amateur service MF and HF bands using reasonable measures to maximize coverage; where the schedule of normal operating times and frequencies is published at least 30 days in advnace of the actual transmissions; and where the control operator does not accept any direct or indirect compensation for any other service as a control operator.

<Text of subsection (e) effective until Dec. 15, 2006.>

(e) No station shall retransmit programs or signals emanating from any type of radio station other than an amateur station, except propagation and weather forecast information intended for use by the general public and originated from United States Government stations and communications, including incidental music, originating on United States Government frequencies between a space shuttle and its associated Earth stations. Prior approval for shuttle retransmissions must be obtained from the National Aeronautics and Space Administration. Such retransmissions must be for the exclusive use of amateur operators. Propagation, weather forecasts, and shuttle retransmissions may not be conducted on a regular basis, but only occasionally, as an incident of normal amateur radio communications.

<Text of subsection (e) effective Dec. 15, 2006.>

(e) No station shall retransmit programs or signals emanating from any type of radio station other than an amateur station, except propagation and weather forecast information intended for use by the general public and originated from United States Government stations, and communications, including incidental music, originating on United States Government frequencies between a manned spacecraft and its associated Earth stations. Prior approval for manned spacecraft communications retransmissions must be obtained from the National Aeronautics and Space Administration. Such retransmissions must be for the exclusive use of amateur radio operators. Propagation, weather forecasts, and manned spacecraft communications retransmissions may not be conducted on a regular basis, but only occasionally, as an incident of normal amateur radio communications.

(f) No amateur station, except an auxiliary, repeater, or space station, may automatically retransmit the radio signals of other amateur station.

[56 FR 56171, Nov. 1, 1991; 58 FR 43072, Aug. 13, 1993; 58 FR 47219, Sept. 3, 1993; 71 FR 25982, May 3, 2006; 71 FR 66462, Nov. 15, 2006]

47 C. F. R. § 97.113, **47 CFR § 97.113**

Current through November 21, 2006; 71 FR 67427

PROPERTY ID NUMBER 17-00-001183

105'
103'

102' 102'

HOUSE
GARAGE

100'

ELEVATION VIEW

PROPERTY ID NUMBER: 17-00-014319 (NO. REVERSED LOCATION)

SAME OWNER FOR BOTH PROPERTIES

Kenneth and Abigail Gore
37 Glenbrook Drive
Phoenix, Maryland 21131

November 26, 2006

CASE NUMBER: 06-180-SPHA

Baltimore County Board of Appeals
400 Washington Avenue
Towson, Maryland 21204

Ladies and Gentlemen:

We live *next door* to the Governale family, who reside at 39 Glenbrook Drive. Mr. Governale has explained case 06-180-SPHA to us, and has satisfactorily answered all of our questions about it.

We have no objection to the antennas and tower in their present location and height. The tower and antennas can be seen from our property. We do not object to their visual presence. Their presence increases the level of security to both ourselves and the community.

We encourage the Board to rule in favor of the Governale family.

Sincerely,

Abigail Gore

Abigail Gore

Kenneth Gore

Kenneth Gore

Daniel and Jennifer Lally
41 Glenbrook Drive
Phoenix, Maryland 21131

November 26, 2006

CASE NUMBER: 06-180-SPHA

Baltimore County Board of Appeals
400 Washington Avenue
Towson, Maryland 21204

Ladies and Gentlemen:

We live *next door* to the Governale family, who reside at 39 Glenbrook Drive. Mr. Governale has explained case 06-180-SPHA to us, and has satisfactorily answered all of our questions about it.

We have no objection to the antennas and tower in their present location and height. The tower and antennas can be seen from our property. We do not object to their visual presence. In addition, they had no influence on our purchase of 41 Glenbrook this year. Their presence increases our level of security to both ourselves and to the community.

We encourage the Board to rule in favor of the Governale family.

Sincerely,

Jennifer Lally

Daniel Lally

Michael and Melissa Leonard
35 Glenbrook Drive
Phoenix, Maryland 21131

November 26, 2006

CASE NUMBER: 06-180-SPHA

Baltimore County Board of Appeals
400 Washington Avenue
Towson, Maryland 21204

Ladies and Gentlemen:

We live *next door* to the Governale family, who reside at 39 Glenbrook Drive. Mr. Governale has explained case 06-180-SPHA to us, and has satisfactorily answered all of our questions about it.

We have no objection to the antennas and tower in their present location and height. The tower and antennas can be seen from our property. We do not object to their visual presence. In addition, they had no influence on our purchase of 35 Glenbrook this year. Their presence increases our level of security to both ourselves and to the community.

We encourage the Board to rule in favor of the Governale family.

Sincerely,

Melissa Leonard

Michael Leonard

Douglas Oakley
3330 Blenheim Road
Phoenix, Maryland 21131

November 26, 2006

CASE NUMBER: 06-180-SPHA

Baltimore County Board of Appeals
400 Washington Avenue
Towson, Maryland 21204

Ladies and Gentlemen:

I live on my Black Angus farm *next door* to the Governale family, who reside at 39 Glenbrook Drive. Mr. Governale has explained case 06-180-SPHA to me, and has satisfactorily answered all of my questions about it.

I have no objection to the antennas and tower in their present location and height. The tower and antennas can be seen from my property. I do not object to their visual presence. Their presence increases the level of security to me and my community.

I encourage the Board to rule in favor of the Governale family.

Sincerely,

Douglas Oakley

Tom and Kay Nelson
40 Glenbrook Drive
Phoenix, Maryland 21131

November 26, 2006

CASE NUMBER: 06-180-SPHA

Baltimore County Board of Appeals
400 Washington Avenue
Towson, Maryland 21204

Ladies and Gentlemen:

We live *opposite* the Governale family, who reside at 39 Glenbrook Drive. Mr. Governale has explained case 06-180-SPHA to us, and has satisfactorily answered all of our questions about it.

We have no objection to the antennas and tower in their present location and height. The tower and antennas can be seen from our property. We do not object to their visual presence. Their presence increases our level of security to both ourselves and the community.

We encourage the Board to rule in favor of the Goverale family.

Sincerely,

Kay Nelson

Tom Nelson

Benjamin and Kayren Governale
39 Glenbrook Drive
Phoenix, Maryland 21131

November 26, 2006

CASE NUMBER: 06-180-SPHA

Baltimore County Board of Appeals
400 Washington Avenue
Towson, Maryland 21204

Ladies and Gentlemen:

We own the property directly to the rear of 39 Glenbrook Drive, Phoenix, Maryland 21131. This property is identified in the Baltimore County Tax records as # 17-00-001183. The heavily wooded 1.56 acre parcel and included storm drainage woodland separates the Blenview Community from the Sunnybrook Community. We, the Governale's are part of the Blenview Community.

We encourage the Board to rule in favor of allowing the tower and antennas to remain at their present location and height.

Sincerely,

Kayren Governale

Kayren Governale

Benjamin Governale

Benjamin Governale

PETITION IN SUPPORT OF ZONING RELIEF
GOVERNALE RESIDENCE
39 Glenbrook Drive

Case No. 06-180-SPHA

Zoning Relief Requested: to permit the continued configuration, height and location of the existing, radio operator antenna on the Governale property as meeting the locational requirements of the Zoning Regulations or, alternatively, grant the necessary variance from the Zoning Regulations to permit the existing radio operator antenna to remain in its present configuration, height and location.

Signature	Print Name	Address
Melba Watkeys	Melba Watkeys	34 Glenbrook Dr Phoenix, MD
Ken Gore Jr	KEN GORE JR	37 Glenbrook Dr Phoenix MD
Abigail Gore	ABIGAIL GORE	37 Glenbrook Dr.
Carl Euker III	CARL EUKER	35 GLENBROOK DR.
M. R. Marino	MICHAEL R. MARINO	41 GLENBROOK DR.
Jane Marino	JANE MARINO	41 GLENBROOK DR
Amanda Marino	Amanda Marino	41 Glenbrook DR
L. M. Allman Jr	L&O M. ALLMAN JR	3412 Blenheim Rd
Kathleen Nelson	KATHLEEN	40 GLENBROOK DR.
Thomas Nelson	THOMAS NELSON	40 GLENBROOK DR.
	JAMES ORKEY	5350 BISMARCK RD

ALL-STATE LEGAL®
PETITIONER'S EXHIBIT
_____

Kenneth Gore
37 Glenbrook Drive
Phoenix, Maryland 21131

October 31, 2005

CASE NUMBER: 06-180-SPHA

Baltimore County
Department of Permits and Land Management
111 West Chesapeake Avenue
Towson, Maryland 21204

Ladies and Gentlemen:

I live *next door* to the Governale family, who reside at 39 Glenbrook Drive. Mr. Governale has explained his antenna Variance request to me, and has satisfactorily answered all of my questions about it.

I have no objection to the granting of a Special Exception or Variance to him, and I encourage the Board to do so.

Sincerely,

Kenneth B Gore, Jr.

Kenneth Gore

Douglas Oakley
3330 Blenheim Road
Phoenix, Maryland 21131

October 31, 2005

CASE NUMBER: 06-180-SPHA

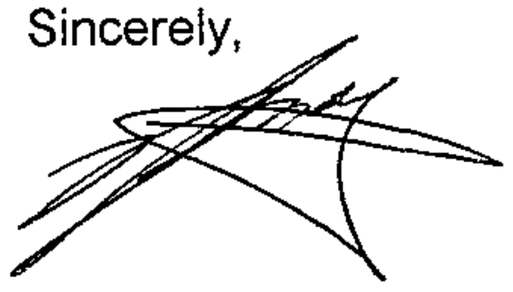
Baltimore County
Department of Permits and Land Management
111 West Chesapeake Avenue
Towson, Maryland 21204

Ladies and Gentlemen:

I live *next door* to the Governale family, who reside at 39 Glenbrook Drive. Mr. Governale has explained his antenna Variance request to me, and has satisfactorily answered all of my questions about it.

I have no objection to the granting of a Special Exception or Variance to him, and I encourage the Board to do so.

Sincerely,



Douglas Oakley

Benjamin Governale
39 Glenbrook Drive
Phoenix, Maryland 21131

November 4, 2005

CASE NUMBER: 06-180-SPHA

Baltimore County
Department of Permits and Land Management
111 West Chesapeake Avenue
Towson, Maryland 21204

In re: **Parcel #17-00-001183, and the Radio Antenna Project at 39 Glenbrook Drive**

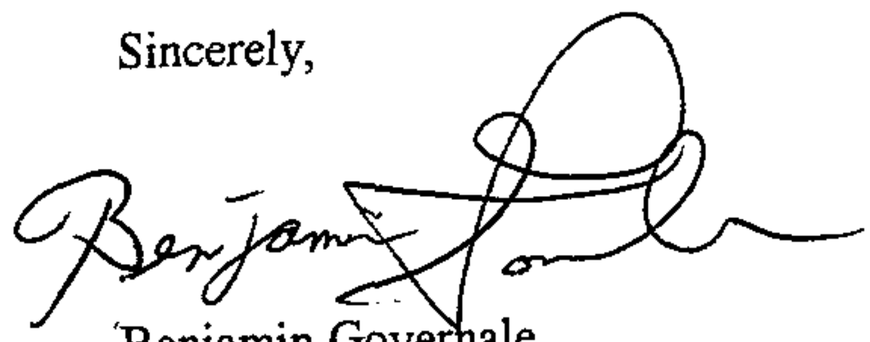
Ladies and Gentlemen:

I own the property directly to the rear of and abutting 39 Glenbrook Drive, Phoenix, Maryland 21131. This property is identified in the Baltimore County Tax records as # 17-00-001183. The heavily wooded 1.56 acre parcel separates the Blenview Community from the Sunnybrook Community. The parcel at 39 Glenbrook Drive is part of the Blenview Community.

As owner of both parcels, I am, of course, completely familiar with the proposal before the Department. As owner of parcel # 17-00-001183, I am pleased to say that the owner of that parcel has no objection to any aspect of the project, and encourages the board to grant such relief as may be necessary for the project.

With the filing of this letter, each and every property owner whose property abuts 39 Glenbrook Drive has filed a letter encouraging the County to grant such relief as may be necessary for the project.

Sincerely,



Benjamin Governale

Leo Michael (Mick) Allman
3412 Blenheim Road
Phoenix, Maryland 21131

November 02, 2005

CASE NUMBER: 06-180-SPHA

Baltimore County
Department of Permits and Land Management
111 West Chesapeake Avenue
Towson, Maryland 21204

Ladies and Gentlemen:

I live *three houses away from* the Governale family, who reside at 39 Glenbrook Drive.
Mr. Governale has explained his antenna Variance request to me, and has satisfactorily answered all of my questions about it.

I have no objection to the granting of a Special Exception or Variance to him, and I encourage the Board to do so.

Sincerely,

Leo Michael (Mick) Allman

Tom Nelson
40 Glenbrook Drive
Phoenix, Maryland 21131

November 02, 2005

CASE NUMBER: 06-180-SPHA

Baltimore County
Department of Permits and Land Management
111 West Chesapeake Avenue
Towson, Maryland 21204

Ladies and Gentlemen:

I live *opposite* the Governale family, who reside at 39 Glenbrook Drive. Mr. Governale has explained his antenna Variance request to me, and has satisfactorily answered all of my questions about it.

I have no objection to the granting of a Special Exception or Variance to him, and I encourage the Board to do so.

Sincerely,

Thomas Nelson

Tom Nelson

Carl Euker
35 Glenbrook Drive
Phoenix, Maryland 21131

October 31, 2005

CASE NUMBER: 06-180-SPHA

Baltimore County
Department of Permits and Land Management
111 West Chesapeake Avenue
Towson, Maryland 21204

Ladies and Gentlemen:

I live *next door* to the Governale family, who reside at 39 Glenbrook Drive. Mr. Governale has explained his antenna Variance request to me, and has satisfactorily answered all of my questions about it.

I have no objection to the granting of a Special Exception or Variance to him, and I encourage the Board to do so.

Sincerely,

Carl Euker

Michael Marino
41 Glenbrook Drive
Phoenix, Maryland 21131

October 31, 2005

CASE NUMBER: 06-180-SPHA

Baltimore County
Department of Permits and Land Management
111 West Chesapeake Avenue
Towson, Maryland 21204

Ladies and Gentlemen:

I live *next door* to the Governale family, who reside at 39 Glenbrook Drive. Mr. Governale has explained his antenna Variance request to me, and has satisfactorily answered all of my questions about it.

I have no objection to the granting of a Special Exception or Variance to him, and I encourage the Board to do so.

Sincerely,

Michael Marino

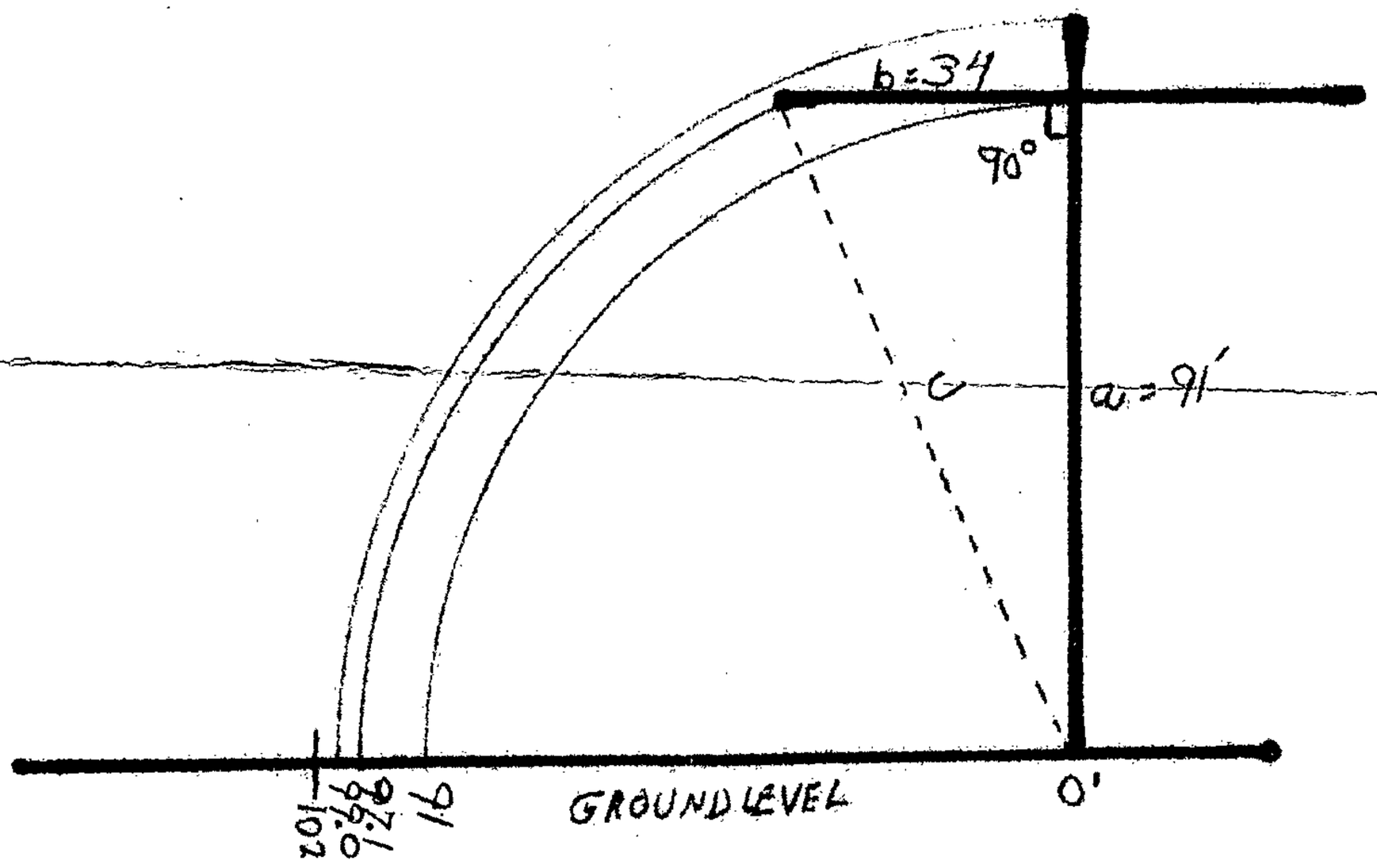
Basic Geometry
for the Right Triangle

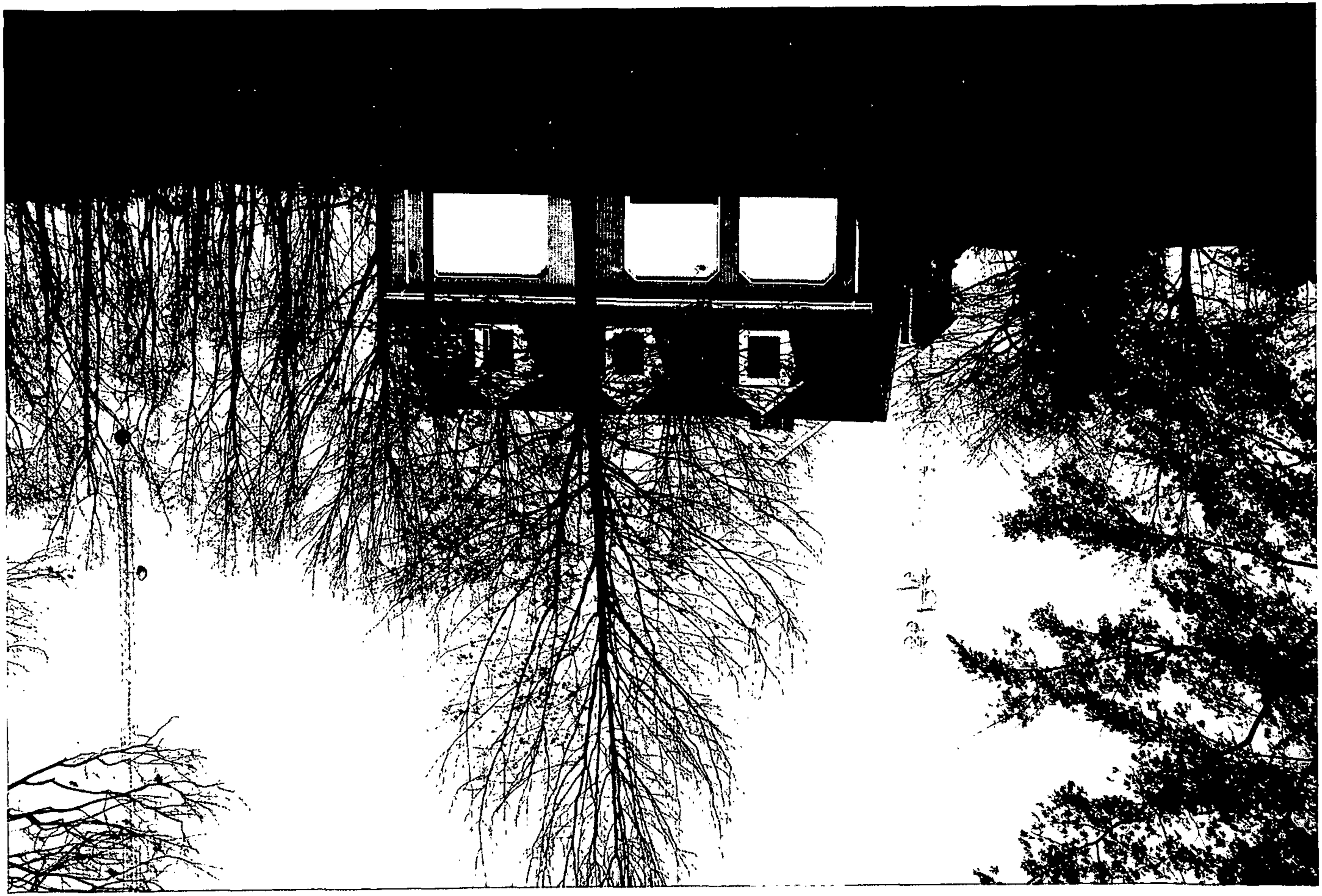
$c^2 = a^2 + b^2$ $\quad c = \sqrt{a^2 + b^2}$

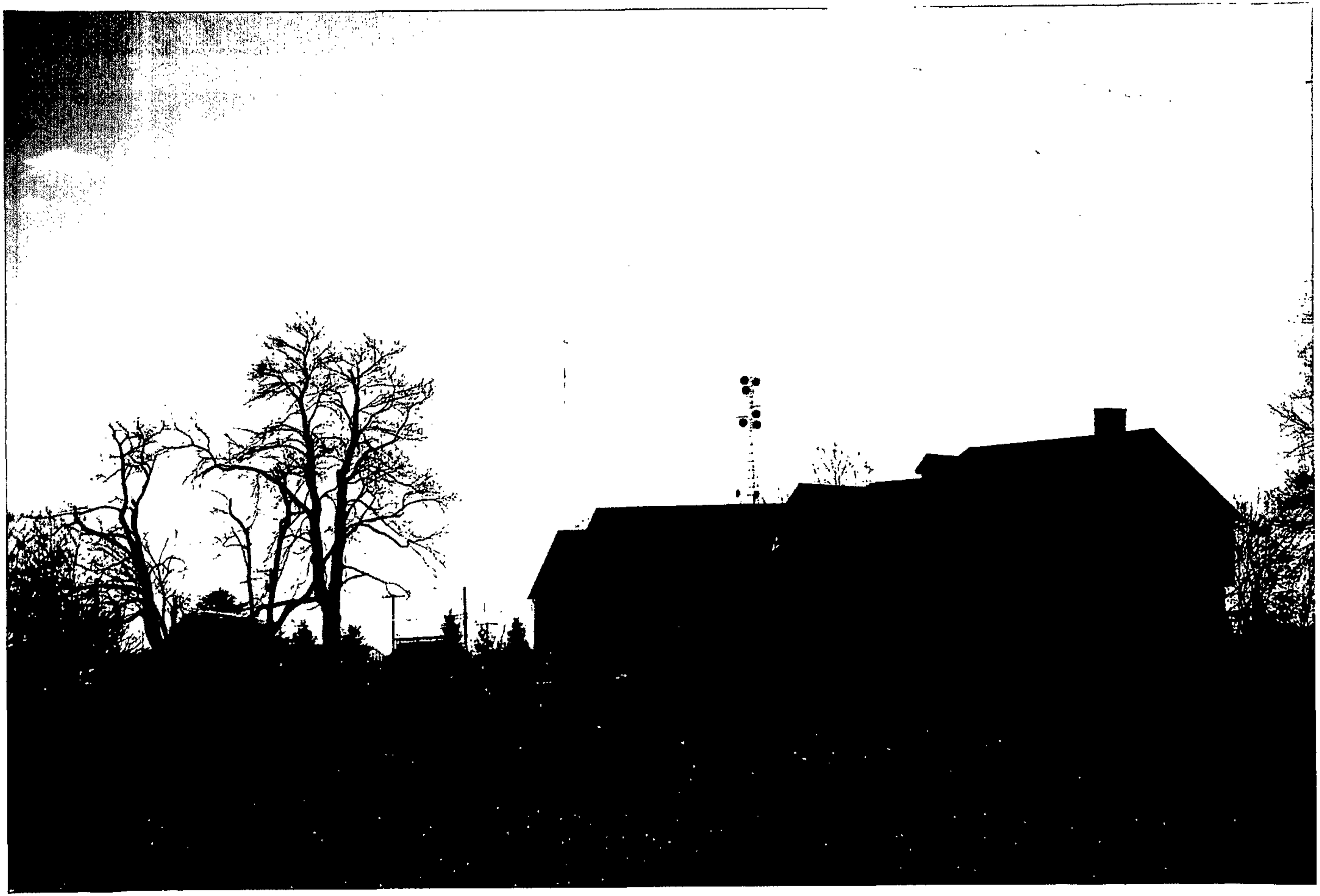
a = 91 ft $\quad a^2 = 8281$
b = 34 ft $\quad b^2 = 1156$ hence $c = \sqrt{9437} = 97.1$ feet

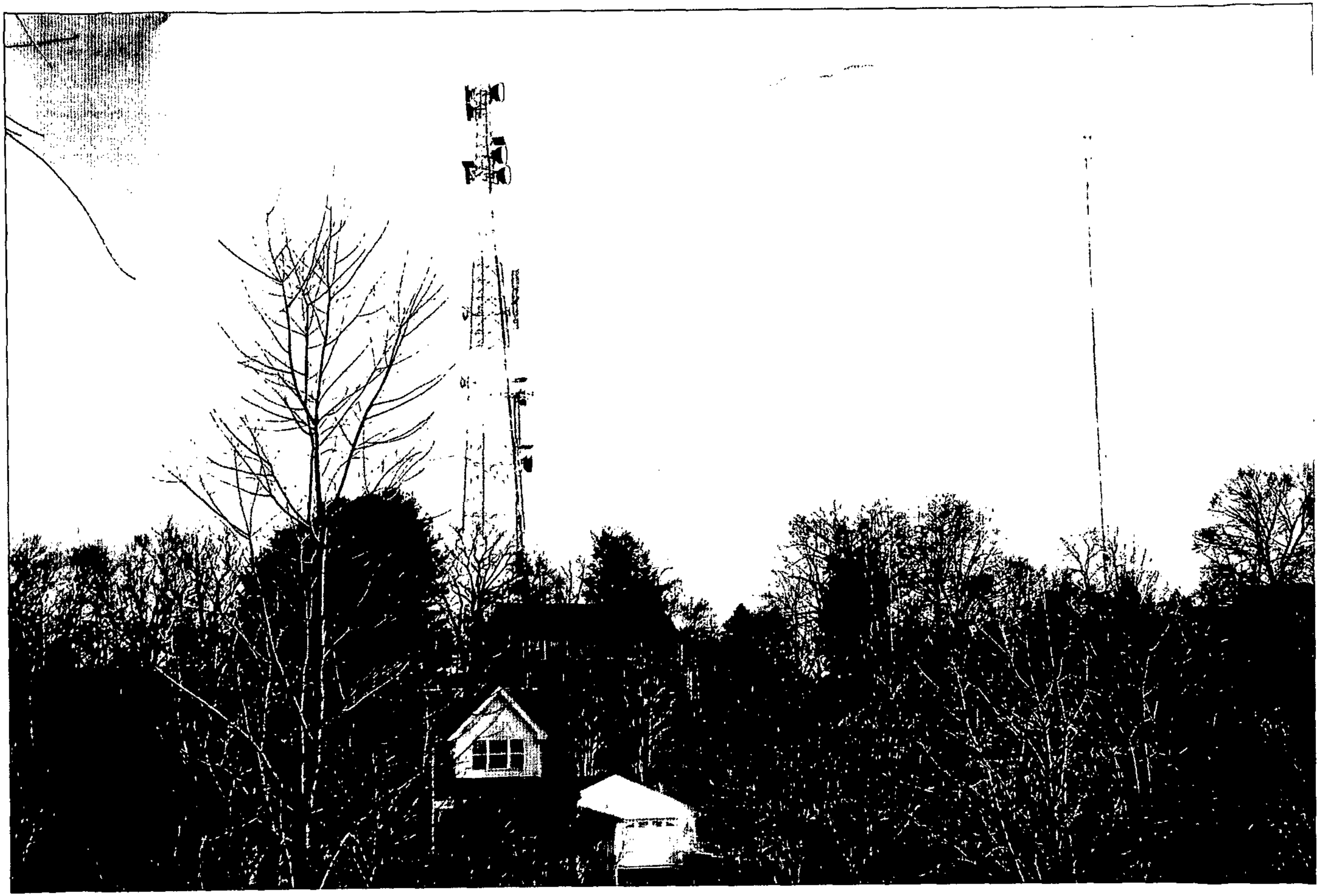
therefore the tip of longest beam element would strike the ground
at 97.1 feet from the base of the tower if the tower failed at ground
level (worst case). This is 4.9 feet short of the property line at 102ft
from the tower base.

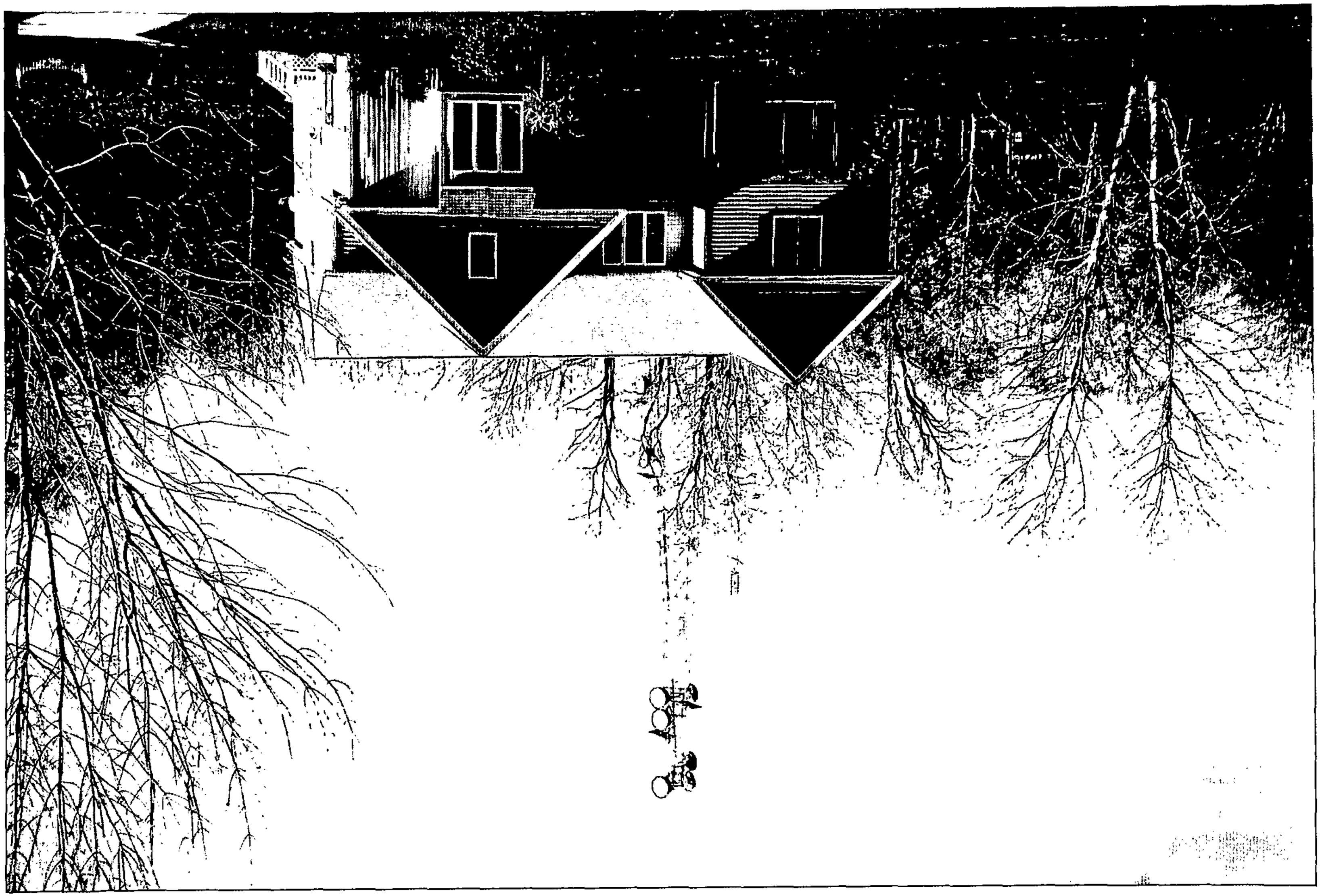
see sketch below

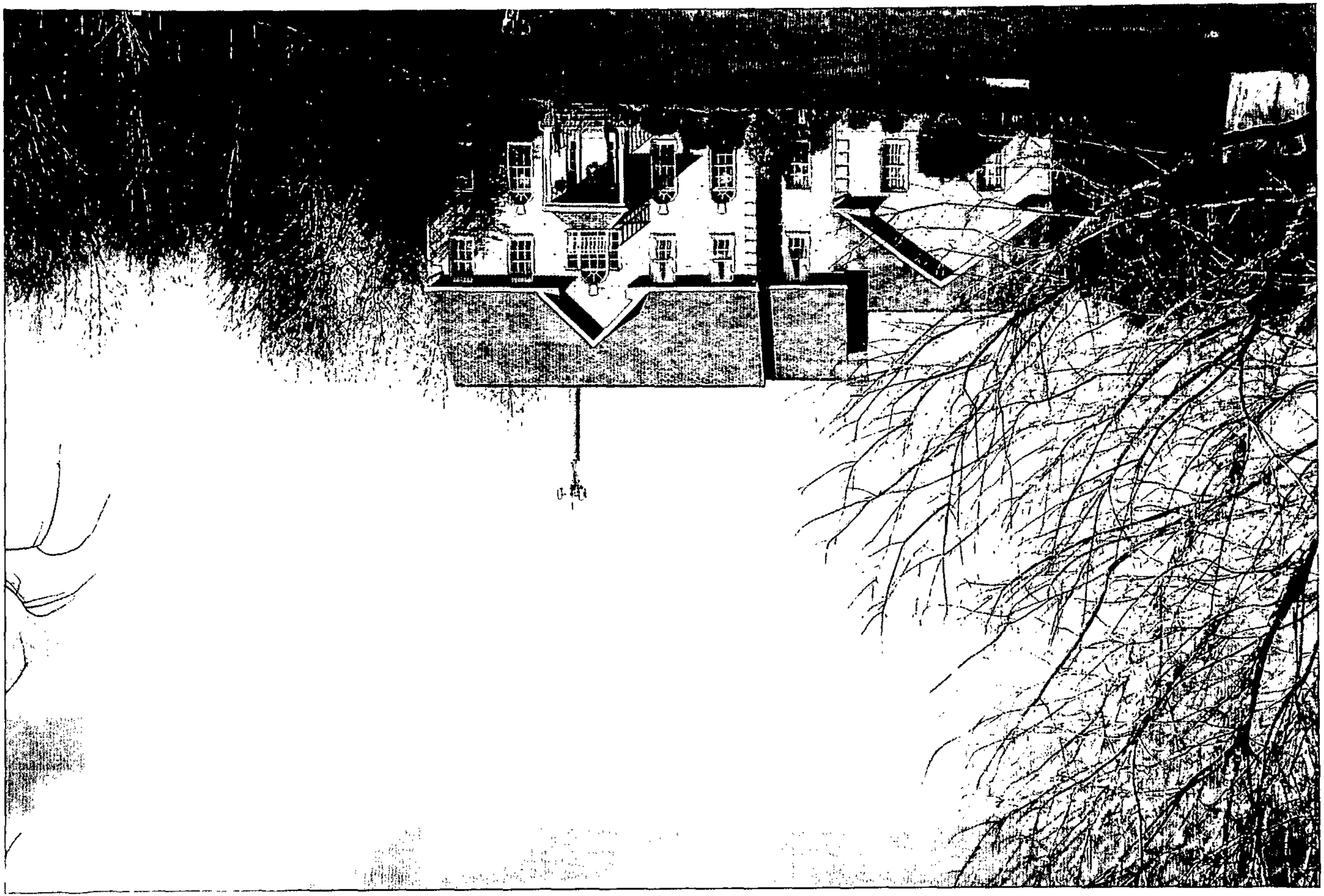


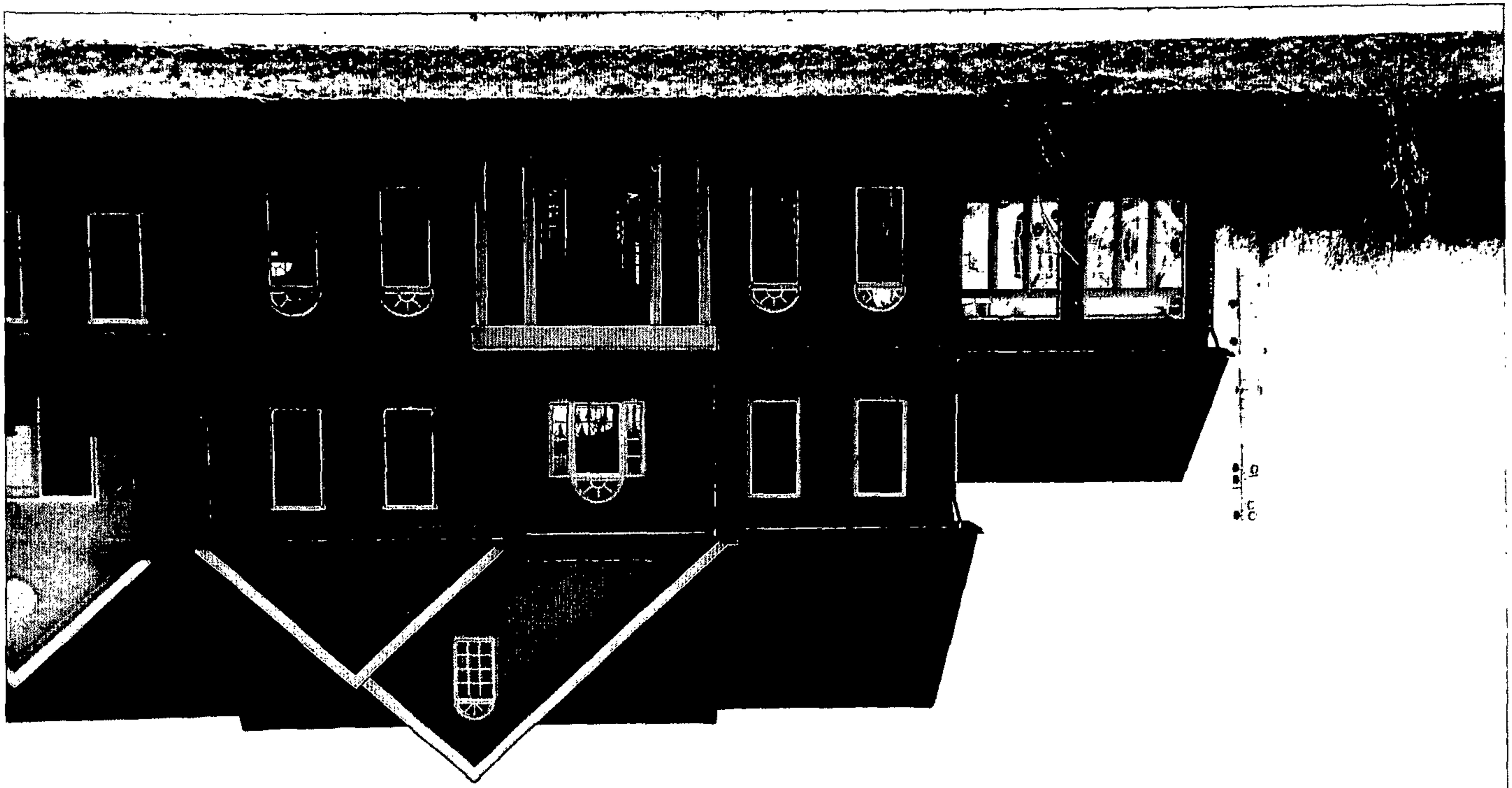










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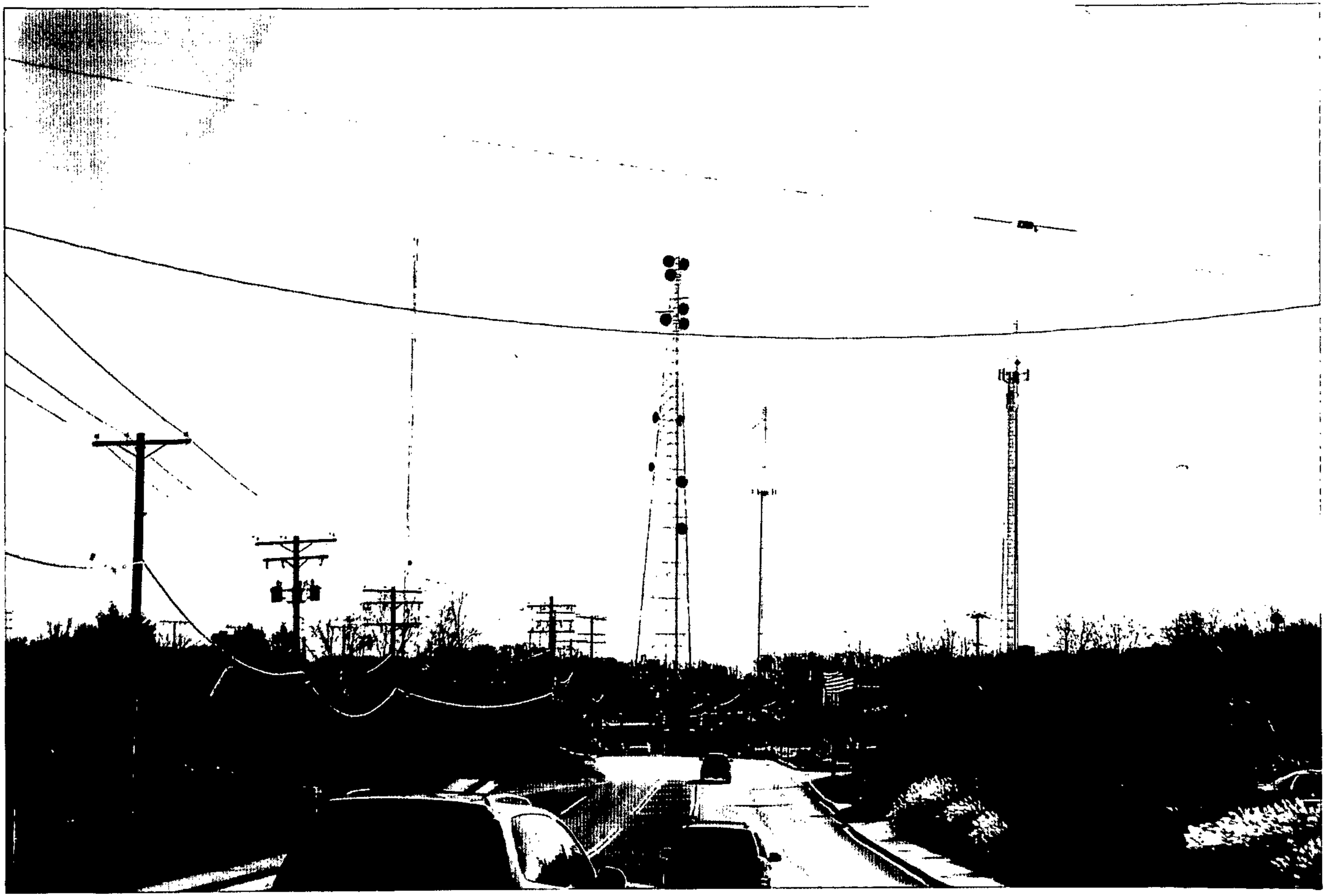

RESUME OF CHRISTOPHER D. IMLAY

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Education:

Washington College of Law
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Juris Doctorate June 1978

Trinity College
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June 1975

Experience:

Partner, Booth, Freret and Imlay, Washington, D.C., December, 1981 to 1995. President, Booth, Freret, Imlay & Tepper, P.C., 1995 to present. Practice limited to Federal Communications Law, including Broadcast, Amateur, Private Wireless, Microwave and Common Carrier regulation; Administrative Law and Administrative Hearing Litigation; Federal Court Trial and Appellate Litigation related to Federal Communications Law matters; representation of associations of communications users, especially technical and electronic communications associations; electronic equipment manufacturers, and land use regulation of communications facilities.

Associate, Booth and Freret, Washington, D.C., September, 1979 to December, 1981. Practice same as above.

Associate, Raysor, Barbour and Morella, Chevy Chase, Maryland; Law Clerk, 1975-1978; Associate, May, 1978 to September, 1979. Practiced Civil Litigation; College and University and Hospital Law; Wills, Trusts and Estates.

Narrative:

Christopher D. Imlay has practiced Federal Communications Law for the bulk of his professional career to date. His communications clients include the American Radio

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Relay League, Incorporated, the national association of more than 160,000 amateur radio operators in the United States; the Society of Broadcast Engineers, the national association of broadcast and communications technical professionals; Kenwood USA Corporation, Communications Division; Goodyear Tire and Rubber Company; 3M Corporation; Telex Communications, Inc.; the National Football League; Broadcast Sports, Inc.; numerous television and radio broadcast, common carrier, and private wireless licensees of the FCC; video production companies and manufacturers of communications and electronic equipment. His work for the amateur and broadcast engineering associations include preparation of materials in FCC rule making and adjudicatory proceedings, consultation with local chapters and members, extensive representation of communications users, and consulting with local counsel for those users, in connection with Federal, state and local regulation of Federally-licensed communications facilities. Imlay has taught CLE seminars in Portland, Oregon; Atlanta, Georgia; Kansas City, Missouri; San Francisco, California, Los Angeles, California, Boxboro, Massachusetts, and Miami, Florida on the subject of state and local regulation of Federally-licensed communications facilities, for both radio licensees and state and local government professionals. He has taught and participated in seminars at engineering and other conventions and conferences on technical regulatory topics of concern to broadcasters, broadcast engineers and wireless telecommunications licensees. He has testified as an expert witness before United States Bankruptcy Courts, State Courts, and numerous administrative authorities on the subject of Federal Telecommunications Regulation. His expertise is especially in the area of radio spectrum allocations and regulation, and in land use regulation of communications facilities.

Booth, Freret, Imlay & Tepper, P.C. is also retained by communications tower owners, cellular telephone companies, cable systems, colleges and universities, and private cable facilities for advice on telecommunications and land use regulation.

Publications:

Imlay has authored numerous articles on telecommunications engineering topics and association law matters for the Signal, the publication of the Society of Broadcast Engineers, and on communications regulation for QST, the monthly journal of the American Radio Relay League, Incorporated.

Personal Data:

Imlay was born February 15, 1953 in Washington, D.C. and has lived in central Maryland all his life. He is married, with two children, ages 16 and 21, and resides in Cloverly, Maryland. He has been an active amateur radio operator and experimenter since 1976, and is the licensee of amateur radio station W3KD, holding an Extra Class amateur radio operator's license. He is an SBE-certified Broadcast Technologist, and was made a Fellow of the Society of Broadcast Engineers in 1997. He plays the Scottish Highland Bagpipes with the Prince George's County Police Pipe Band and is an active outdoorsman.

47 CFR §97.15B

Memorandum Opinion and Order in PRB-1

Before the
Federal Communications Commission
Washington, DC 20554

FCC 85-506
36149

In the Matter of	)	
	)	
Federal preemption of state and	)	**PRB-1**
local regulations pertaining	)	
to Amateur radio facilities.	)	

MEMORANDUM OPINION AND ORDER

Adopted: September 16, 1985 ; Released: September 19, 1985

By the Commission: Commissioner Rivera not participating.

Background

1. On July 16, 1984, the American Radio Relay League, Inc (ARRL) filed a Request for Issuance of a Declaratory Ruling asking us to delineate the limitations of local zoning and other local and state regulatory authority over Federally-licensed radio facilities. Specifically, the ARRL wanted an explicit statement that would preempt all local ordinances which provably preclude or significantly inhibit effective reliable amateur radio communications. The ARRL acknowledges that local authorities can regulate amateur installations to insure the safety and health of persons in the community, but believes that those regulations cannot be so restrictive that they preclude effective amateur communications.

2. Interested parties were advised that they could file comments in the matter.[1] With extension, comments were due on or before December 26, 1984,[2] with reply comments due on or before January 25, 1985.[3] Over sixteen hundred comments were filed.

Local Ordinances

3. Conflicts between amateur operators regarding radio antennas and local authorities regarding restrictive ordinances are common. The amateur operator is governed by the regulations contained in Part 97 of our rules. Those rules do not limit the height of an amateur

PETITIONER'S EXHIBIT

antenna but they require, for aviation safety reasons, that certain FAA notification and FCC approval procedures must be followed for antennas which exceed 200 feet in height above ground level or antennas which are to be erected near airports. Thus, under FCC rules some antenna support structures require obstruction marking and lighting. On the other hand, local municipalities or governing bodies frequently enact regulations limiting antennas and their support structures in height and location, e.g. to side or rear yards, for health, safety or aesthetic considerations. These limiting regulations can result in conflict because the effectiveness of the communications that emanate from an amateur radio station are directly dependent upon the location and the height of the antenna. Amateur operators maintain that they are precluded from operating in certain bands allocated for their use if the height of their antennas is limited by a local ordinance.

4. Examples of restrictive local ordinances were submitted by several amateur operators in this proceeding. Stanley J. Cichy, San Diego, California, noted that in San Diego amateur radio antennas come under a structures ruling which limits building heights to 30 feet. Thus, antennas there are also limited to 30 feet. Alexander Vrenios, Mundelein, Illinois, wrote that an ordinance of the Village of Mundelein provides that an antenna must be a distance from the property line that is equal to one and one-half times its height. In his case, he is limited to an antenna tower for his amateur station just over 53 feet in height.

5. John C. Chapman, an amateur living in Bloomington, Minnesota, commented that he was not able to obtain a building permit to install an amateur radio antenna exceeding 35 feet in height because the Bloomington city ordinance restricted "structures" heights to 35 feet. Mr. Chapman said that the ordinance, when written, undoubtedly applied to buildings but was now being applied to antennas in the absence of a specific ordinance regulating them. There were two options open to him if he wanted to engage in amateur communications. He could request a variance to the ordinance by way of a hearing before the City Council, or he could obtain affidavits from his neighbors swearing that they had no objection to the proposed antenna installation. He got the building permit after obtaining the cooperation of his neighbors. His concern, however, is that he had to get permission from several people before he could effectively engage in radio communications for which he had a valid FCC amateur license.

6. In addition to height restrictions, other limits are enacted by local jurisdictions—anti-climb devices on towers or fences around them; minimum distances from high voltage power lines; minimum distances of towers from property lines; and regulations pertaining to the structural soundness of the antenna installation. By and large, amateurs do not find these safety precautions objectionable. What they do object to are the sometimes prohibitive, non-refundable application filing fees to obtain a permit to erect an antenna installation and those provisions in ordinances which regulate antennas for purely aesthetic reasons. The amateurs contend, almost universally, that "beauty is in the eye of the beholder." They assert that an antenna installation is not more aesthetically displeasing than other objects that people keep on their property, e.g. motor homes, trailers, pick-up trucks, solar collectors and gardening equipment.

Restrictive Covenants

7. Amateur operators also oppose restrictions on their amateur operations which are contained in the deeds for their homes or in their apartment leases. Since these restrictive

covenants are contractual agreements between private parties, they are not generally a matter of concern to the Commission. However, since some amateurs who commented in this proceeding provided us with examples of restrictive covenants, they are included for information. Mr. Eugene O. Thomas of Hollister, California, included in his comments an extract of the Declaration of Covenants and Restrictions for Ridgemark Estates, County of San Benito, State of California. It provides:

> No antenna for transmission or reception of radio signals shall be erected outdoors for use by any dwelling unit except upon approval of the Directors. No radio or television signals or any other form of electromagnetic radiation shall be permitted to originate from any lot which may unreasonably interfere with the reception of television or radio signals upon any other lot.

Marshall Wilson, Jr. provided a copy of the restrictive covenant contained in deeds for the Bell Martin Addition #2, Irving, Texas. It is binding upon all of the owners or purchasers of the lots in the said addition, his or their heirs, executors, administrators or assigns. It reads:

> No antenna or tower shall be erected upon any lot for the purposes of radio operations.

William J. Hamilton resides in an apartment building in Gladstone, Missouri. He cites a clause in his lease prohibiting the erection of an antenna. He states that he has been forced to give up operating amateur radio equipment except a hand-held 2 meter (144-148 MHz) radio transceiver. He maintains that he should not be penalized just because he lives in an apartment.

Other restrictive covenants are less global in scope than those cited above. For example, Robert Webb purchased a home in Houston, Texas. His deed restriction prohibited "transmitting or receiving antennas extending above the roof line."

8. Amateur operators generally oppose restrictive covenants for several reasons. They maintain that such restrictions limit the places that they can reside if they want to pursue their hobby of amateur radio. Some state that they impinge on First Amendment rights of speech. Others believe that a constitutional right is being abridged because, in their view, everyone has a right to access the airwaves regardless of where they live.

9. The contrary belief held by housing subdivision communities and condominium or homeowner's associations is that amateur radio installations constitute safety hazards, cause interference to other electronic equipment which may be operated in the home (television, radio, stereos) or are eyesores that detract from the aesthetic and tasteful appearance of the housing development or apartment complex. To counteract these negative consequences, the subdivisions and associations include in their deeds, leases or by-laws, restrictions and limitations on the location and height of antennas or, in some cases, prohibit them altogether. The restrictive covenants are contained in the contractual agreement entered into at the time of the sale or lease of the property. Purchasers or lessees are free to choose whether they wish to reside where such restrictions on amateur antennas are in effect or settle elsewhere.

Supporting Comments

10. The Department of Defense (DOD) supported the ARRL and emphasized in its comments that continued success of existing national security and emergency preparedness telecommunications plans involving amateur stations would be severely diminished if state and local ordinances were allowed to prohibit the construction and usage of effective amateur transmission facilities. DOD utilizes volunteers in the Military Affiliate Radio Service (MARS),[4] Civil Air Patrol (CAP) and the Radio Amateur Civil Emergency Service (RACES). It points out that these volunteer communicators are operating radio equipment installed in their homes and that undue restrictions on antennas by local authorities adversely affect their efforts. DOD states that the responsiveness of these volunteer systems would be impaired if local ordinances interfere with the effectiveness of these important national telecommunication resources. DOD favors the issuance of a ruling that would set limits for local and state regulatory bodies when they are dealing with amateur stations.

11. Various chapters of the American Red Cross also came forward to support the ARRL's request for a preemptive ruling. The Red Cross works closely with amateur radio volunteers. It believes that without amateurs' dedicated support, disaster relief operations would significantly suffer and that its ability to serve disaster victims would be hampered. It feels that antenna height limitations that might be imposed by local bodies will negatively affect the service now rendered by the volunteers.

12. Cities and counties from various parts of the United States filed comments in support of the ARRL's request for a Federal preemption ruling. The comments from the Director of Civil Defense, Port Arthur, Texas, are representative:

> The Amateur Radio Service plays a vital role with our Civil Defense program here in Port Arthur and the design of these antennas and towers lends greatly to our ability to communicate during times of disaster.
>
> We do not believe there should be any restrictions on the antennas and towers except for reasonable safety precautions. Tropical storms, hurricanes and tornadoes are a way of life here on the Texas Gulf Coast and good communications are absolutely essential when preparing for a hurricane and even more so during recovery operations after the hurricane has past.

13. The Quarter Century Wireless Association took a strong stand in favor of the Issuance of a declaratory ruling. It believes that Federal preemption is necessary so that there will be uniformity for all Amateur Radio installations on private property throughout the United States.

14. In its comments, the ARRL argued that the Commission has the jurisdiction to preempt certain local land use regulations which frustrate or prohibit amateur radio communications. It said that the appropriate standard in preemption cases is not the extent of state and local interest in a given regulation, but rather the impact of the regulation on Federal goals. Its position is that Federal preemption is warranted whenever local government regulations relate adversely to the operational aspects of amateur communication. The ARRL maintains that localities routinely employ a variety of land use devices to preclude the installation of effective amateur antennas, including height restrictions, conditional use permits, building setbacks and dimensional limitations on antennas. It sees a declaratory ruling of Federal preemption as necessary to cause municipalities to accommodate amateur operator needs in land use planning efforts.

15. James C. O'Connell, an attorney who has represented several amateurs before local zoning authorities, said that requiring amateurs to seek variances or special use approval to erect reasonable antennas unduly restricts the operation of amateur stations. He suggested that the Commission preempt zoning ordinances which impose antenna height limits of less than 65 feet. He said that this height would represent a reasonable accommodation of the communication needs of most amateurs and the legitimate concerns of local zoning authorities.

Opposing Comments

16. The City of La Mesa, California, has a zoning regulation which controls amateur antennas. Its comments reflected an attempt to reach a balanced view.

> This regulation has neither the intent, nor the effect, of precluding or inhibiting effective and reliable communications. Such antennas may be built as long as their construction does not unreasonably block views or constitute eyesores. The reasonable assumption is that there are always alternatives at a given site for different placement, and/or methods for aesthetic treatment. Thus, both public objectives of controlling land use for the public health, safety, and convenience, and providing an effective communications network, can be satisfied. A blanket to completely set aside local control, or a ruling which recognizes control only for the purpose of safety of antenna construction, would be contrary to...legitimate local control.

17. Comments from the County of San Diego state:

> While we are aware of the benefits provided by amateur operators, we oppose the issuance of a preemption ruling which would elevate 'antenna effectiveness' to a position above all other considerations. We must, however, argue that the local government must have the ability to place reasonable limitations upon the placement and configuration of amateur radio transmitting and receiving antennas. Such ability is necessary to assure that the local decision-makers have the authority to protect the public health, safety and welfare of all citizens.
>
> In conclusion, I would like to emphasize an important difference between your regulatory powers and that of local governments. Your Commission's approval of the preemptive requests would establish a "national policy." However, any regulation adopted by a local jurisdiction could be overturned by your Commission or a court if such regulation was determined to be unreasonable.

18. The City of Anderson, Indiana, summarized some of the problems that face local communities:

> I am sympathetic to the concerns of these antenna owners and I understand that to gain the maximum reception from their devices, optimal location is necessary. However, the preservation of residential zoning districts as "liveable" neighborhoods is jeopardized by placing these antennas in front yards of homes. Major problems of public safety have been encountered, particularly vision blockage for auto and pedestrian access. In addition, all communities are faced

> with various building lot sizes. Many building lots are so small that established setback requirements (in order to preserve adequate air and light) are vulnerable to the unregulated placement of antennas. ...the exercise of preemptive authority by the FCC in granting this request would not be in the best interest of the general public.

19. The National Association of Counties (NACO), the American Planning Association (APA) and the National League of Cities (NLC) all opposed the issuance of an antenna preemption ruling. NACO emphasized that federal and state power must be viewed in harmony and warns that Federal intrusion into local concerns of health, safety and welfare could weaken the traditional police power exercised by the state and unduly interfere with the legitimate activities of the states. NLC believed that both Federal and local interests can be accommodated without preempting local authority to regulate the installation of amateur radio antennas. The APA said that the FCC should continue to leave the issue of regulating amateur antennas with the local government and with the state and Federal courts.

Discussion

20. When considering preemption, we must begin with two constitutional provisions. The tenth amendment provides that any powers which the constitution either does not delegate to the United States or does not prohibit the states from exercising are reserved to the states. These are the police powers of the states. The Supremacy Clause, however, provides that the constitution and the laws of the United States shall supersede any state law to the contrary. Article III, Section 2. Given these basic premises, state laws may be preempted in three ways: First, Congress may expressly preempt the state law. See Jones v. Rath Packing Co., 430 U.S. 519, 525 (1977). Or, Congress may indicate its intent to completely occupy a given field so that any state law encompassed within that field would implicitly be preempted. Such intent to preempt could be found in a congressional regulatory scheme that was so pervasive that it would be reasonable to assume that Congress did not intend to permit the states to supplement it. See Fidelity Federal Savings & Loan Ass'n v. de la Cuesta, 458 U.S. 141, 153 (1982). Finally, preemption may be warranted when state law conflicts with federal law. Such conflicts may occur when "compliance with both Federal and state regulations is a physical impossibility," Florida Lime & Avocado Growers, Inc. v. Paul, 373 U.S. 132, 142, 143 (1963), or when state law "stands as an obstacle to the accomplishment and execution of the full purposes and objectives of Congress," Hines v. Davidowitz, 312 U.S. 52, 67 (1941). Furthermore, federal regulations have the same preemptive effect as federal statues, Fidelity Federal Savings & Loan Association v. de la Cuesta, supra.

21. The situation before us requires us to determine the extent to which state and local zoning regulations may conflict with federal policies concerning amateur radio operators.

22. Few matters coming before us present such a clear dichotomy of view point as does the instant issue. The cities, countries, local communities and housing associations see an obligation to all of their citizens and try to address their concerns. This is accomplished through regulations, ordinances or covenants oriented toward the health, safety and general welfare of those they regulate. At the opposite pole are the individual amateur operators and their support

groups who are troubled by local regulations which may inhibit the use of amateur stations or, in some instances, totally preclude amateur communications. Aligned with the operators are such entities as the Department of Defense, the American Red Cross and local civil defense and emergency organizations who have found in Amateur Radio a pool of skilled radio operators and a readily available backup network. In this situation, we believe it is appropriate to strike a balance between the federal interest in promoting amateur operations and the legitimate interests of local governments in regulating local zoning matters. The cornerstone on which we will predicate our decision is that a reasonable accommodation may be made between the two sides.

23. Preemption is primarily a function of the extent of the conflict between federal and state and local regulation. Thus, in considering whether our regulations or policies can tolerate a state regulation, we may consider such factors as the severity of the conflict and the reasons underlying the state's regulations. In this regard, we have previously recognized the legitimate and important state interests reflected in local zoning regulations. For example, in Earth Satellite Communications, Inc., 95 FCC 2d 1223 (1983), we recognized that

> ...countervailing state interests inhere in the present situation...For example, we do not wish to preclude a state or locality from exercising jurisdiction over certain elements of an SMATV operation that properly may fall within its authority, such as zoning or public safety and health, provided the regulation in question is not undertaken as a pretext for the actual purpose of frustrating achievement of the preeminent federal objective and so long as the non-federal regulation is applied in a nondiscriminatory manner.

24. Similarly, we recognize here that there are certain general state and local interests which may, in their even-handed application, legitimately affect amateur radio facilities. Nonetheless, there is also a strong federal interest in promoting amateur communications. Evidence of this interest may be found in the comprehensive set of rules that the Commission has adopted to regulate the amateur service. [5] Those rules set forth procedures for the licensing of stations and operators, frequency allocations, technical standards which amateur radio equipment must meet and operating practices which amateur operators must follow. We recognize the amateur radio service as a voluntary, noncommercial communication service, particularly with respect to providing emergency communications. Moreover, the amateur radio service provides a reservoir of trained operators, technicians and electronic experts who can be called on in times of national or local emergencies. By its nature, the Amateur Radio Service also provides the opportunity for individual operators to further international goodwill. Upon weighing these interests, we believe a limited preemption policy is warranted. State and local regulations that operate to preclude amateur communications in their communities are in direct conflict with federal objectives and must be preempted.

25. Because amateur station communications are only as effective as the antennas employed, antenna height restrictions directly affect the effectiveness of amateur communications. Some amateur antenna configurations require more substantial installations than others if they are to provide the amateur operator with the communications that he/she desires to engage in. For example, an antenna array for international amateur communications will differ from an antenna used to contact other amateur operators at shorter distances. We will not, however, specify any particular height limitation below which a local government may not regulate, nor will we suggest the precise language that must be contained in local ordinances,

such as mechanisms for special exceptions, variances, or conditional use permits. Nevertheless, local regulations which involve placement, screening, or height of antennas based on health, safety, or aesthetic considerations must be crafted to accommodate reasonably amateur communications, and to represent the minimum practicable regulation to accomplish the local authority's legitimate purpose.[6]

26. Obviously, we do not have the staff or financial resources to review all state and local laws that affect amateur operations. We are confident, however, that state and local governments will endeavor to legislate in a manner that affords appropriate recognition to the important federal interest at stake here and thereby avoid unnecessary conflicts with federal policy, as well as time-consuming and expensive litigation in this area. Amateur operators who believe that local or state governments have been overreaching and thereby have precluded accomplishment of their legitimate communications goals, may, in addition, use this document to bring our policies to the attention of local tribunals and forums.

27. Accordingly, the Request for Declaratory Ruling filed July 16, 1984, by the American Radio Relay League, Inc., IS GRANTED to the extent indicated herein and in all other respects, IS DENIED.

FEDERAL COMMUNICATIONS COMMISSION
William J. Tricarico
Secretary

Footnotes

[1]Public Notice, August 30, 1984, Mimeo. No. 6299, 49 F.R. 36113, September 14, 1984.

[2]Public Notice, December 19,1984, Mimeo. No. 1498.

[3]Order, November 8, 1984, Mimeo, No. 770.

[4]MARS is solely under the auspices of the military which recruits volunteer amateur operators to render assistance to it. The Comission is not involved in the MARS program.

[5]47 CFR Part 97.

[6]We reiterate that our ruling herein does not reach restrictive covenants in private contractual agreements. Such agreements are voluntarily entered into by the buyer or tenant when the agreement is executed and do not usually concern this Commission.

Antenna Height and Communications Effectiveness

Second Edition

A Guide for City Planners and Amateur Radio Operators

By R. Dean Straw, N6BV, and Gerald L. Hall, K1TD
Senior Assistant Technical Editor and Retired Associate Technical Editor

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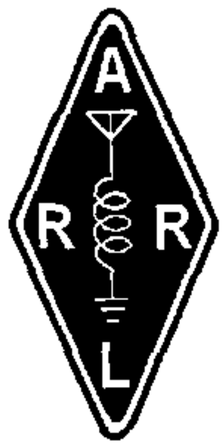


Executive Summary

Amateur radio operators, or "hams" as they are called, communicate with stations located all over the world. Some contacts may be local in nature, while others may be literally halfway around the world. Hams use a variety of internationally allocated frequencies to accomplish their communications.

Except for local contacts, which are primarily made on Very High and Ultra High Frequencies (VHF and UHF), communicating between any two points on the earth rely primarily on high-frequency (HF) signals propagating through the ionosphere. The earth's ionosphere acts much like a mirror at heights of about 150 miles. The vertical angle of radiation of a signal launched from an antenna is one of the key factors determining effective communication distances. The ability to communicate over long distances generally requires a low radiation angle, meaning that an antenna must be placed high above the ground in terms of the wavelength of the radio wave being transmitted.

A beam type of antenna at a height of 70 feet or more will provide greatly superior performance over the same antenna at 35 feet, all other factors being equal. A height of 120 feet or even higher will provide even more advantages for long-distance communications. To a distant receiving station, a transmitting antenna at 120 feet will provide the effect of approximately 8 to 10 times more transmitting power than the same antenna at 35 feet. Depending on the level of noise and interference, this performance disparity is often enough to mean the difference between making distant radio contact with fairly reliable signals, and being unable to make distant contact at all.

Radio Amateurs have a well-deserved reputation for providing vital communications in emergency situations, such as in the aftermath of a severe icestorm, a hurricane or an earthquake. Short-range communications at VHF or UHF frequencies also require sufficient antenna heights above the local terrain to ensure that the antenna has a clear horizon.

In terms of safety and aesthetic considerations, it might seem intuitively reasonable for a planning board to want to restrict antenna installations to low heights. However, such height restrictions often prove very counterproductive and frustrating to all parties involved. If an amateur is restricted to low antenna heights, say 35 feet, he will suffer from poor transmission of his own signals as well as poor reception of distant signals. In an attempt to compensate on the transmitting side (he can't do anything about the poor reception problem), he might boost his transmitted power, say from 150 watts to 1,500 watts, the maximum legal limit. This ten-fold increase in power will very significantly increase the *potential* for interference to telephones, televisions, VCRs and audio equipment in his neighborhood.

Instead, if the antenna can be moved farther away from neighboring electronic devices—putting it higher, in other words—this will greatly reduce the likelihood of interference, which decreases at the inverse square of the distance. For example, doubling the distance reduces the potential for interference by 75%. As a further benefit, a large antenna doesn't look anywhere near as large at 120 feet as it does close-up at 35 feet.

As a not-so-inconsequential side benefit, moving an antenna higher will also greatly reduce the potential of exposure to electromagnetic fields for neighboring human and animals. Interference and RF exposure standards have been thoroughly covered in recently enacted Federal Regulations.

Antenna Height and Communications Effectiveness

By R. Dean Straw, N6BV, and Gerald L. Hall, K1TD
Senior Assistant Technical Editor and Retired Associate Technical Editor

The purpose of this paper is to provide general information about communications effectiveness as related to the physical height of antennas. The intended audience is amateur radio operators and the city and town Planning Boards before which a radio amateur must sometimes appear to obtain building permits for radio towers and antennas.

The performance of horizontally polarized antennas at heights of 35, 70 and 120 feet is examined in detail. Vertically polarized arrays are not considered here because at short-wave frequencies, over average terrain and at low radiation angles, they are usually less effective than horizontal antennas.

Ionospheric Propagation

Frequencies between 3 and 30 megahertz (abbreviated MHz) are often called the "short-wave" bands. In engineering terms this range of frequencies is defined as the *high-frequency* or *HF* portion of the radio spectrum. HF radio communications between two points that are separated by more than about 15 to 25 miles depend almost solely on propagation of radio signals through the *ionosphere*. The ionosphere is a region of the Earth's upper atmosphere that is ionized primarily by ultraviolet rays from the Sun.

The Earth's ionosphere has the property that it will refract or bend radio waves passing through it. The ionosphere is not a single "blanket" of ionization. Instead, for a number of complex reasons, a few discrete layers are formed at different heights above the earth. From the standpoint of radio propagation, each ionized layer has distinctive characteristics, related primarily to different amounts of ionization in the various layers. The ionized layer that is most useful for HF radio communication is called the *F layer*.

The F layer exists at heights varying from approximately 130 to 260 miles above the earth's surface. Both the layer height and the amount of ionization depend on the latitude from the equator, the time of day, the season of the year, and on the level of sunspot activity. Sunspot activity varies generally in cycles that are approximately 11 years in duration, although short-term bursts of activity may create changes in propagation conditions that last anywhere from a few minutes to several days. The ionosphere is not homogeneous, and is undergoing continual change. In fact, the exact state of the ionosphere at any one time is so variable that is best described in statistical terms.

The F layer disappears at night in periods of low and medium solar activity, as the ultraviolet energy required to sustain ionization is no longer received from the Sun. The amount that a passing radio wave will bend in an ionospheric layer is directly related to the intensity of ionization in that layer, and to the frequency of the radio wave.

A triangle may be used to portray the cross-sectional path of ionospheric radio-wave travel, as shown in **Fig 1**, a highly simplified picture of what happens in propagation of radio waves. The base of the triangle is the surface of the Earth between two distant points, and the apex of the triangle is the point representing refraction in the ionosphere. If all the necessary conditions are

met, the radio wave will travel from the first point on the Earth's surface to the ionosphere, where it will be bent (*refracted*) sufficiently to travel to the second point on the earth, many hundreds of miles away.

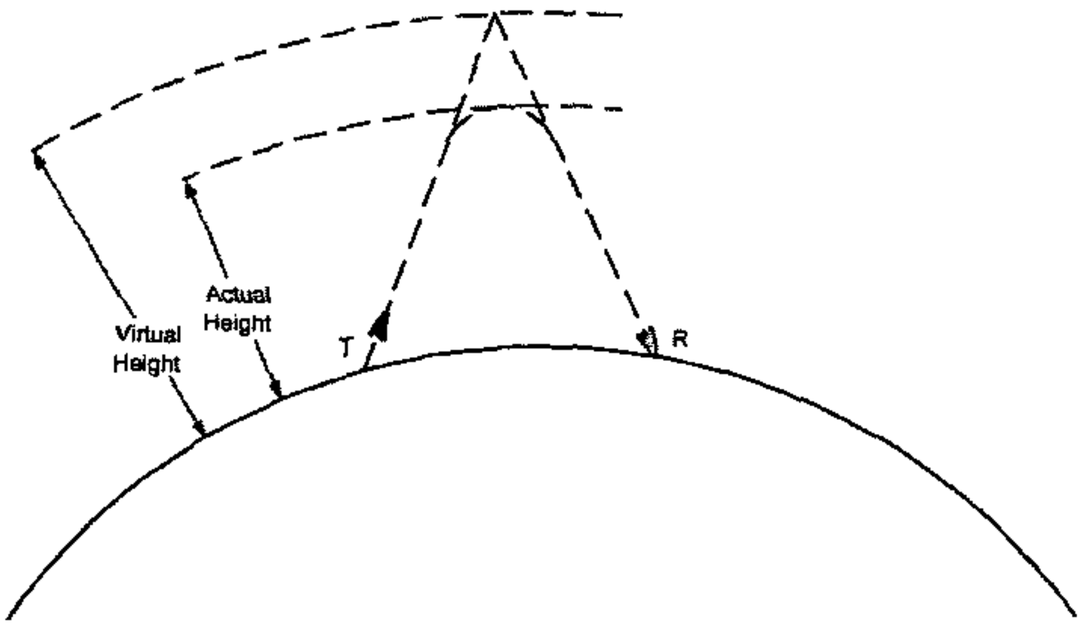


Fig 1—A simplified cross-sectional representation of ionospheric propagation. The simple triangle goes from the Transmitter T up to the virtual height and then back down to the Receiver R. Typically the F layer exists at a height of 150 miles above the Earth at mid-latitudes. The distance between T and R may range from a few miles to 2500 miles under normal propagation conditions.

Of course the Earth's surface is not a flat plane, but instead is curved. High-frequency radio waves behave in essentially the same manner as light waves—they tend to travel in straight lines, but with a slight amount of downward bending caused by refraction in the air. For this reason it is not possible to communicate by a direct path over distances greater than about 15 to 25 miles in this frequency range, slightly farther than the optical horizon. The curvature of the earth causes the surface to "fall away" from the path of the radio wave with greater distances. Therefore, it is the ionosphere that permits HF radio communications to be made between points separated by hundreds or even thousands of miles. The range of frequencies from 3 to 30 MHz is unique in this respect, as ionospheric propagation is not consistently supported for any frequencies outside this range.

One of the necessary conditions for ionospheric communications is that the radio wave must encounter the ionosphere at the correct angle. This is illustrated in **Fig 2**, another very simplified drawing of the geometry involved. Radio waves leaving the earth at high elevation angles above the horizon may receive only very slight bending due to refraction, and are then lost to outer space. For the same fixed frequency of operation, as the elevation angle is lowered toward the horizon, a point is reached where the bending of the wave is sufficient to return the wave to the Earth. At successively lower angles, the wave returns to the Earth at increasing distances.

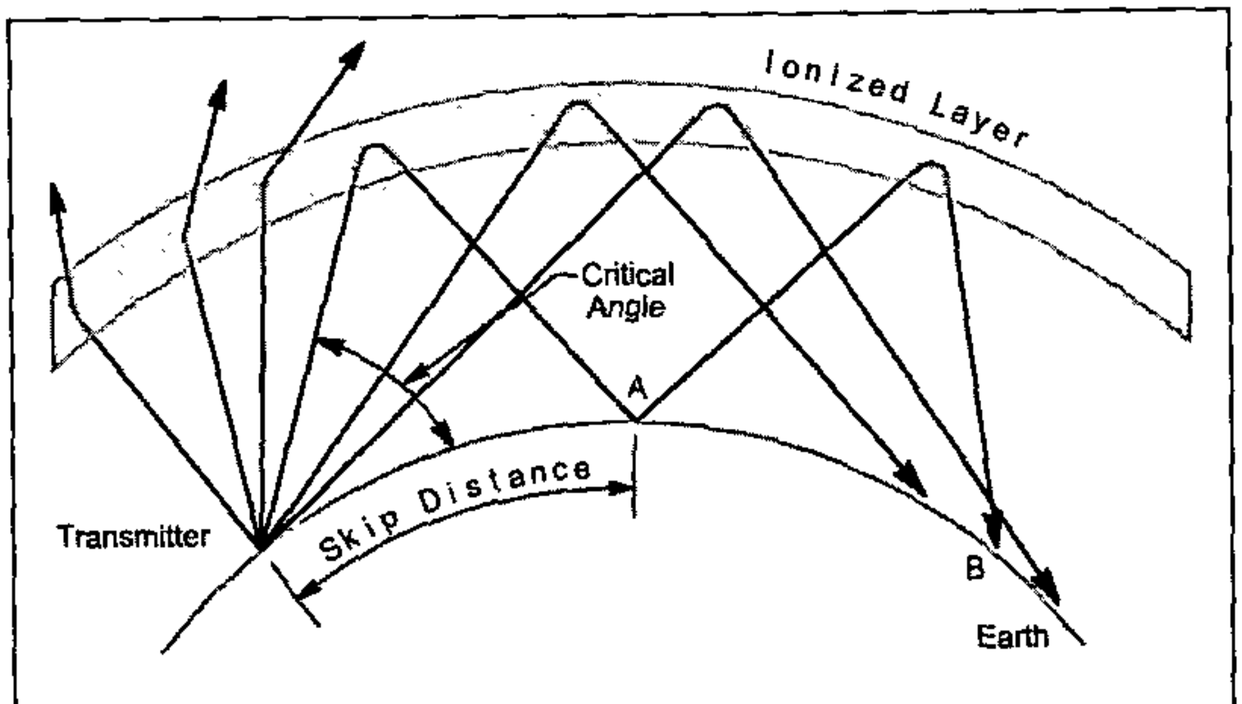


Fig 2—Behavior of radio waves encountering the ionosphere. Rays entering the ionized region at angles above the critical angle are not bent enough to return to Earth and are lost to space. Waves entering at angles below the critical angle reach the Earth at increasingly greater distances as the angle approaches the horizontal. The maximum distance that may normally be covered in a single hop is 2500 miles. Greater distances may be covered with multiple hops.

If the radio wave leaves the earth at an *elevation angle* of zero degrees, just toward the horizon (or just tangent to the earth's surface), the maximum distance that may be reached under usual ionospheric conditions is approximately 2,500 miles (4,000 kilometers). However, the Earth itself also acts as a reflector of radio waves coming down from the ionosphere. Quite often a radio signal will be reflected from the reception point on the Earth back into the ionosphere again, reaching the Earth a second time at a still more distant point.

As in the case of light waves, the angle of reflection is the same as the angle of incidence, so a wave striking the surface of the Earth at an angle of, say, 15° is reflected upward from the surface at the same angle. Thus, the distance to the second point of reception will be approximately twice the distance of the first. This effect is also illustrated in Fig 2, where the signal travels from the transmitter at the left of the drawing via the ionosphere to Point A, in the center of the drawing. From Point A the signal travels via the ionosphere again to Point B, at the right. A signal traveling from the Earth through the ionosphere and back to the Earth is called a *hop*. Under some conditions it is possible for as many as four or five signal hops to occur over a radio path, but no more than two or three hops is the norm. In this way, HF communications can be conducted over thousands of miles.

With regard to signal hopping, two important points should be recognized. First, a significant loss of signal occurs with each hop. Lower layers of the ionosphere absorb energy from the signals as they pass through, and the ionosphere tends to scatter the radio energy in various directions, rather than confining it to a tight bundle. The earth also scatters the energy at a reflection point. Thus, only a small fraction of the transmitted energy actually reaches a distant receiving point.

Again refer to Fig 2. Two radio paths are shown from the transmitter to Point B, a one-hop path and a two-hop path. Measurements indicate that although there can be great variation in the ratio of the two signal strengths in a situation such as this, the signal power received at Point B will generally be from five to ten times greater for the one-hop wave than for the two-hop wave. (The terrain at the mid-path reflection point for the two-hop wave, the angle at which the wave is reflected from the earth, and the condition of the ionosphere in the vicinity of all the refraction points are the primary factors in determining the signal-strength ratio.) Signal levels are generally compared in decibels, abbreviated dB. The decibel is a logarithmic unit. Three decibels difference in signal strengths is equivalent to a power ratio of 2:1; a difference of 10 dB equates to a power ratio of 10:1. Thus the signal loss for an additional hop is about 7 to 10 dB.

The additional loss per hop becomes significant at greater distances. For a simplified example, a distance of 4,000 miles can be covered in two hops of 2,000 miles each or in four hops of 1,000 miles each. For illustration, assume the loss for additional hops is 10 dB, or a 1/10 power ratio. Under such conditions, the four-hop signal will be received with only 1/100 the power or 20 dB below that received in two hops. The reason for this is that only 1/10 of the two-hop signal is received for the first additional (3^{rd}) hop, and only 1/10 of that 1/10 for the second additional (4^{th}) hop. It is for this reason that no more than four or five propagation hops are useful; the received signal eventually becomes too weak to be heard.

The second important point to be recognized in multihop propagation is that the geometry of the first hop establishes the geometry for all succeeding hops. And it is the elevation angle at the transmitter that sets up the geometry for the first hop.

It should be obvious from the preceding discussion that one needs a detailed knowledge of the range of elevation angles for effective communication in order to do a scientific evaluation of a possible communications circuit. The range of angles should be statistically valid over the full 11-year solar sunspot cycle, since the behavior of the Sun determines the changes in the nature of the Earth's ionosphere. ARRL did a very detailed computer study in the early 1990s to determine the angles needed for propagation throughout the world. The results of this study will be examined later, after we introduce the relationship between antenna height and the elevation pattern for an antenna.

Horizontal Antennas Over Flat Ground

A simple antenna that is commonly used for HF communications is the horizontal half-wave *dipole*. The dipole is a straight length of wire (or tubing) into which radio-frequency energy is fed at the center. Because of its simplicity, the dipole may be easily subjected to theoretical performance analyses. Further, the results of proper analyses are well borne out in practice. For these reasons, the half-wave dipole is a convenient performance standard against which other antenna systems can be compared.

Because the earth acts as a reflector for HF radio waves, the directive properties of any antenna are modified considerably by the ground underneath it. If a dipole antenna is placed horizontally above the ground, most of the energy radiated downward from the dipole is

reflected upward. The reflected waves combine with the direct waves (those radiated at angles above the horizontal) in various ways, depending on the height of the antenna, the frequency, and the electrical characteristics of the ground under and around the antenna.

At some vertical angles above the horizon, the direct and reflected waves may be exactly in phase—that is, the maximum signal or field strengths of both waves are reached at the same instant at some distant point. In this case the resultant field strength is equal to the sum of the two components. At other vertical angles the two waves may be completely out of phase at some distant point—that is, the fields are maximum at the same instant but the phase directions are opposite. The resultant field strength in this case is the difference between the two. At still other angles the resultant field will have intermediate values. Thus, the effect of the ground is to increase the intensity of radiation at some vertical angles and to decrease it at others. The elevation angles at which the maxima and minima occur depend primarily on the antenna height above ground. (The electrical characteristics of the ground have some slight effect too.)

For simplicity here, we consider the ground to be a perfectly conducting, perfectly flat reflector, so that straightforward trigonometric calculations can be made to determine the relative amount of radiation intensity at any vertical angle for any dipole height. Graphs from such calculations are often plotted on rectangular axes to show best resolution over particularly useful ranges of elevation angles, although they are also shown on polar plots so that both the front and back of the response can be examined easily. **Fig 3** shows an overlay of the polar elevation-pattern responses of two dipoles at different heights over perfectly conducting flat ground. The lower dipole is located a half wavelength above ground, while the higher dipole is located one wavelength above ground. The pattern of the lower antenna peaks at an elevation angle of about 30°, while the higher antenna has two main lobes, one peaking at 15° and the other at about 50° elevation angle.

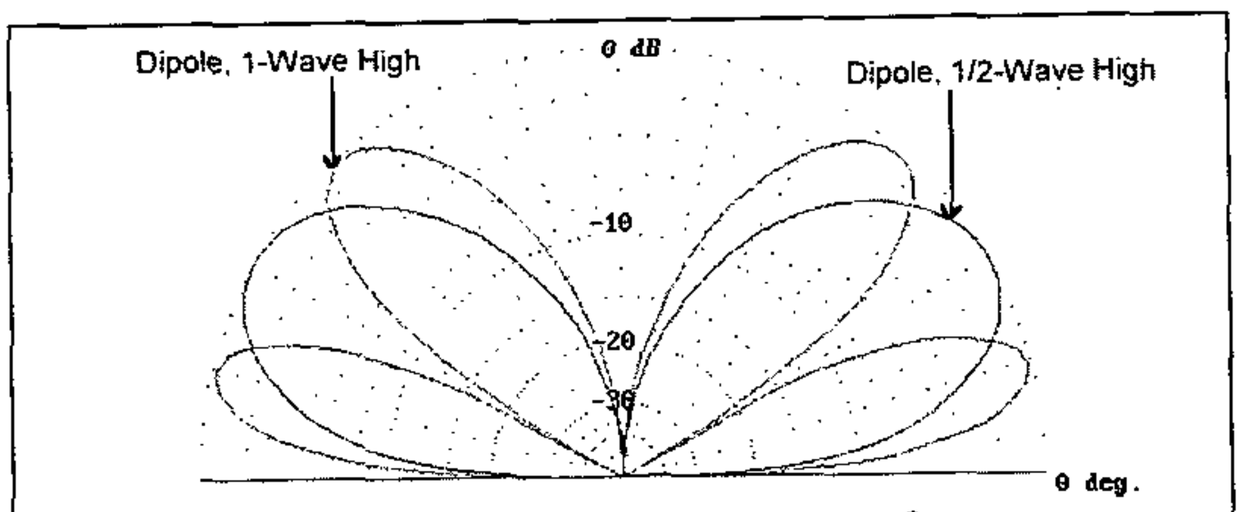


Fig 3–Comparison of elevation responses for two dipoles: one ½-wavelength high, and the other 1-wavelength high.

In the plots shown in Fig 3, the elevation angle above the horizon is represented in the same fashion that angles are measured on a protractor. The concentric circles are calibrated to represent ratios of field strengths, referenced to the strength represented by the outer circle. The circles are calibrated in decibels. Diminishing strengths are plotted toward the center.

You may have noted that antenna heights are often discussed in terms of *wavelengths*. The reason for this is that the length of a radio wave is inversely proportional to its frequency. Therefore a fixed physical height will represent different electrical heights at different radio frequencies. For example, a height of 70 feet represents one wavelength at a frequency of 14 MHz. But the same 70-foot height represents a half wavelength for a frequency of 7 MHz and only a quarter wavelength at 3.5 MHz. On the other hand, 70 feet is 2 wavelengths high at 28 MHz.

The lobes and nulls of the patterns shown in Fig 3 illustrate what was described earlier, that the effect of the ground beneath an antenna is to increase the intensity of radiation at some vertical elevation angles and to decrease it at others. At a height of a half wavelength, the radiated energy is strongest at a rather high elevation angle of 30°. This would represent the situation for a 14-MHz dipole 35 feet off the ground.

As the horizontal antenna is raised to greater heights, additional lobes are formed, and the lower ones move closer to the horizon. The maximum amplitude of each of the lobes is roughly equal. As may be seen in Fig 3, for an antenna height of one wavelength, the energy in the lowest lobe is strongest at 15°. This would represent the situation for a 14-MHz dipole 70 feet high.

The elevation angle of the lowest lobe for a horizontal antenna above perfectly conducting ground may be determined mathematically:

$$\theta = \sin^{-1}\left(\frac{0.25}{h}\right)$$

Where

θ = the wave or elevation angle
h = the antenna height above ground in wavelengths

In short, the higher the horizontal antenna, the lower is the lowest lobe of the pattern. As a very general rule of thumb, the higher an HF antenna can be placed above ground, the farther it will provide effective communications because of the resulting lower radiation angle. This is true for any horizontal antenna over real as well as theoretically perfect ground.

You should note that the *nulls* in the elevation pattern can play an important role in communications—or lack of communication. If a signal arrives at an angle where the antenna system exhibits a deep null, communication effectiveness will be greatly reduced. It is thus quite possible that an antenna can be *too high* for good communications efficiency on a particular frequency. Although this rarely arises as a significant problem on the amateur bands below 14 MHz, we'll discuss the subject of optimal height in more detail later.

Actual earth does not reflect all the radio-frequency energy striking it; some absorption takes place. Over real earth, therefore, the patterns will be slightly different than those shown in Fig 3, however the differences between theoretical and perfect earth ground are not significant for the range of elevation angles necessary for good HF communication. Modern computer programs can do accurate evaluations, taking all the significant ground-related factors into account.

Beam Antennas

For point-to-point communications, it is beneficial to concentrate the radiated energy into a beam that can be aimed toward a distant point. An analogy can be made by comparing the light

from a bare electric bulb to that from an automobile headlight, which incorporates a built-in focusing lens. For illuminating a distant point, the headlight is far more effective.

Antennas designed to concentrate the radiated energy into a beam are called, naturally enough, *beam antennas*. For a fixed amount of transmitter power fed to the transmitting antenna, beam antennas provide increased signal strength at a distant receiver. In radio communications, the use of a beam antenna is also beneficial during reception, because the antenna pattern for transmission is the same for reception. A beam antenna helps to reject signals from unwanted directions, and in effect boosts the strength of signals received from the desired direction.

The increase in signal or field strength a beam antenna offers is frequently referenced to a dipole antenna in free space (or to another theoretical antenna in free space called an *isotropic antenna*) by a term called *gain*. Gain is commonly expressed in decibels. The isotropic antenna is defined as being one that radiates equally well in all directions, much like the way a bare lightbulb radiates essentially equally in all directions.

One particularly well known type of beam antenna is called a *Yagi*, named after one of its Japanese inventors. Different varieties of Yagi antennas exist, each having somewhat different characteristics. Many television antennas are forms of multi-element Yagi beam antennas. In the next section of this paper, we will refer to a four-element Yagi, with a gain of 8.5 dBi in free space, exclusive of any influence due to ground.

This antenna has 8.5 dB more gain than an isotropic antenna in free space and it achieves that gain by squeezing the pattern in certain desired directions. Think of a normally round balloon and imagine squeezing that balloon to elongate it in one direction. The increased length in one direction comes at the expense of length in other directions. This is analogous to how an antenna achieves more signal strength in one direction, at the expense of signal strength in other directions.

The elevation pattern for a Yagi over flat ground will vary with the electrical height over ground in exactly the same manner as for a simpler dipole antenna. The Yagi is one of the most common antennas employed by radio amateurs, second in popularity only to the dipole.

Putting the Pieces Together

In **Fig 4**, the elevation angles necessary for communication from a particular transmitting site, in Boston, Massachusetts, to the continent of Europe using the 14-MHz amateur band are shown in the form of a bargraph. For each elevation angle from 1° to 30°, Fig 4 shows the percentage of time when the 14-MHz band is open at each elevation angle. For example, 5° is the elevation angle that occurs just over 12% of the time when the band is available for communication, while 11° occurs about 10% of the time when the band is open. The useful range of elevation angles that must accommodated by an amateur station wishing to talk to Europe from Boston is from 1° to 28°.

In addition to the bar-graph elevation-angle statistics shown in Fig 4, the elevation pattern responses for three Yagi antennas, located at three different heights above flat ground, are overlaid on the same graph. You can easily see that the 120-foot antenna is the best antenna to cover the most likely angles for this particular frequency, although it suffers at the higher elevation angles on this particular propagation path, beyond about 12°. If, however, you can accept somewhat lower gain at the lowest angles, the 70-foot antenna would arguably be the best overall choice to cover all the elevation angles.

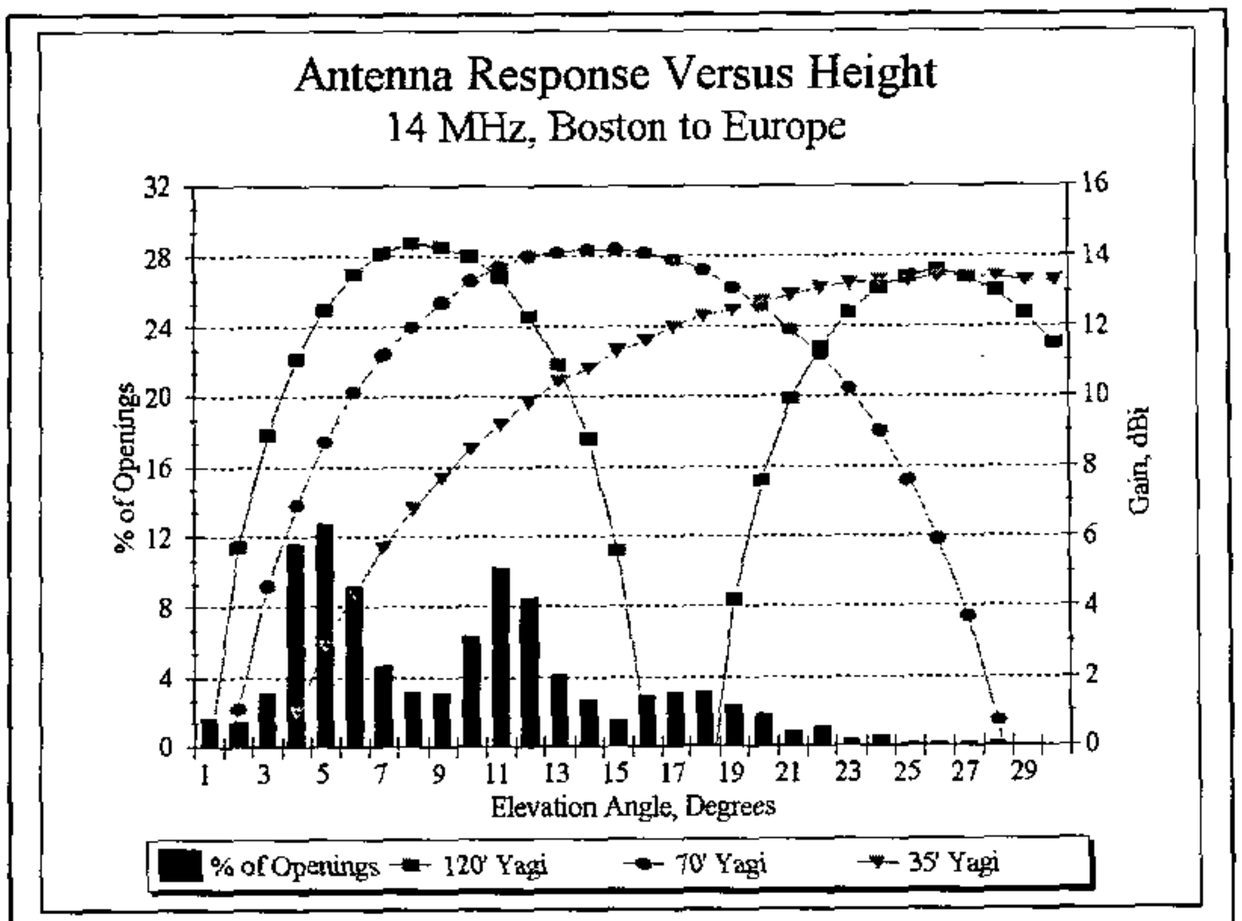


Fig 4—Elevation response patterns of three Yagis at 120, 70 and 35 feet, at 14 MHz over flat ground. The patterns are overlaid with the statistical elevation-angles for the path from Boston to continental Europe over the entire 11-year solar sunspot cycle. Clearly, the 120-foot antenna is the best choice to cover the low angles needed, but it suffers some at higher angles.

Other graphs are needed to show other target receiving areas around the world. For comparison, **Fig 5** is also for the 14-MHz band, but this time from Boston to Sydney, Australia. The peak angle for this very long path is about 2°, occurring 19% of the time when the band is actually open for communication. Here, even the 120-foot high antenna is not ideal. Nonetheless, at a moderate 5° elevation angle, the 120-foot antenna is still 10 dB better than the one at 35 feet.

Fig 4 and Fig 5 have portrayed the situation for the 14-MHz amateur band, the most popular and heavily utilized HF band used by radio amateurs. During medium to high levels of solar sunspot activity, the 21 and 28-MHz amateur bands are open during the daytime for long-distance communication. **Fig 6** illustrates the 28-MHz elevation-angle statistics, compared to the elevation patterns for the same three antenna heights shown in Fig 5. Clearly, the elevation response for the 120-foot antenna has a severe (and undesirable) null at 8°. The 120-foot antenna is almost 3.4 wavelengths high on 28 MHz (whereas it is 1.7 wavelengths high on 14 MHz.) For many launch angles, the 120-foot high Yagi on 28 MHz would simply be too high.

The radio amateur who must operate on a variety of frequencies might require two or more towers at different heights to maintain essential elevation coverage on all the authorized bands. Antennas can sometimes be mounted at different heights on a single supporting tower, although it is more difficult to rotate antennas that are "vertically stacked" around the tower to point in all the needed directions. Further, closely spaced antennas tuned to different frequencies usually interact electrically with each other, often causing severe performance degradation.

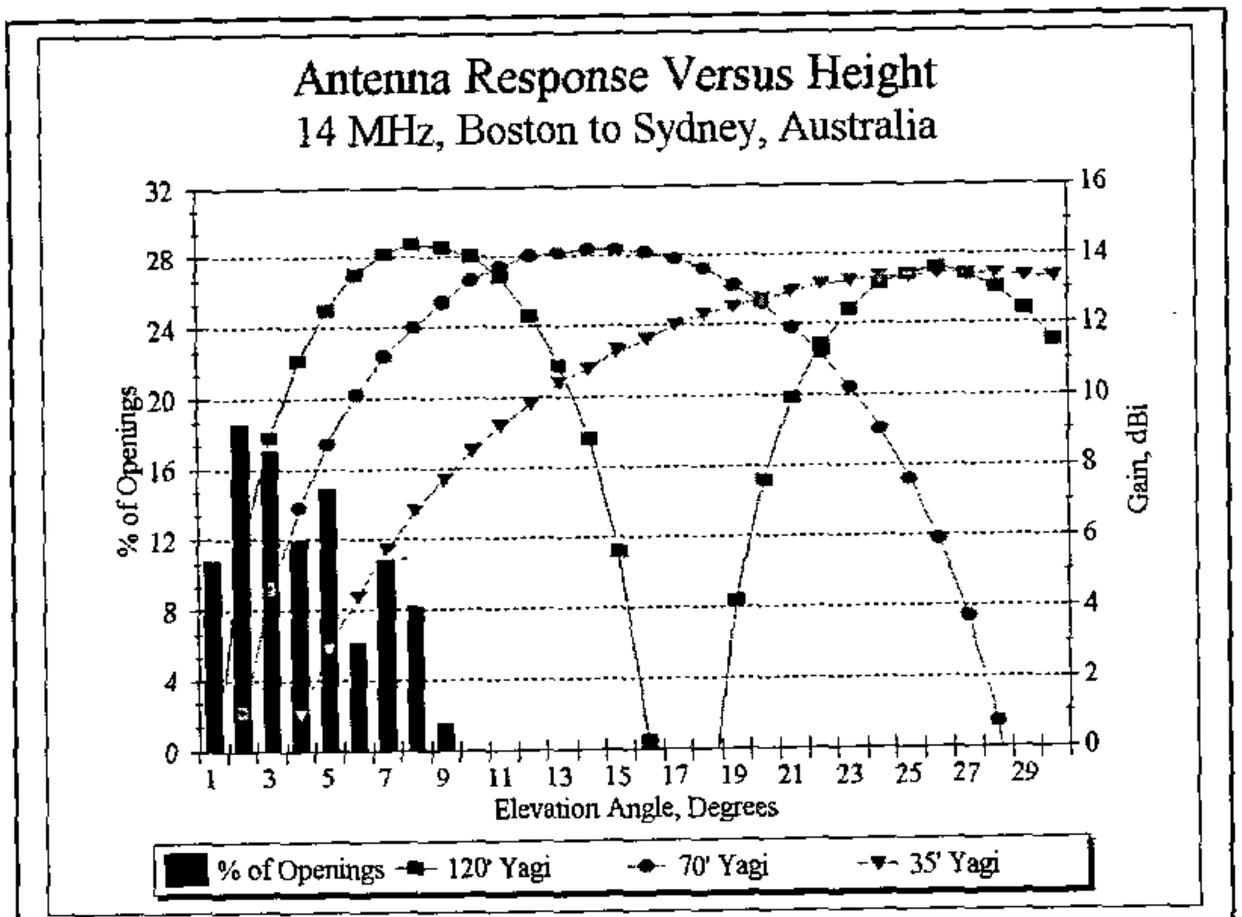


Fig 5—Elevation responses for same antennas as Fig 4, but for a longer-range path from Boston to Sydney, Australia. Note that the prevailing elevation angles are very low.

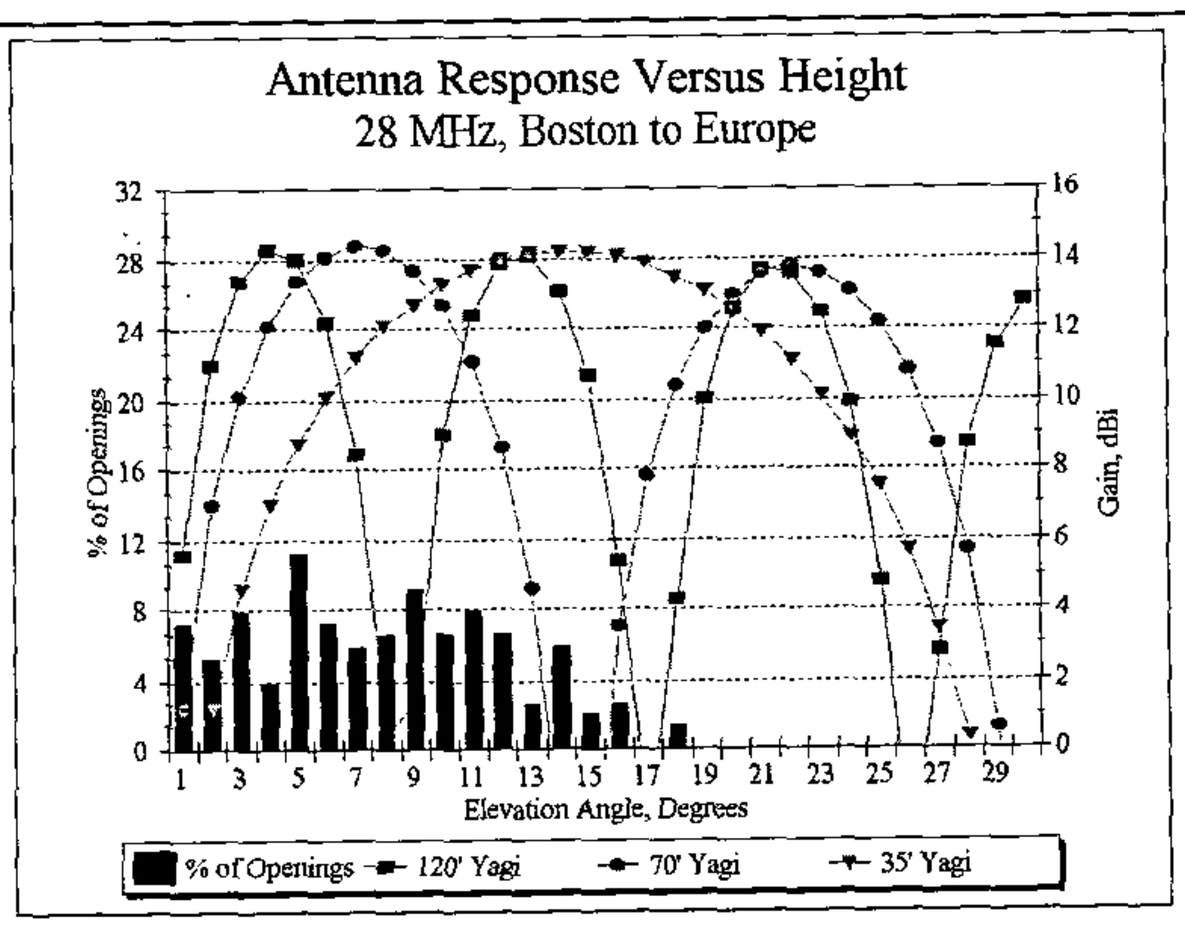


Fig 6—Elevation angles compared to antenna responses for 28-MHz path from Boston to Europe. The 70-foot antenna is probably the best overall choice on this path.

During periods of low to moderate sunspot activity (about 50% of the 11-year solar cycle), the 14-MHz band closes down for propagation in the early evening. A radio amateur wishing to continue communication must shift to a lower frequency band. The next most highly used band below the 14-MHz band is the 7-MHz amateur band. **Fig 7** portrays a 7-MHz case for another transmitting site, this time from San Francisco, California, to the European continent. Now, the range of necessary elevation angles is from about 1° to 16°, with a peak statistical likelihood of about 16% occurring at an elevation of 3°. At this low elevation angle, a 7-MHz antenna must be *very* high in the air to be effective. Even the 120-foot antenna is hardly optimal for the peak angle of 3°. The 200-foot antenna shown would be far better than a 120-foot antenna. Further, the 35-foot high antenna is *greatly* inferior to the other antennas on this path and would provide far less capabilities, on both receiving and transmitting.

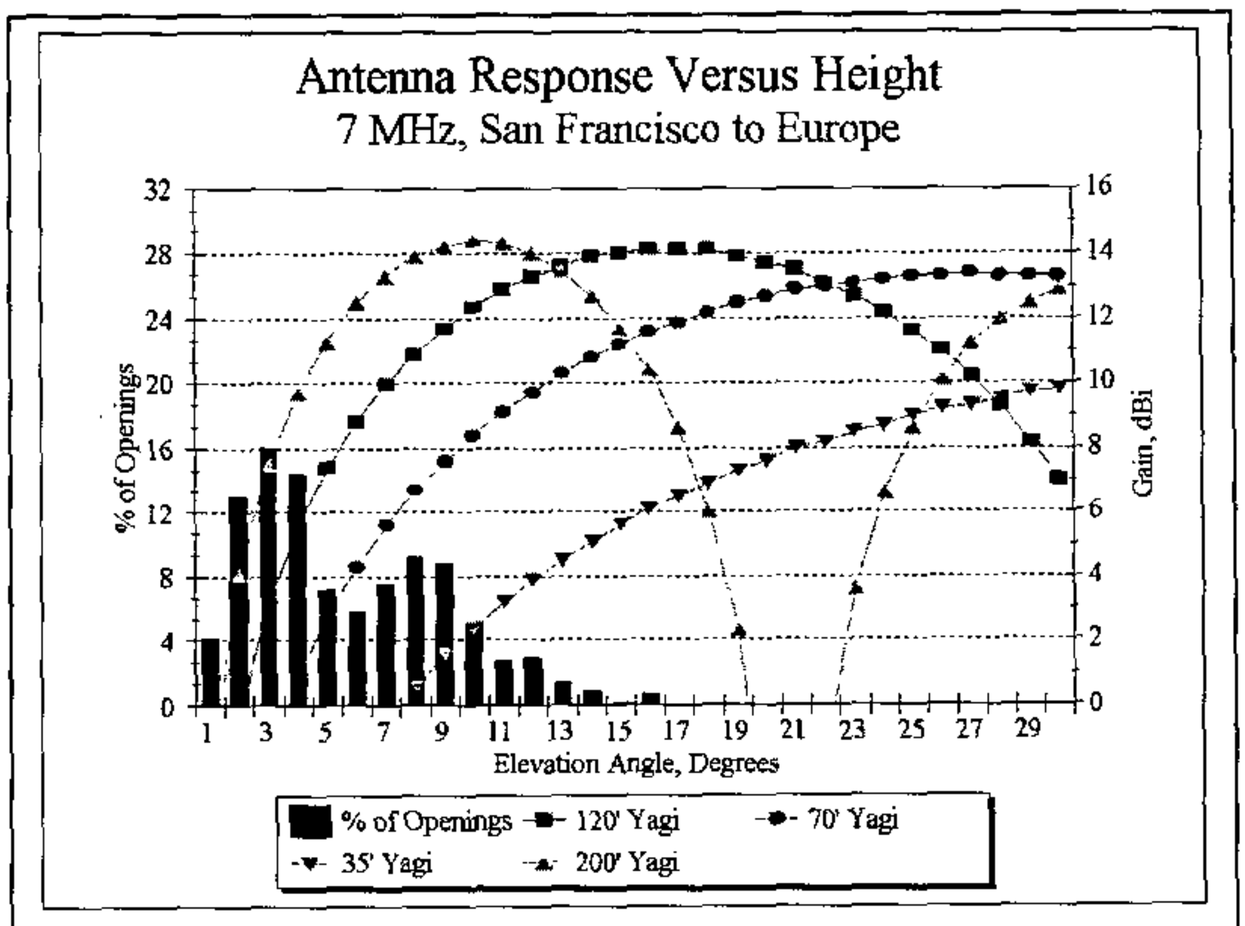


Fig 7—Comparison of antenna responses for another propagation path: from San Francisco to Europe on 7 MHz. Here, even a 120-foot high antenna is hardly optimal for the very low elevation angles required on this very long path. In fact, the 200-foot high antenna is far better suited for this path.

What If the Ground Isn't Flat?

In the preceding discussion, antenna radiation patterns were computed for antennas located over *flat ground.* Things get much more complicated when the exact local terrain surrounding a tower and antenna are taken into account. In the last few years, sophisticated ray-tracing computer models have become available that can calculate the effect that local terrain has on the elevation patterns for real-world HF installations—and *each* real-world situation is indeed different.

For simplicity, first consider an antenna on the top of a hill with a constant slope downward. The general effect is to lower the effective elevation angle by an amount equal to the downslope of the hill. For example, if the downslope is –3° for a long distance away from the tower and the flat-ground peak elevation angle is 10° (due to the height of the antenna), then the net result will be 10° – 3° = 7° peak angle. However, if the local terrain is rough, with many bumps and valleys in the desired direction, the response can be modified considerably. **Fig 8** shows the fairly complicated terrain profile for Jan Carman, K5MA, in the direction of Japan. Jan is located on one of the tallest hills in West Falmouth, Massachusetts. Within 500 feet of his tower is a small hill with a water tower on the top, and then the ground quickly falls away, so that at a distance of about 3000 feet from the tower base, the elevation has fallen to sea level, at 0 feet.

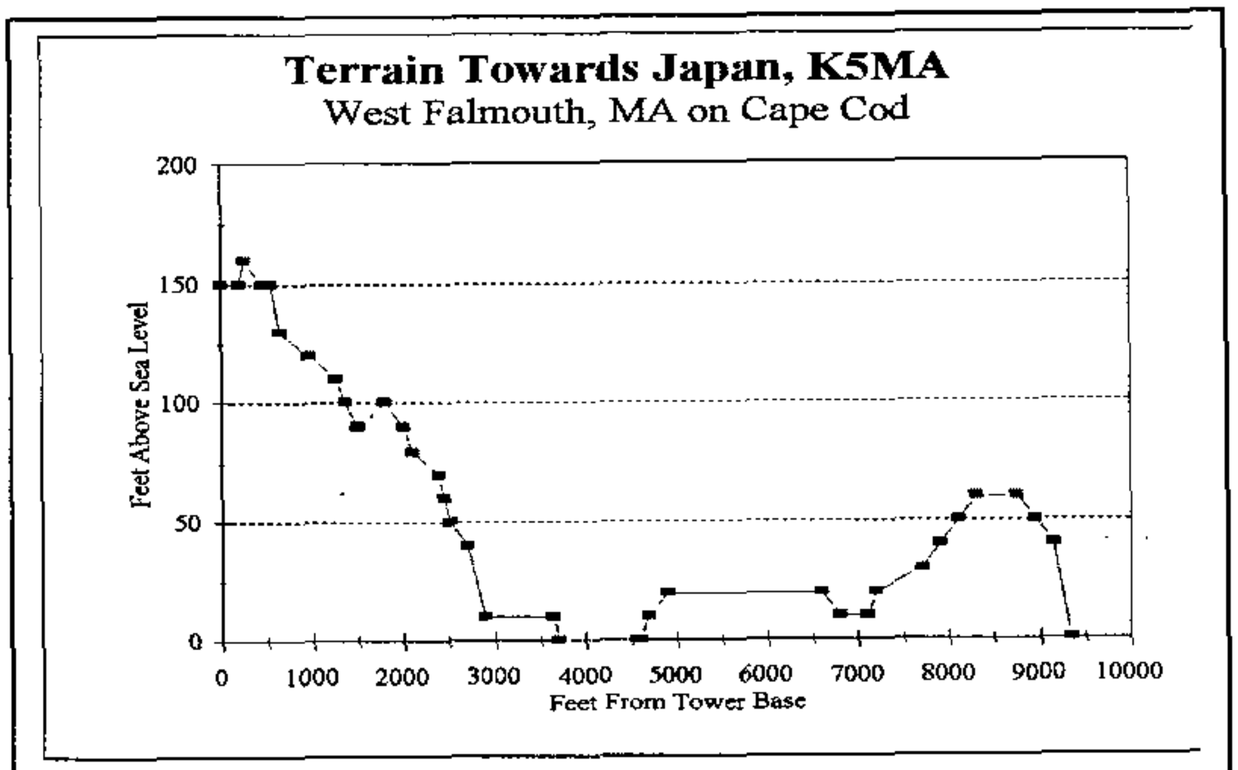


Fig 8—Terrain profile from location of K5MA, Jan Carman, in West Falmouth, MA, towards Japan. This is a moderately complicated real-world terrain on one of the highest hills on Cape Cod.

The computed responses toward Japan from this location, using a 120- and a 70-foot high Yagi, are shown in **Fig 9**, overlaid for comparison with the response for a 120-foot Yagi over flat ground. Over this particular terrain, the elevation pattern for the 70-foot antenna is actually better than that of the 120-foot antenna for angles below about 3°, but not for medium angles! The responses for each height oscillate around the pattern for flat ground — all due to the complex reflections and diffractions occurring off the terrain.

At an elevation angle of 5°, the situation reverses itself and the gain is now higher for the 120-foot-high antenna than for the 70-foot antenna. A pair of antennas on one tower would be required to cover all the angles properly. To avoid any electrical interactions between similar antennas on one tower, two towers would be much better. Compared to the flat-ground situation, the responses of real-world antenna can be very complicated due to the interactions with the local terrain.

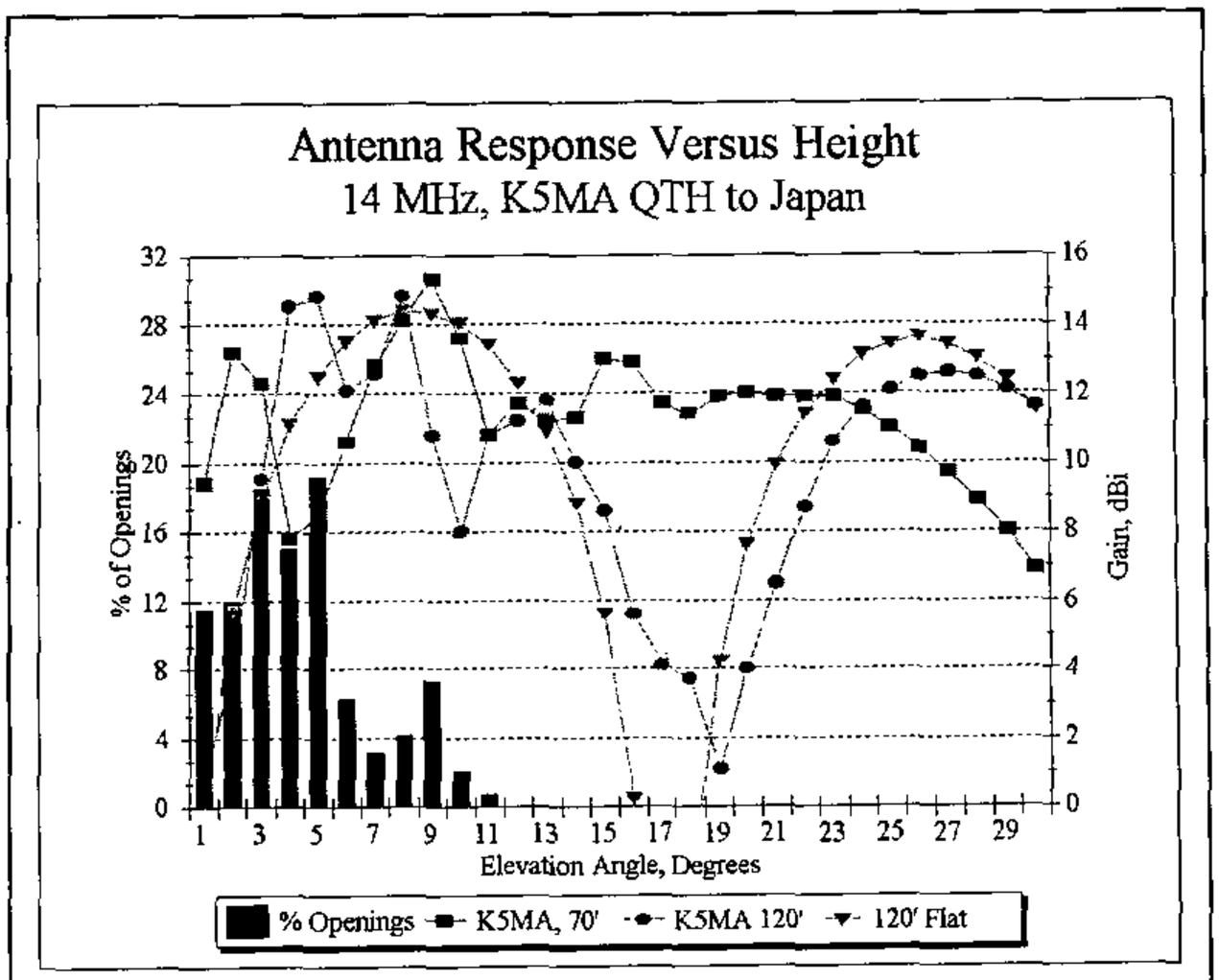


Fig 9—Computed elevation responses of 120- and 70-foot high Yagis, at the K5MA location on Cape Cod, in the direction of Japan and over flat ground, for comparison. The elevation response of the real-world antenna has been significantly modified by the local terrain.

Fig 10 shows the situation for the same Cape Cod location, but now for 7 MHz. Again, it is clear that the 120-foot high Yagi is superior by at least 3 dB (equivalent to twice the power) to the 70-foot high antenna at the statistical elevation angle of 6°. However, the response of the real-world 120-foot high antenna is still up some 2 dB from the response for an identical antenna over flat ground at this angle. On this frequency, the local terrain has helped boost the gain at the medium angles more than a similar antenna 120 feet over flat ground. The gain is even greater at lower angles, say at 1° elevation, where most signals take off, statistically speaking. Putting the antenna up higher, say 150 feet, will help the situation at this location, as would adding an additional Yagi at the 70-foot level and feeding both antennas in phase as a vertical stack.

Although the preceding discussion has been in terms of the transmitting antenna, the same principles apply when the antenna is used for reception. A high antenna will receive low-angle signals more effectively than will a low antenna. Indeed, amateur operators know very well that "If you can't hear them, you can't talk to them." Stations with tall towers can usually hear far better than their counterparts with low installations.

The situation becomes even more difficult for the next lowest amateur band at 3.5 MHz, where optimal antenna heights for effective long-range communication become truly heroic! Towers that exceed 120 feet are commonplace among amateurs wishing to do serious 3.5-MHz long-distance work.

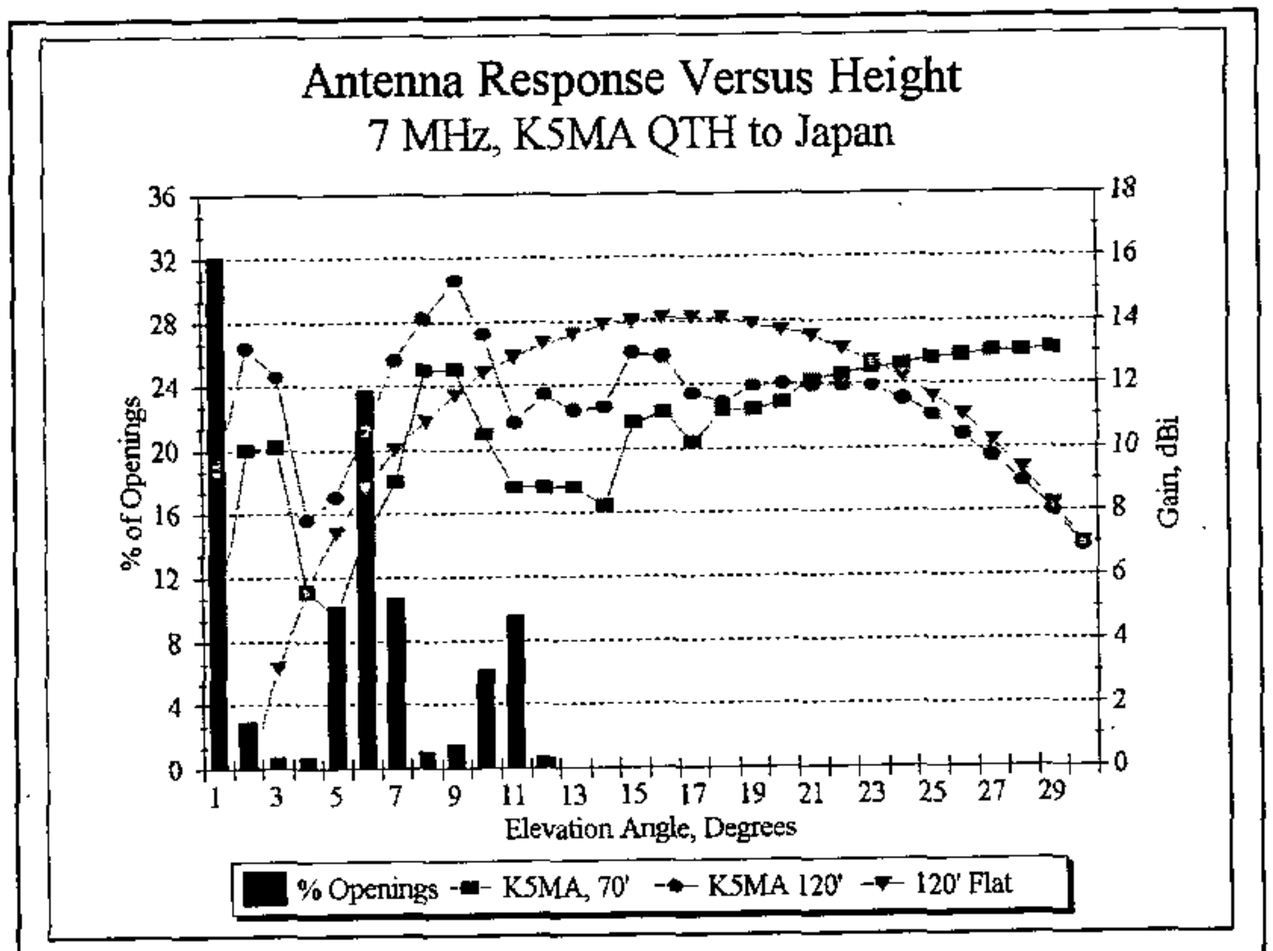


Fig 10—Elevation response on 7 MHz from K5MA location towards Japan on 7 MHz. The 120-foot high Yagi is definitely superior to the one only 70-feet high.

The 3.5 and 7-MHz amateur bands are, however, not always used strictly for long-range work. Both bands are crucial for providing communications throughout a local area, such as might be necessary in times of a local emergency. For example, earthquakes, tornadoes and hurricanes have often disrupted local communications—because telephone and power lines are down and because local police and fire-department VHF/UHF repeaters are thus knocked out of action. Radio amateurs often will use the 3.5 and 7-MHz bands to provide communications out beyond the local area affected by the disaster, perhaps into the next county or the next metropolitan area. For example, an earthquake in San Francisco might see amateurs using emergency power providing communications through amateurs in Oakland across the San Francisco Bay, or even as far away as Los Angeles or Sacramento. These places are where commercial power and telephone lines are still intact, while most power and telephones might be down in San Francisco itself. Similarly, a hurricane that selectively destroys certain towns on Cape Cod might find amateurs in these towns using 3.5 or 7.0 MHz to contact their counterparts in Boston or New York.

However, in order to get the emergency messages through, amateurs must have effective antennas. Most such relatively local emergency situations require towers of moderate height, less than about 100 feet tall typically.

Antenna Height and Interference

Extensive Federal Regulations cover the subject of interference to home electronic devices. It is an unfortunate fact of life, however, that many home electronic devices (such as stereos, TVs, telephones and VCRs) do not meet the Federal standards. They are simply inadequately designed to be resistant to RF energy in their vicinity. Thus, a perfectly legal amateur-radio transmitter may cause interference to a neighbor's VCR or TV because cost-saving shortcuts were taken in

the design and manufacture of these home entertainment devices. Unfortunately, it is difficult to explain to an irate neighbor why his brand-new $1000 stereo is receiving the perfectly legitimate transmissions by a nearby radio operator.

The potential for interference to any receiving device is a function of the transmitter power, transmitter frequency, receiver frequency, and most important of all, the proximity of the transmitter to the potential receiver. The transmitted field intensity decreases as the inverse square of the distance. This means that doubling the height of an antenna from 35 to 70 feet will reduce the potential for interference by 75%. Doubling the height again to 140 feet high would reduce the potential another 75%. Higher is better to prevent interference in the first place!

Recently enacted Federal Regulations address the potential for harm to humans because of exposure to electromagnetic fields. Amateur-radio stations rarely have problems in this area, because they use relatively low transmitting power levels and intermittent duty cycles compared to commercial operations, such as TV or FM broadcast stations. Nevertheless, the potential for RF exposure is again directly related to the distance separating the transmitting antenna and the human beings around it. Again, doubling the height will reduce potential exposure by 75%. The higher the antenna, the less there will any potential for significant RF exposure.

THE WORLD IS A VERY COMPLICATED PLACE

It should be pretty clear by now that designing scientifically valid communication systems is an enormously complex subject. The main complications come from the vagaries of the medium itself, the Earth's ionosphere. However, local terrain can considerably complicate the analysis also.

The main points of this paper may be summarized briefly:

> **The radiation elevation angle is the key factor determining effective communication distances beyond line-of-sight. Antenna height is the primary variable under control of the station builder, since antenna height affects the angle of radiation.**
>
> **In general, placing an amateur antenna system higher in the air enhances communication capabilities and also reduces chances for electromagnetic interference with neighbors.**

Petitioner's #20

Needs Analysis

With Respect to Height

For an Amateur Radio

Antenna Support Structure

Baltimore County
Case #06-180-SPA

Submitted by
Benjamin and Kayren Governale
39 Glenbrook Drive
Phoenix, MD 21131

Prepared by
Dr. John V. Evans and James A. Nitzberg
24401 Stringtown Road
Clarksburg, MD 20871

Table of Contents

Executive Summary

This report is submitted in conjunction with a Petition for a Special Hearing and Variance, #06-180-SPA, for Benjamin and Kayren Governale, 39 Glenbrook Drive, Phoenix, MD 21131.

The purpose of this report is to show the need for, and to examine the height requirements for reliable High Frequency (HF), or "shortwave", communications at the location -- under the changing variables that impact Amateur Radio communications.

A 99' self-supporting antenna system has been installed. **It is the conclusion of this report that the antenna support structure – which ideally should be taller – is an acceptable compromise that meets the needs of the amateur radio operator, when measured against commonly used engineering metrics for effective communications, expressed as reliability.**

A height of 65' for the HF antenna would be an unacceptable compromise, which would not meet the needs of the amateur radio operator for reliability.

The total height of the structure is 99'. The HF antenna is mounted 8' below the top, to allow for the VHF and UHF antennas mounted above. Calculations in this study are based on a height of 91' for the HF antenna.

For VHF work, to provide emergency communications to hand-held radios used by search and rescue teams, for example, and for coverage to support the National Weather Service, a height of 65' would reduce the area covered by 213 square miles

Outline

This report is organized as follows:

1. Background of the authors.

2. A brief discussion of communications reliability as pertaining to amateur radio.

3 An HF communications reliability study of the installation at 91' and 65', using industry standard tools.

4. A VHF coverage area study, comparing the two heights.

5. A reprint of a publication from the American Radio Relay League, "Antenna Height and Communications Effectiveness," that provides the basic technical background as to why higher antennas perform more reliably.

Background of John V. Evans, PhD

Dr. John Evans received the degrees of Bachelor of Science and Doctor of Philosophy from the University of Manchester U.K. in 1954 and 1957, respectively. His Ph.D. studies, carried out at the University's Jodrell Bank Research Station under the direction of Sir Bernard Lovell, involved the use of radar to study the radio reflection properties of the moon. This work demonstrated that on the scale of a meter or so, the surface of the moon is largely smooth and undulating and consists of unconsolidated material. (This was long before there were any close up photographs of the moon's surface.) In addition, Dr. Evans made the first measurements of the total number of electrons in the earth's ionosphere by measuring how many rotations plane-polarized radio waves undergo in traversing the ionosphere as a result of the so-called "Faraday effect".

In 1960 Dr. Evans came to work at the MIT Lincoln Laboratory in Massachusetts. Shortly after his arrival he began new studies of the earth's ionosphere that entailed the use of extremely powerful radar to observe the weak signal scattered by the free electrons (so-called "incoherent scatter") as a function of height. Under his leadership this technique evolved into the most powerful means of investigating the earth's ionosphere and the upper atmosphere from the ground. The facilities that Dr. Evans built up for this work at Millstone Hill, MA continue to this day to be used for this work under the sponsorship of the National Science Foundation. Dr. Evans has published well over 100 scientific papers in refereed science journals on the ionosphere based on these observations, which were carried out over a 20-year period.

In 1980 Dr. Evans was made full professor at MIT, and the Director of the North East Radio Astronomy Observatory (Haystack), while continuing to serve half time as an Assistant Director of MIT Lincoln Laboratory. In 1983 Dr. Evans left these posts to assume the Director position at COMSAT Laboratories, which he held for 13 years. He retired from COMSAT in 1998 as Chief Technical Officer. Dr Evans is a Member of the National Academy of Engineering, a Fellow of the Institute for Electrical and Electronics Engineering, and a Fellow of the American Institute for Aeronautics and Astronautics.

Background of James A. Nitzberg, BSEE

Mr. Nitzberg received his Bachelor's Degree in Electrical Engineering from the University of Delaware in 1985, specializing in Digital Signals and Systems.

He has been a Software Professional for over 20 years and his experience covers all aspects of Design, Development, Implementation and Support for the complete Software Life Cycle.

Mr. Nitzberg is currently Vice President of Select* Associates, Inc. in Timonium, MD.

Communications Reliability

For the reader to meaningfully interpret the reliability study presented herein, a brief discussion of the major concepts and terms involved is relevant. The reader is also urged to review the accompanying document prepared by technical staff at the American Radio Relay League, "Antenna Height and Communications Effectiveness," which provides the physical explanation as to why radio communications reliability and effectiveness is strongly affected by antenna height. The concept of height having a strong effect on communications reliability is well-studied in engineering, and enshrined in law by the FCC.

> 25. Because amateur station communications are only as effective as the antennas employed, antenna height restrictions directly affect the effectiveness of amateur communications. Some amateur antenna configurations require more substantial installations than others if they are to provide the amateur operator with the communications that he/she desires to engage in. For example, an antenna array for International amateur communications will differ from an antenna used to contact other amateur operators at shorter distances.

Source: FCC Order PRB-1, 101 FCC 2d 952, 50 Fed. Reg. 38813 (September 25, 1985), ("PRB-1"), http://wireless.fcc.gov/services/amateur/prb/index.html

This Analysis relates solely to the technical aspects of height and reliability.

Definitions

Reliability, in a radio communications context, answers the question: "How often, on average, can this communication take place at a specified 'minimum acceptable level'?" Reliability is normally expressed as a percentage, and arriving at a specific value depends on the definition of 'Minimum Acceptable Level' (or M.A.L.) in use (several different M.A.L.'s are commonly accepted in the engineering community).

Examples

Imagine watching a distant VHF or UHF analog TV station (not cable), which occasionally fades in and out. If we define the M.A.L. as 'a completely clear picture without snow or fuzziness', then the measured Reliability might be as low as 20-30%. On the other hand, if we are willing to accept an M.A.L. of 'we can just make out the picture', then the measured Reliability might jump to 80-90% - for the same picture.

Or consider this real world example. Many areas of the communications industry (broadcasting and networking, to pick two) routinely use a Reliability figure of 99.99% (commonly referred to as the "four nines"). In this case, the M.A.L. is usually "the transmission (or network) is functioning, and of first quality" – nothing less. Being "up" 99.99% of the time, conversely, means you are "down" no more than 0.01% or, equivalently, no more than 52 minutes per year.

Application to HF analysis

Turning closer to our domain, High Frequency (HF) shortwave broadcasters, like the Voice of America or the BBC World Service, look for Reliability numbers in the 80-90% range when

planning their time and frequency schedules. In their cases, the M.A.L parameter (yardstick) is the Signal-to-Noise ratio, or SNR. This is basically the ratio of how loud the broadcast is, relative to the background radio 'hiss' and static levels. *Commonly used numbers are anywhere from* 40-70 dB (a higher number means better quality reception).

In the analysis presented below, we have defined the Reliability threshold as 57%, using an SNR of 40db for Single Sideband (SSB) voice communication, and 24db for Morse Code (CW) communication. These are very conservative (low) values. HF radio communication is made possible by reflecting signals off an ionized portion of the earth's atmosphere known as the ionosphere. The very nature of this communication is variable (i.e., not constant) and dependent on many factors, including the time of year, time of day, solar (sunspot) activity, local noise sources and other geomagnetic and atmospheric conditions. In our test cases, we have consistently used very conservative models and accepted a low reliability factor (57%), a factor likely to be unacceptable to most members of the public.

- For the first figure, a Reliability threshold of 57% is equivalent to 4 days a week. Imagine if your cell phone or cable TV service worked only four days out of seven during the week – that would be a Reliability of 57%. If your cell phone or cable TV service worked only five days out of seven, that would be a Reliability of 71%. In the figures that follow, the reliability contours are 14, 28, 42, 57, 71, and 85 percent, to correspond to easily understood levels of one to six days per week.

- In the second case, the M.A.L. (Minimum Acceptable Level) is an SNR (Signal-to-Noise Ratio). This value (40 dB) is commonly used in Amateur Radio; it is the **minimum required SNR** for a Single Sideband (voice) transmission. Single sideband transmissions sometimes require an SNR up to 50 dB or more, and this would further lower the results presented herein (requiring a bigger/taller antenna system). In other words, in presenting the results here, the assumptions about required Reliability are very modest. A minimum signal to noise ratio of 24 dB is used for CW (morse code) transmission, when modeling the more difficult paths to Japan/Far East, and Australia/Oceania.

High Frequency (HF) Analysis of the Existing Installation

Procedure

For the High Frequency (HF or shortwave) radio spectrum, the reliability (REL) of a given path (say, Maryland to Japan) is commonly defined as the percentage of days that the signal at the receiver's end meets or exceeds a defined signal-to-noise ratio (SNR). The REL value depends on many parameters. Several directly or indirectly affect the "take-off" angle as described in the accompanying ARRL document by Straw and Hall. Others include the transmitter power, the local terrain, as well as the hourly and daily, absorptive and reflective properties of the ionosphere.

In this section, we used two industry-standard software tools: HFTA (High Frequency Terrain Analysis) and VOACAP, to predict the REL value for the existing location (a) to three different parts of the world , (b) using two different antenna heights, for a total of six studies.

This process starts with data entered for Maryland at the desired geographic location, fed as input to the program HFTA (High Frequency Terrain Assessment) from the American Radio Relay League. This program uses Mr. Governale's terrain elevation and antenna parameters as input, and provides antenna gain and take-off (elevation) angle data as output.

The output from HFTA is used as input to VOAAREA (a subset of VOACAP) to produce Area Coverage maps. VOACAP is an HF Propagation Analysis software tool developed by the U.S. Department of Commerce / Institute for Telecommunication Sciences. It is in the public domain, and made possible by funding from the Voice of America (VOA), the U.S. Army, and the U.S. Air Force. Area Coverage is one of many calculations that VOACAP can perform. It displays a number of calculated quantities (including REL) for a specified transmitter to a specified reception area for a specified date, time of day, frequency, and sunspot level. The results appear as contours plotted on a world map background.

As a visual aid, those areas that meet our criteria are in color, first yellow and then green, while those areas which fail our criteria are shown in grayscale.

The output maps for the two studies mentioned above are shown below.

Description of Parameters

Several parameters were held constant for all cases. They are:

- Transmitter location: the Governale location in Baltimore County, Maryland.
- Transmitter power: 1.4 kW (kilowatts). This is the maximum legal limit for amateur radio stations, less a small percentage to model transmission line loss.
- Transmitter frequency: 7.2 MHz (the 40 meter band). This frequency band has the longest wavelength, and therefore requires the highest antennas (for the same reliability), of all antennas to be mounted on the antenna support structure. A tower height that works for 40 meters will work for all other higher frequency (shorter wavelength) HF bands.
- Transmitting antenna type: a 3-element directional Yagi antenna.

- Receiving antenna type: a 3-element directional Yagi antenna (a typical amateur antenna).
- Mean smoothed sunspot number: 100. This is an acceptable average over the entire sunspot cycle.
- SNR threshold: 40 dB for SSB (voice) communications, and 24 dB for CW (Morse Code) communications. These are minimum accepted values for the readability of transmissions.

The two sets of transmitting antenna heights considered were:

- A Yagi antenna at 65 feet (marked 'LO' in the maps and discussion).
- A Yagi antenna at 91 feet (installation; marked 'ACT' – actual – in the maps and discussion).

The three geographical target areas considered (and their map boundaries) were:

- Africa: receiving area covers Africa, specially Cape Town, South Africa
- Japan/Asia: receiving area covers Japan and the Far East, including China and the Philippines
- Oceania: receiving area covers Australia and New Zealand

In the discussion that follows 57% is used as the minimum acceptable REL value, *i.e.*, successful communications is defined as a path reliability of 57% or greater – four or more days per week (out of seven) -- of otherwise available time (blackout times are not included) under the changing variables that impact amateur radio communications. This is an especially conservative service goal, as *Snook v. Missouri City (Texas)*, tried in the U.S. District Court, Southern District of Texas (2003), employed a service reliability standard of 75-90%.

Map Set 1 – Africa

Variable parameters for Africa:

- Local time and date of simulation: December 01, 03:00 UTC. 40 meters requires a dark, complete night-time path for long distance communications.

Referring to Figure 1 below, signals to Cape Town, South Africa meet the objective for the antenna at 91'. However the criteria are **not** met for other portions of Africa, even with the antenna at 91'. This includes Botswana, Pretoria, South Africa, and Beira, Mozambique. **In Figure 2, when the antenna is lowered to 65', the coverage is substantially degraded, and reliable communication is not provided for any of the target coverage areas.**

Needs and Height Analysis by Evans & Nitzberg

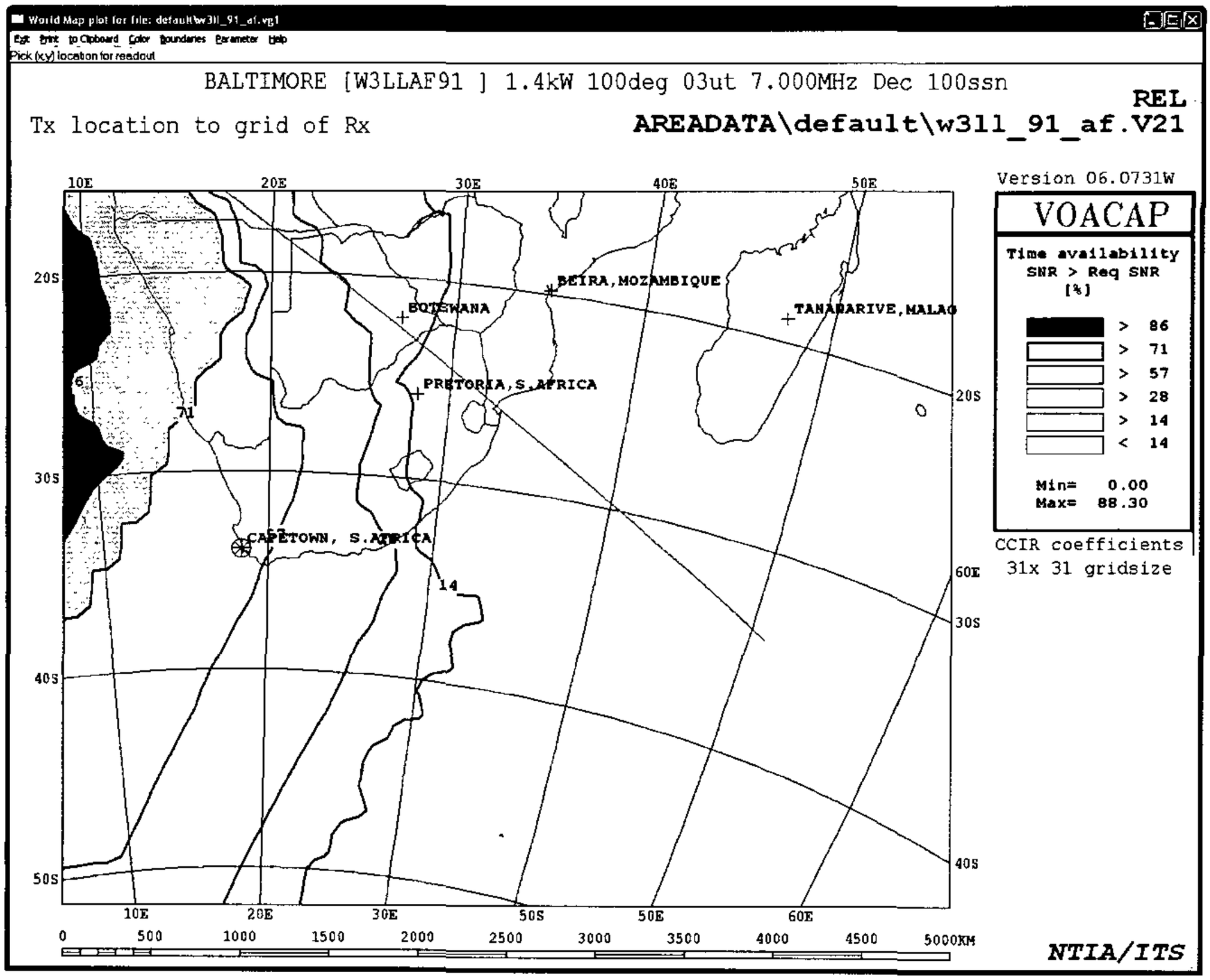


Figure 1. To Africa, 40 meters, Yagi - at 91' (ACT)

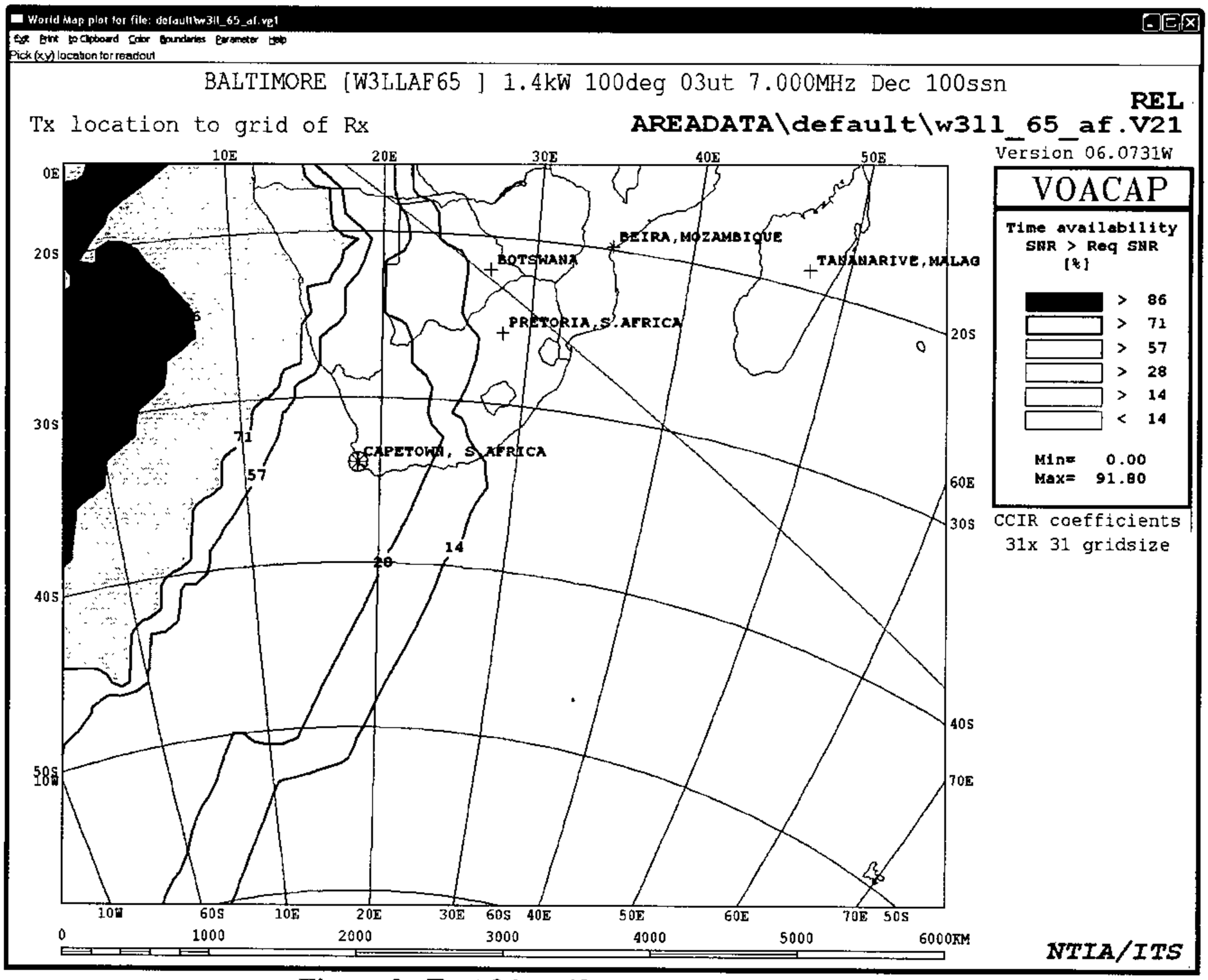


Figure 2. To Africa, 40 meters, Yagi at 65' (LO)

Map Set 2 – Japan/Asia

Variable parameters for Japan/Asia:

- Local time and date of simulation: December 01, 10:00 UTC. 40 meters requires a dark, complete night-time path for long distance communications.

Referring to Figure 3 below, signals nearly meet the objective with antennas at 91', providing 57% or greater reliability for a portion of Asia. However areas such as Shanghai and Taiwan, China and the Philippine Islands, are below the Reliability threshold, even at the 91' level.

As seen in Figure 4, the LO antenna coverage is **unacceptable** compared to the higher antenna in the 91' installation. A significant portion of the continent is below our REL cutoff – including all of China and South Korea.

Needs and Height Analysis by Evans & Nitzberg

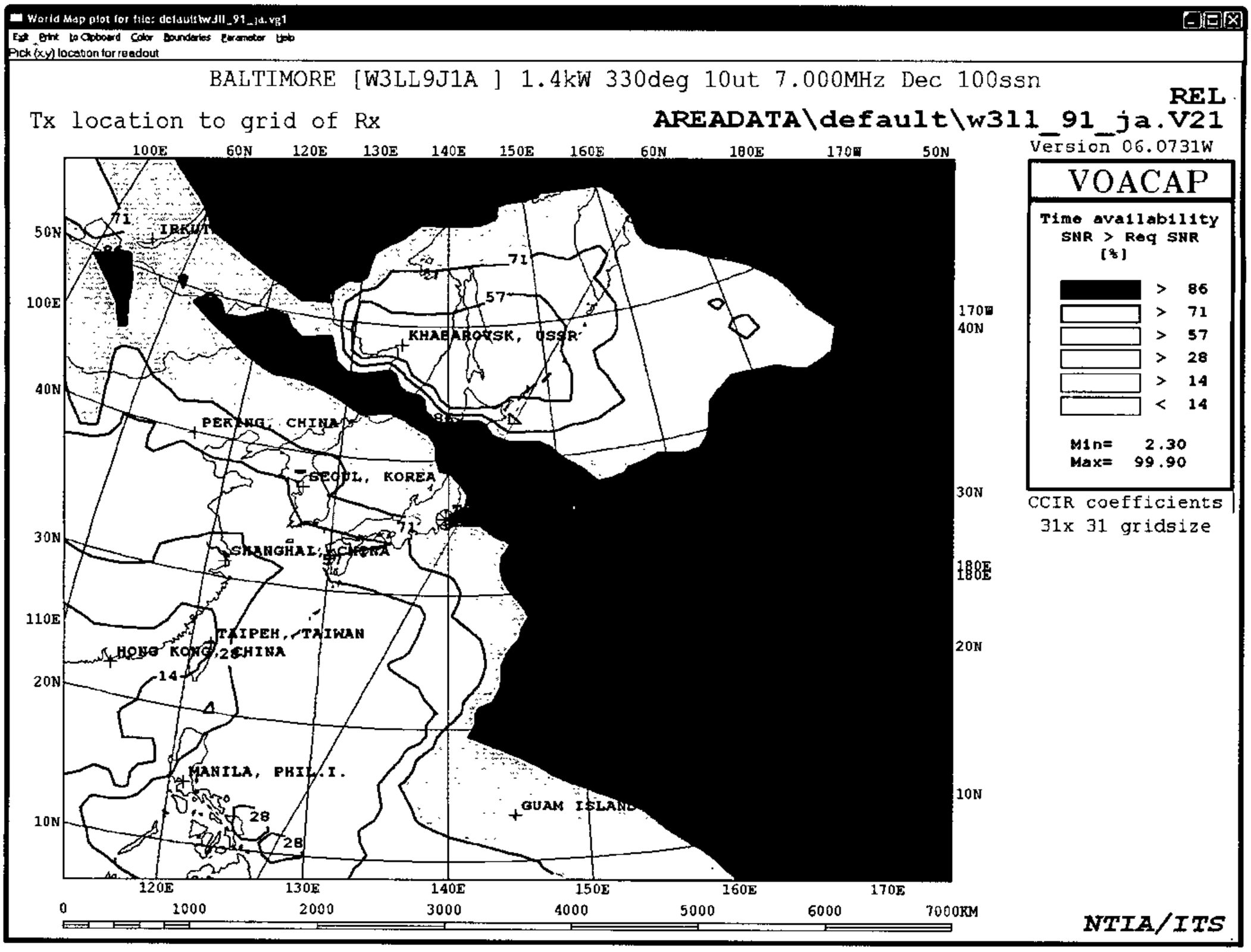


Figure 3. To Japan/Asia, 40 meters, Yagi at 91' (ACT)

Needs and Height Analysis by Evans & Nitzberg

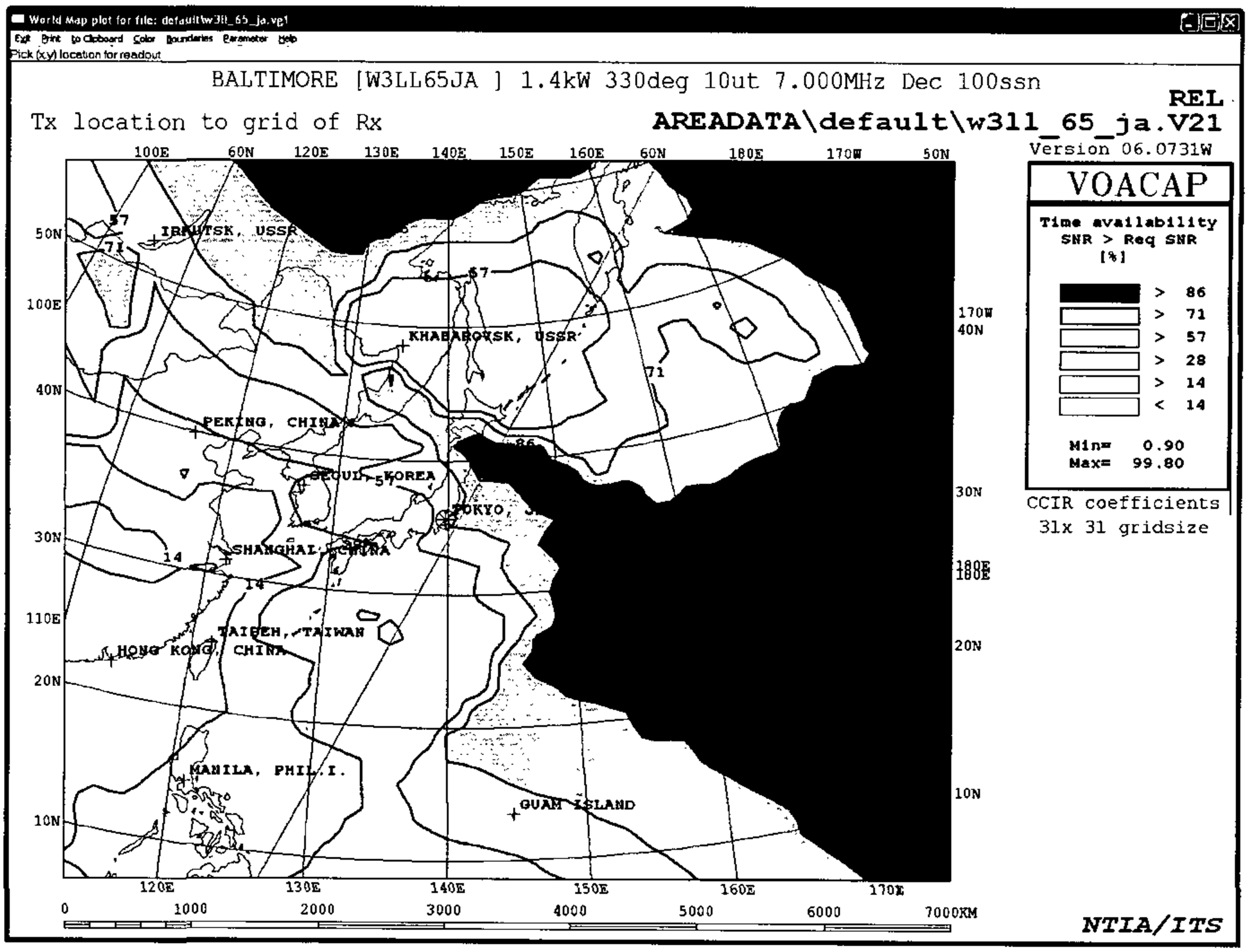


Figure 4. To Japan/Asia, 40 meters, Yagi at 65' (LO)

Map Set 3 - Oceania

Variable parameters for Oceania:

- Local time and date of simulation: December 01, 10:00 UTC. 40 meters requires a dark, complete night-time path for long distance communications.

Referring to Figure 5 below, signals to Oceania nearly meet the objective with antenna at 91' (the existing installation), providing 57% or greater Reliability for a portion of the continent. Note that several Oceania population centers are in the two and three-day/week range. Canberra, Australia is slightly outside the coverage area, however Wellington, New Zealand is covered.

As seen in Figure 6, the LO antenna coverage is **unacceptable** compared to the higher antenna in the 91' installation. Most of Australia is below the REL cutoff.

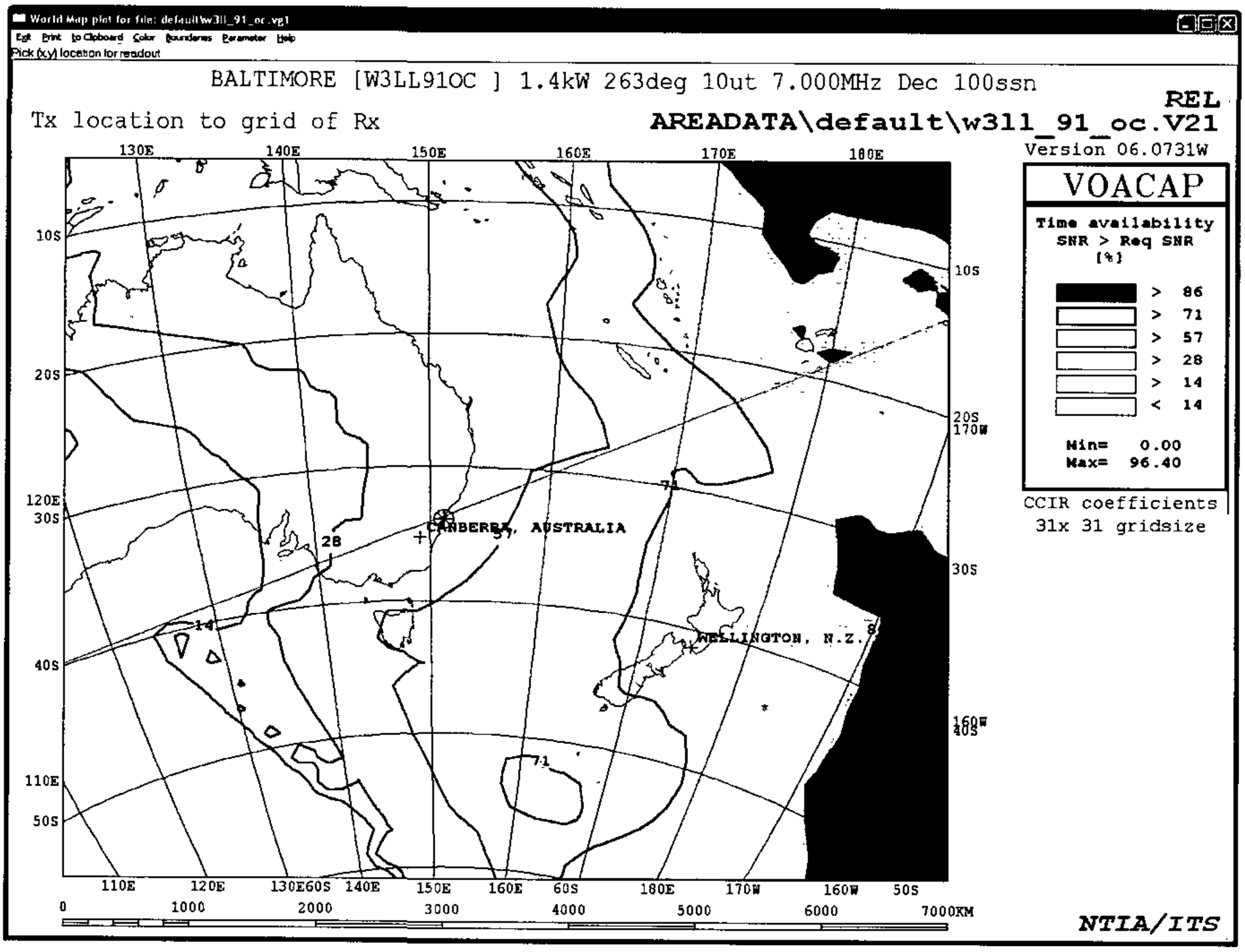


Figure 5. To Oceania, 40 meters, Yagi at 91' (ACT)

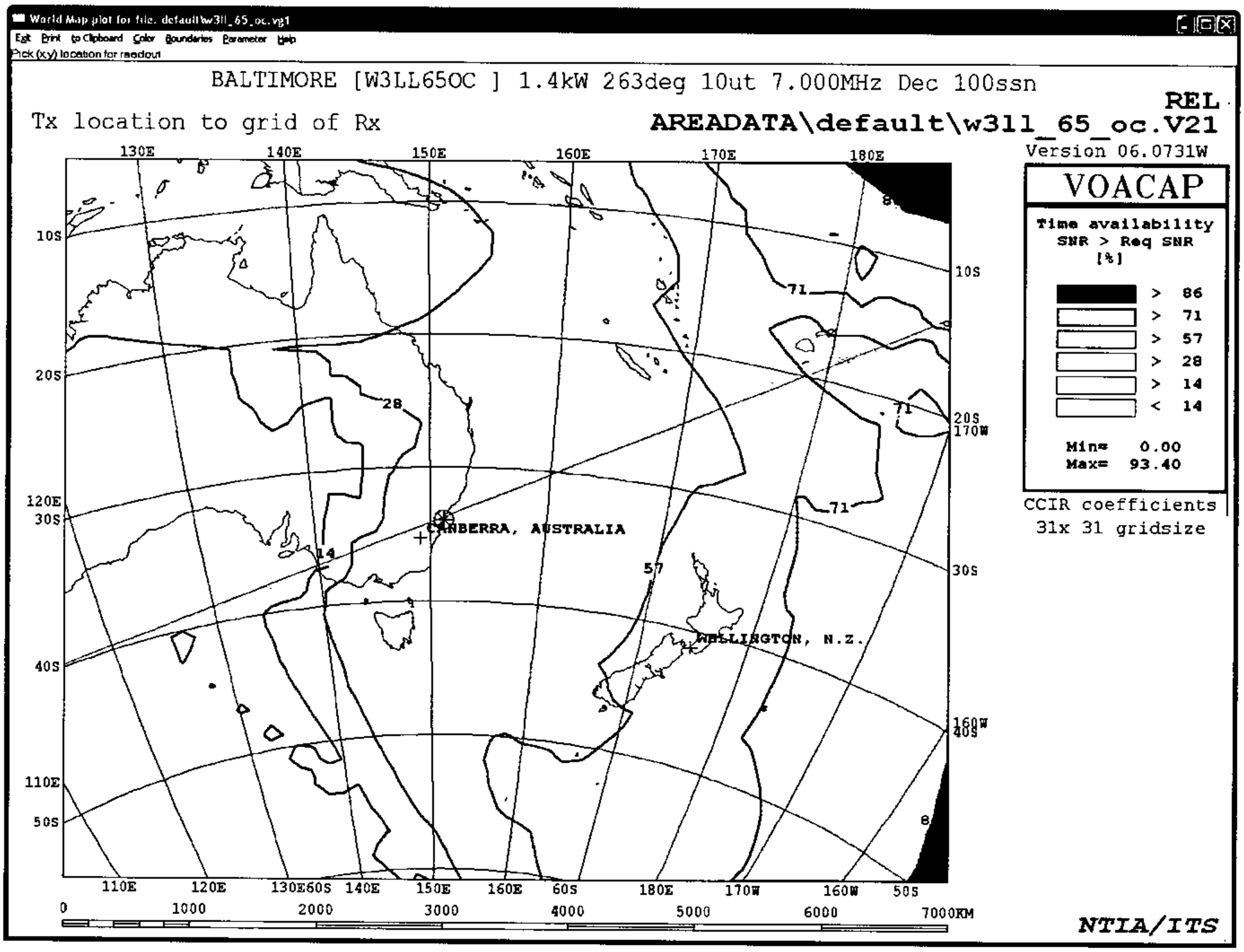


Figure 6. To Oceania, 40 meters, Yagi at 65' (LO)

Conclusion for High Frequency (HF) Communications Analysis

The height of the antenna support structure was analyzed for the purpose of determining whether it would meet the need of the radio amateur Applicant. Commonly used engineering metrics were employed to determine the effectiveness of communications, as measured by Reliability.

The 99-foot tall tower, which supports an antenna at 91' for the 7 MHz (40-meter) band, marginally meets need for reliable communications to Africa, whereas a comparison antenna at the lower height of 65' does not.

The 99-foot tall tower, which supports an antenna at 91' for the 7 MHz (40-meter) band, marginally meets the need for reliable communications with Japan/Asia and The Far East, or Oceania. The same antenna at the 65' level does not provide reliable coverage or reliability.

Needs & Height Analysis for Very High Frequency (VHF) Coverage

Target Coverage Areas

Mr. Governale has expressed his need for coverage to include the towns of Reisterstown, where MEMA (the Maryland Emergency Management Agency) is located, and Forest Hill, where HARCO (the Harford County Emergency Operations Center) is located. He has been activated, on more than one occasion, through the Baltimore County Department of Homeland Security, to provide communications in support of the Emergency Operations Center. These communications all took place exclusively on VHF channels.

He also seeks coverage to and throughout Prettyboy Reservoir, Susquehanna State Park and Gunpowder Falls State Park, where hikers may be stranded, a child may be lost, or persons may be in distress. As a member of RACES (Radio Amateur Civil Emergency Service), under the direction of Baltimore County Department of Homeland Security, and as part of ARES (the Amateur Radio Emergency Service), he can coordinate search and rescue with hand-held radios at the Reservoir and those two state parks. **Those areas cannot be covered by direct, simplex VHF communications with an antenna at 65'.** At 65', the low-lying areas of Baltimore County most subject to flooding would also be excluded.

The areas of Middle River, Bowleys Quarters, Essex and Chase depend on handheld or vehicular communication devices during times of flooding. **A VHF antenna height of 65 feet would preclude communications to those in need.** The emergency evacuation center for this area is Stemmers Run Middle School. Communications at the school is by way of handheld devices used by RACES operators. **At 65 feet, VHF communications to this evacuation shelter fails.** Mr. Governale has had to use VHF communications to this shelter on more than one occasion - most recently during Tropical Storm Ernesto.

National Weather Service (NWS) Emergency Communications

Mr. Governale also provides support to the National Weather Service (NWS) in Sterling, Virginia in conjunction with his membership in the NWS Skywarn program. All communications in this service are by way of VHF communications. The antennas at the NWS facility in Sterling, Virginia are elevated. This permits Mr. Governale to communicate using his VHF antenna at 99 feet. Should his VHF antenna be reduced to a height of 65 feet, communications between the two sites would be inadequate.

While it is true that there is some existing repeater coverage for these desired geographical areas, relying on a uncontrolled single thread pipeline -- such as an "open" repeater (a high power re-transmission station) not under Mr. Governale's control and not at his location, is a bad policy for emergency communications. Such a repeater could suffer overcrowding, a lack of cooperation by other users, interference (because it is a fixed frequency operation), a power failure, or a technical failure.

The reduction of the VHF antenna to a height of 65 feet increases the absorption affect of signal loss at VHF frequencies by surrounding trees. The subject is covered in detail by a study titled "Effects of Trees on Slant Propagation Paths," a treatise written by Wolfhard J. Vogel, PhD (of the University

of Texas at Austin, and a fellow of the IEEE) and George H. Hagn, PE (of SRI International, and a fellow of the IEEE).

The effect of surrounding *trees is to* reduce/attenuate the signals at VHF (and UHF) frequencies *to unacceptable* levels when the antennas are reduced from 99 feet to 65 feet at the *subject location for* the needed paths.

"Weather Coverage" (for Service to the National Weather Service) Area Calculations

The calculations below show the effects on coverage area by antenna height reduction.

Calculate VHF/UHF Radio Horizon at 99 Feet:

Enter	99.00feet, Antenna Ht. HAAT
Enter	10.00degrees; Vertical -3 dB beamwidth
Enter	4.00degrees; Downtilt below horizon
Answer	14.07mi.: Radio Horizon

VHF/UHF Coverage Distance at 99 foot antenna height: 14.07 miles

Calculate VHF/UHF Radio horizon at 65 Feet:

Enter	65.00feet, Antenna Ht. HAAT
Enter	10.00degrees; Vertical -3 dB beamwidth
Enter	4.00degrees; Downtilt below horizon
Answer	11.40mi.: Radio Horizon

VHF/UHF Coverage Distance at 65 foot antenna height: 11.40 miles

Area of coverage: A = pi * r squared

Pi = 3.14

r = 14.07 at 99 foot height

r = 11.40 at 65 foot height

(* is a multiplication symbol)

The word "squared" means the number multiplied by itself

VHF/UHF Area of Coverage at 99 feet is: A = 3.14 * (14.07)(14.07) = 621.9 sq. mi

VHF/UHF Area of Coverage at 65 feet is: A = 3.14 * (11.40)(11.40) = 408.3 sq. mi

Needs and Height Analysis by Evans & Nitzberg

VHF/UHF Area of Coverage has been reduced by 621.9 - 408.3 = 213.6 square miles.

VHF/UHF Area of coverage has been reduced by 34%.

Very High Frequency (VHF) and Ultra High Frequency (UHF) Analysis & Conclusion

Lowering the height of the VHF antenna(s) from 99 to 65 feet is not acceptable. It reduces the desired emergency coverage area by 34%, or 213 square miles, a reduction equal to the size of the entire city of Towson, Maryland! In order to provide more reliable emergency communication in times of community need, the Governale VHF antennas must be at a height of least 99 feet.

Addendum: *Antenna Height and Communications Effectiveness*
by Straw and Hall
published by the American Radio Relay League

Antenna Height and Communications Effectiveness

Second Edition

A Guide for City Planners and Amateur Radio Operators

By R. Dean Straw, N6BV, and Gerald L. Hall, K1TD
Senior Assistant Technical Editor and Retired Associate Technical Editor

The American Radio Relay League, Inc.
225 Main Street
Newington, CT 06111

Executive Summary

Amateur radio operators, or "hams" as they are called, communicate with stations located all over the world. Some contacts may be local in nature, while others may be literally halfway around the world. Hams use a variety of internationally allocated frequencies to accomplish their communications.

Except for local contacts, which are primarily made on Very High and Ultra High Frequencies (VHF and UHF), communicating between any two points on the earth rely primarily on high-frequency (HF) signals propagating through the ionosphere. The earth's ionosphere acts much like a mirror at heights of about 150 miles. The vertical angle of radiation of a signal launched from an antenna is one of the key factors determining effective communication distances. The ability to communicate over long distances generally requires a low radiation angle, meaning that an antenna must be placed high above the ground in terms of the wavelength of the radio wave being transmitted.

A beam type of antenna at a height of 70 feet or more will provide greatly superior performance over the same antenna at 35 feet, all other factors being equal. A height of 120 feet or even higher will provide even more advantages for long-distance communications. To a distant receiving station, a transmitting antenna at 120 feet will provide the effect of approximately 8 to 10 times more transmitting power than the same antenna at 35 feet. Depending on the level of noise and interference, this performance disparity is often enough to mean the difference between making distant radio contact with fairly reliable signals, and being unable to make distant contact at all.

Radio Amateurs have a well-deserved reputation for providing vital communications in emergency situations, such as in the aftermath of a severe icestorm, a hurricane or an earthquake. Short-range communications at VHF or UHF frequencies also require sufficient antenna heights above the local terrain to ensure that the antenna has a clear horizon.

In terms of safety and aesthetic considerations, it might seem intuitively reasonable for a planning board to want to restrict antenna installations to low heights. However, such height restrictions often prove very counterproductive and frustrating to all parties involved. If an amateur is restricted to low antenna heights, say 35 feet, he will suffer from poor transmission of his own signals as well as poor reception of distant signals. In an attempt to compensate on the transmitting side (he can't do anything about the poor reception problem), he might boost his transmitted power, say from 150 watts to 1,500 watts, the maximum legal limit. This ten-fold increase in power will very significantly increase the *potential* for interference to telephones, televisions, VCRs and audio equipment in his neighborhood.

Instead, if the antenna can be moved farther away from neighboring electronic devices—putting it higher, in other words—this will greatly reduce the likelihood of interference, which decreases at the inverse square of the distance. For example, doubling the distance reduces the potential for interference by 75%. As a further benefit, a large antenna doesn't look anywhere near as large at 120 feet as it does close-up at 35 feet.

As a not-so-inconsequential side benefit, moving an antenna higher will also greatly reduce the potential of exposure to electromagnetic fields for neighboring human and animals. Interference and RF exposure standards have been thoroughly covered in recently enacted Federal Regulations.

Antenna Height and Communications Effectiveness

By R. Dean Straw, N6BV, and Gerald L. Hall, K1TD
Senior Assistant Technical Editor and Retired Associate Technical Editor

The purpose of this paper is to provide general information about communications effectiveness as related to the physical height of antennas. The intended audience is amateur radio operators and the city and town Planning Boards before which a radio amateur must sometimes appear to obtain building permits for radio towers and antennas.

The performance of horizontally polarized antennas at heights of 35, 70 and 120 feet is examined in detail. Vertically polarized arrays are not considered here because at short-wave frequencies, over average terrain and at low radiation angles, they are usually less effective than horizontal antennas.

Ionospheric Propagation

Frequencies between 3 and 30 megahertz (abbreviated MHz) are often called the "short-wave" bands. In engineering terms this range of frequencies is defined as the *high-frequency* or *HF* portion of the radio spectrum. HF radio communications between two points that are separated by more than about 15 to 25 miles depend almost solely on propagation of radio signals through the *ionosphere*. The ionosphere is a region of the Earth's upper atmosphere that is ionized primarily by ultraviolet rays from the Sun.

The Earth's ionosphere has the property that it will refract or bend radio waves passing through it. The ionosphere is not a single "blanket" of ionization. Instead, for a number of complex reasons, a few discrete layers are formed at different heights above the earth. From the standpoint of radio propagation, each ionized layer has distinctive characteristics, related primarily to different amounts of ionization in the various layers. The ionized layer that is most useful for HF radio communication is called the *F layer*.

The F layer exists at heights varying from approximately 130 to 260 miles above the earth's surface. Both the layer height and the amount of ionization depend on the latitude from the equator, the time of day, the season of the year, and on the level of sunspot activity. Sunspot activity varies generally in cycles that are approximately 11 years in duration, although short-term bursts of activity may create changes in propagation conditions that last anywhere from a few minutes to several days. The ionosphere is not homogeneous, and is undergoing continual change. In fact, the exact state of the ionosphere at any one time is so variable that is best described in statistical terms.

The F layer disappears at night in periods of low and medium solar activity, as the ultraviolet energy required to sustain ionization is no longer received from the Sun. The amount that a passing radio wave will bend in an ionospheric layer is directly related to the intensity of ionization in that layer, and to the frequency of the radio wave.

A triangle may be used to portray the cross-sectional path of ionospheric radio-wave travel, as shown in **Fig 1**, a highly simplified picture of what happens in propagation of radio waves. The base of the triangle is the surface of the Earth between two distant points, and the apex of the triangle is the point representing refraction in the ionosphere. If all the necessary conditions are

met, the radio wave will travel from the first point on the Earth's surface to the ionosphere, where it will be bent (*refracted*) sufficiently to travel to the second point on the earth, many hundreds of miles away.

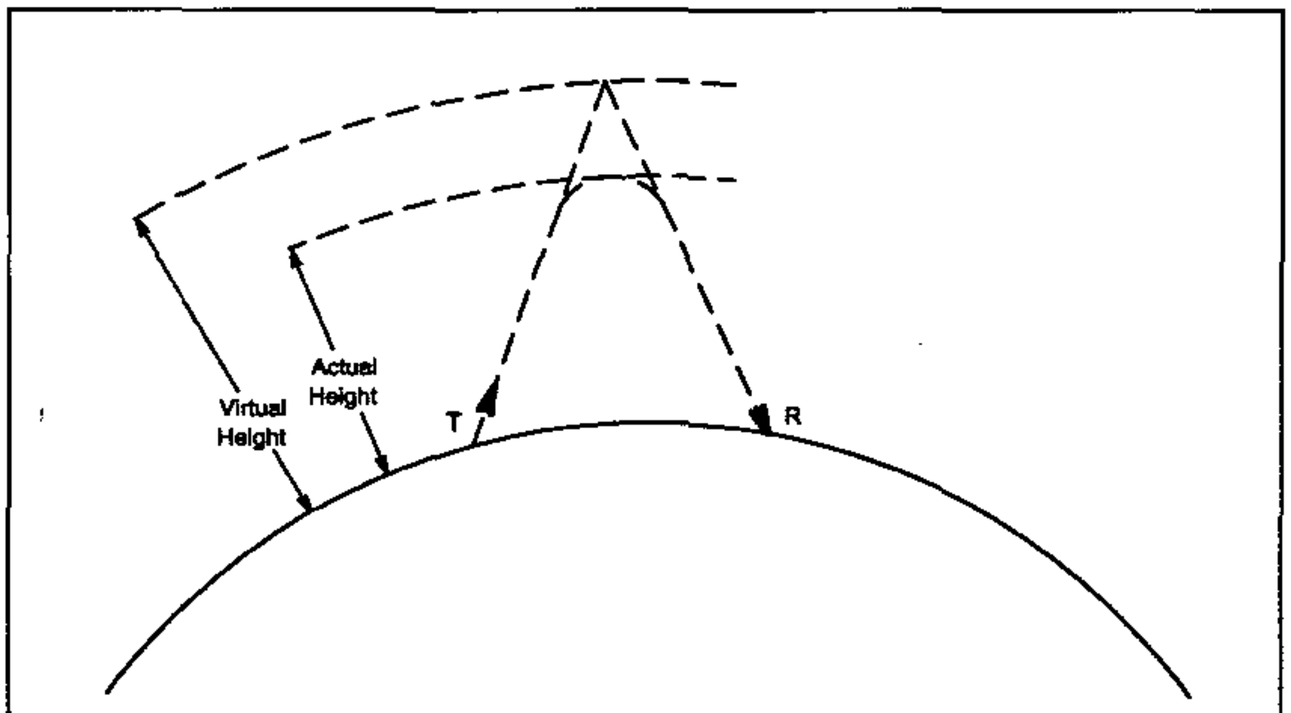


Fig 1—A simplified cross-sectional representation of ionospheric propagation. The simple triangle goes from the Transmitter T up to the virtual height and then back down to the Receiver R. Typically the F layer exists at a height of 150 miles above the Earth at mid-latitudes. The distance between T and R may range from a few miles to 2500 miles under normal propagation conditions.

Of course the Earth's surface is not a flat plane, but instead is curved. High-frequency radio waves behave in essentially the same manner as light waves—they tend to travel in straight lines, but with a slight amount of downward bending caused by refraction in the air. For this reason it is not possible to communicate by a direct path over distances greater than about 15 to 25 miles in this frequency range, slightly farther than the optical horizon. The curvature of the earth causes the surface to "fall away" from the path of the radio wave with greater distances. Therefore, it is the ionosphere that permits HF radio communications to be made between points separated by hundreds or even thousands of miles. The range of frequencies from 3 to 30 MHz is unique in this respect, as ionospheric propagation is not consistently supported for any frequencies outside this range.

One of the necessary conditions for ionospheric communications is that the radio wave must encounter the ionosphere at the correct angle. This is illustrated in **Fig 2**, another very simplified drawing of the geometry involved. Radio waves leaving the earth at high elevation angles above the horizon may receive only very slight bending due to refraction, and are then lost to outer space. For the same fixed frequency of operation, as the elevation angle is lowered toward the horizon, a point is reached where the bending of the wave is sufficient to return the wave to the Earth. At successively lower angles, the wave returns to the Earth at increasing distances.

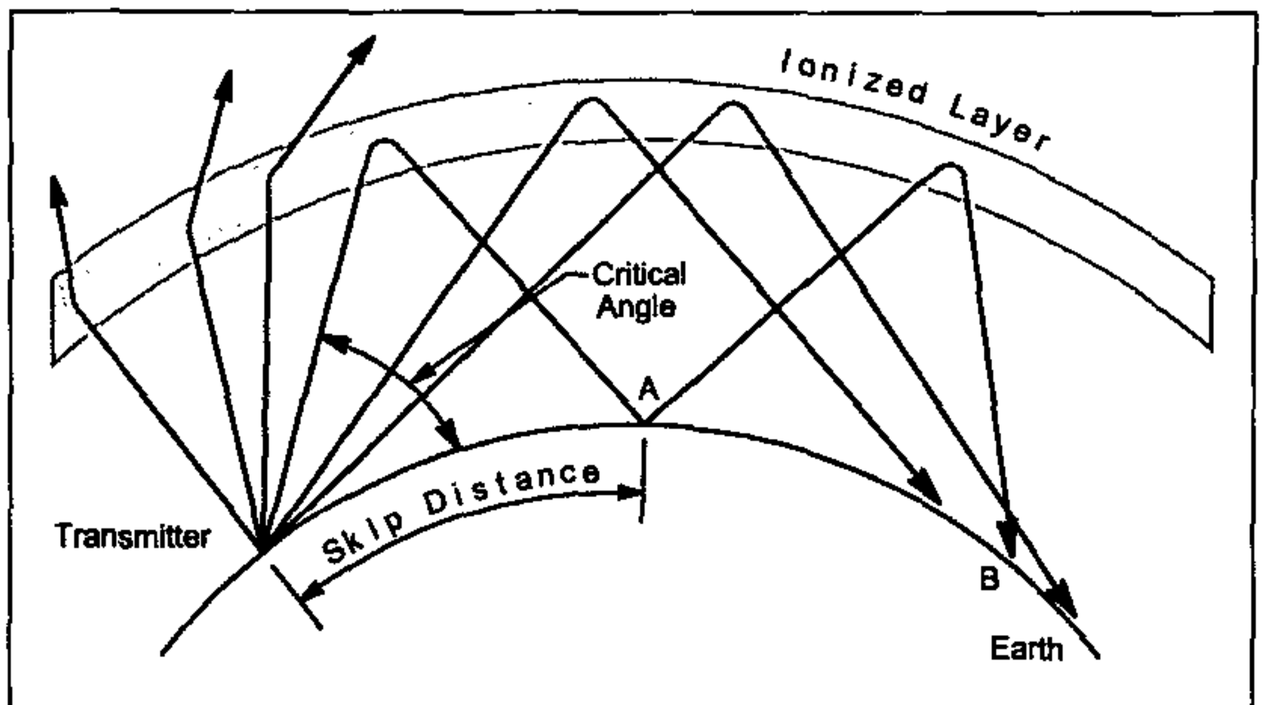


Fig 2—Behavior of radio waves encountering the ionosphere. Rays entering the ionized region at angles above the critical angle are not bent enough to return to Earth and are lost to space. Waves entering at angles below the critical angle reach the Earth at increasingly greater distances as the angle approaches the horizontal. The maximum distance that may normally be covered in a single hop is 2500 miles. Greater distances may be covered with multiple hops.

If the radio wave leaves the earth at an *elevation angle* of zero degrees, just toward the horizon (or just tangent to the earth's surface), the maximum distance that may be reached under usual ionospheric conditions is approximately 2,500 miles (4,000 kilometers). However, the Earth itself also acts as a reflector of radio waves coming down from the ionosphere. Quite often a radio signal will be reflected from the reception point on the Earth back into the ionosphere again, reaching the Earth a second time at a still more distant point.

As in the case of light waves, the angle of reflection is the same as the angle of incidence, so a wave striking the surface of the Earth at an angle of, say, 15° is reflected upward from the surface at the same angle. Thus, the distance to the second point of reception will be approximately twice the distance of the first. This effect is also illustrated in Fig 2, where the signal travels from the transmitter at the left of the drawing via the ionosphere to Point A, in the center of the drawing. From Point A the signal travels via the ionosphere again to Point B, at the right. A signal traveling from the Earth through the ionosphere and back to the Earth is called a *hop*. Under some conditions it is possible for as many as four or five signal hops to occur over a radio path, but no more than two or three hops is the norm. In this way, HF communications can be conducted over thousands of miles.

With regard to signal hopping, two important points should be recognized. First, a significant loss of signal occurs with each hop. Lower layers of the ionosphere absorb energy from the signals as they pass through, and the ionosphere tends to scatter the radio energy in various directions, rather than confining it to a tight bundle. The earth also scatters the energy at a reflection point. Thus, only a small fraction of the transmitted energy actually reaches a distant receiving point.

Again refer to Fig 2. Two radio paths are shown from the transmitter to Point B, a one-hop path and a two-hop path. Measurements indicate that although there can be great variation in the ratio of the two signal strengths in a situation such as this, the signal power received at Point B will generally be from five to ten times greater for the one-hop wave than for the two-hop wave. (The terrain at the mid-path reflection point for the two-hop wave, the angle at which the wave is reflected from the earth, and the condition of the ionosphere in the vicinity of all the refraction points are the primary factors in determining the signal-strength ratio.) Signal levels are generally compared in decibels, abbreviated dB. The decibel is a logarithmic unit. Three decibels difference in signal strengths is equivalent to a power ratio of 2:1; a difference of 10 dB equates to a power ratio of 10:1. Thus the signal loss for an additional hop is about 7 to 10 dB.

The additional loss per hop becomes significant at greater distances. For a simplified example, a distance of 4,000 miles can be covered in two hops of 2,000 miles each or in four hops of 1,000 miles each. For illustration, assume the loss for additional hops is 10 dB, or a 1/10 power ratio. Under such conditions, the four-hop signal will be received with only 1/100 the power or 20 dB below that received in two hops. The reason for this is that only 1/10 of the two-hop signal is received for the first additional (3^{rd}) hop, and only 1/10 of that 1/10 for the second additional (4^{th}) hop. It is for this reason that no more than four or five propagation hops are useful; the received signal eventually becomes too weak to be heard.

The second important point to be recognized in multihop propagation is that the geometry of the first hop establishes the geometry for all succeeding hops. And it is the elevation angle at the transmitter that sets up the geometry for the first hop.

It should be obvious from the preceding discussion that one needs a detailed knowledge of the range of elevation angles for effective communication in order to do a scientific evaluation of a possible communications circuit. The range of angles should be statistically valid over the full 11-year solar sunspot cycle, since the behavior of the Sun determines the changes in the nature of the Earth's ionosphere. ARRL did a very detailed computer study in the early 1990s to determine the angles needed for propagation throughout the world. The results of this study will be examined later, after we introduce the relationship between antenna height and the elevation pattern for an antenna.

Horizontal Antennas Over Flat Ground

A simple antenna that is commonly used for HF communications is the horizontal half-wave *dipole*. The dipole is a straight length of wire (or tubing) into which radio-frequency energy is fed at the center. Because of its simplicity, the dipole may be easily subjected to theoretical performance analyses. Further, the results of proper analyses are well borne out in practice. For these reasons, the half-wave dipole is a convenient performance standard against which other antenna systems can be compared.

Because the earth acts as a reflector for HF radio waves, the directive properties of any antenna are modified considerably by the ground underneath it. If a dipole antenna is placed horizontally above the ground, most of the energy radiated downward from the dipole is

reflected upward. The reflected waves combine with the direct waves (those radiated at angles above the horizontal) in various ways, depending on the height of the antenna, the frequency, and the electrical characteristics of the ground under and around the antenna.

At some vertical angles above the horizon, the direct and reflected waves may be exactly in phase—that is, the maximum signal or field strengths of both waves are reached at the same instant at some distant point. In this case the resultant field strength is equal to the sum of the two components. At other vertical angles the two waves may be completely out of phase at some distant point—that is, the fields are maximum at the same instant but the phase directions are opposite. The resultant field strength in this case is the difference between the two. At still other angles the resultant field will have intermediate values. Thus, the effect of the ground is to increase the intensity of radiation at some vertical angles and to decrease it at others. The elevation angles at which the maxima and minima occur depend primarily on the antenna height above ground. (The electrical characteristics of the ground have some slight effect too.)

For simplicity here, we consider the ground to be a perfectly conducting, perfectly flat reflector, so that straightforward trigonometric calculations can be made to determine the relative amount of radiation intensity at any vertical angle for any dipole height. Graphs from such calculations are often plotted on rectangular axes to show best resolution over particularly useful ranges of elevation angles, although they are also shown on polar plots so that both the front and back of the response can be examined easily. **Fig 3** shows an overlay of the polar elevation-pattern responses of two dipoles at different heights over perfectly conducting flat ground. The lower dipole is located a half wavelength above ground, while the higher dipole is located one wavelength above ground. The pattern of the lower antenna peaks at an elevation angle of about 30°, while the higher antenna has two main lobes, one peaking at 15° and the other at about 50° elevation angle.

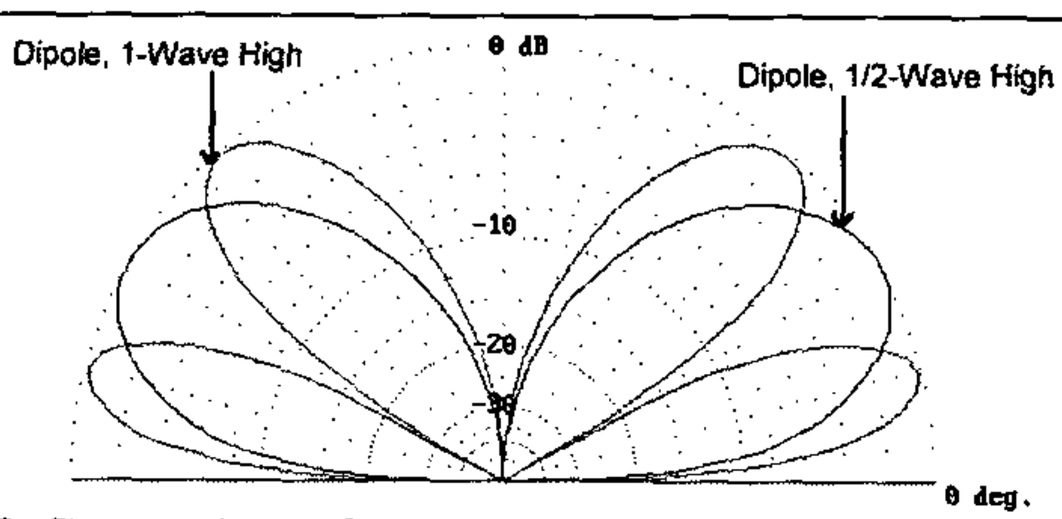


Fig 3–Comparison of elevation responses for two dipoles: one ½-wavelength high, and the other 1-wavelength high.

In the plots shown in Fig 3, the elevation angle above the horizon is represented in the same fashion that angles are measured on a protractor. The concentric circles are calibrated to represent ratios of field strengths, referenced to the strength represented by the outer circle. The circles are calibrated in decibels. Diminishing strengths are plotted toward the center.

You may have noted that antenna heights are often discussed in terms of *wavelengths*. The reason for this is that the length of a radio wave is inversely proportional to its frequency. Therefore a fixed physical height will represent different electrical heights at different radio frequencies. For example, a height of 70 feet represents one wavelength at a frequency of 14 MHz. But the same 70-foot height represents a half wavelength for a frequency of 7 MHz and only a quarter wavelength at 3.5 MHz. On the other hand, 70 feet is 2 wavelengths high at 28 MHz.

The lobes and nulls of the patterns shown in Fig 3 illustrate what was described earlier, that the effect of the ground beneath an antenna is to increase the intensity of radiation at some vertical elevation angles and to decrease it at others. At a height of a half wavelength, the radiated energy is strongest at a rather high elevation angle of 30°. This would represent the situation for a 14-MHz dipole 35 feet off the ground.

As the horizontal antenna is raised to greater heights, additional lobes are formed, and the lower ones move closer to the horizon. The maximum amplitude of each of the lobes is roughly equal. As may be seen in Fig 3, for an antenna height of one wavelength, the energy in the lowest lobe is strongest at 15°. This would represent the situation for a 14-MHz dipole 70 feet high.

The elevation angle of the lowest lobe for a horizontal antenna above perfectly conducting ground may be determined mathematically:

$$\theta = \sin^{-1}\left(\frac{0.25}{h}\right)$$

Where

θ = the wave or elevation angle
h = the antenna height above ground in wavelengths

In short, the higher the horizontal antenna, the lower is the lowest lobe of the pattern. As a very general rule of thumb, the higher an HF antenna can be placed above ground, the farther it will provide effective communications because of the resulting lower radiation angle. This is true for any horizontal antenna over real as well as theoretically perfect ground.

You should note that the *nulls* in the elevation pattern can play an important role in communications—or lack of communication. If a signal arrives at an angle where the antenna system exhibits a deep null, communication effectiveness will be greatly reduced. It is thus quite possible that an antenna can be *too high* for good communications efficiency on a particular frequency. Although this rarely arises as a significant problem on the amateur bands below 14 MHz, we'll discuss the subject of optimal height in more detail later.

Actual earth does not reflect all the radio-frequency energy striking it; some absorption takes place. Over real earth, therefore, the patterns will be slightly different than those shown in Fig 3, however the differences between theoretical and perfect earth ground are not significant for the range of elevation angles necessary for good HF communication. Modern computer programs can do accurate evaluations, taking all the significant ground-related factors into account.

Beam Antennas

For point-to-point communications, it is beneficial to concentrate the radiated energy into a beam that can be aimed toward a distant point. An analogy can be made by comparing the light

from a bare electric bulb to that from an automobile headlight, which incorporates a built-in focusing lens. For illuminating a distant point, the headlight is far more effective.

Antennas designed to concentrate the radiated energy into a beam are called, naturally enough, *beam antennas*. For a fixed amount of transmitter power fed to the transmitting antenna, beam antennas provide increased signal strength at a distant receiver. In radio communications, the use of a beam antenna is also beneficial during reception, because the antenna pattern for transmission is the same for reception. A beam antenna helps to reject signals from unwanted directions, and in effect boosts the strength of signals received from the desired direction.

The increase in signal or field strength a beam antenna offers is frequently referenced to a dipole antenna in free space (or to another theoretical antenna in free space called an *isotropic antenna*) by a term called *gain*. Gain is commonly expressed in decibels. The isotropic antenna is defined as being one that radiates equally well in all directions, much like the way a bare lightbulb radiates essentially equally in all directions.

One particularly well known type of beam antenna is called a *Yagi*, named after one of its Japanese inventors. Different varieties of Yagi antennas exist, each having somewhat different characteristics. Many television antennas are forms of multi-element Yagi beam antennas. In the next section of this paper, we will refer to a four-element Yagi, with a gain of 8.5 dBi in free space, exclusive of any influence due to ground.

This antenna has 8.5 dB more gain than an isotropic antenna in free space and it achieves that gain by squeezing the pattern in certain desired directions. Think of a normally round balloon and imagine squeezing that balloon to elongate it in one direction. The increased length in one direction comes at the expense of length in other directions. This is analogous to how an antenna achieves more signal strength in one direction, at the expense of signal strength in other directions.

The elevation pattern for a Yagi over flat ground will vary with the electrical height over ground in exactly the same manner as for a simpler dipole antenna. The Yagi is one of the most common antennas employed by radio amateurs, second in popularity only to the dipole.

Putting the Pieces Together

In **Fig 4**, the elevation angles necessary for communication from a particular transmitting site, in Boston, Massachusetts, to the continent of Europe using the 14-MHz amateur band are shown in the form of a bargraph. For each elevation angle from 1° to 30°, Fig 4 shows the percentage of time when the 14-MHz band is open at each elevation angle. For example, 5° is the elevation angle that occurs just over 12% of the time when the band is available for communication, while 11° occurs about 10% of the time when the band is open. The useful range of elevation angles that must accommodated by an amateur station wishing to talk to Europe from Boston is from 1° to 28°.

In addition to the bar-graph elevation-angle statistics shown in Fig 4, the elevation pattern responses for three Yagi antennas, located at three different heights above flat ground, are overlaid on the same graph. You can easily see that the 120-foot antenna is the best antenna to cover the most likely angles for this particular frequency, although it suffers at the higher elevation angles on this particular propagation path, beyond about 12°. If, however, you can accept somewhat lower gain at the lowest angles, the 70-foot antenna would arguably be the best overall choice to cover all the elevation angles.

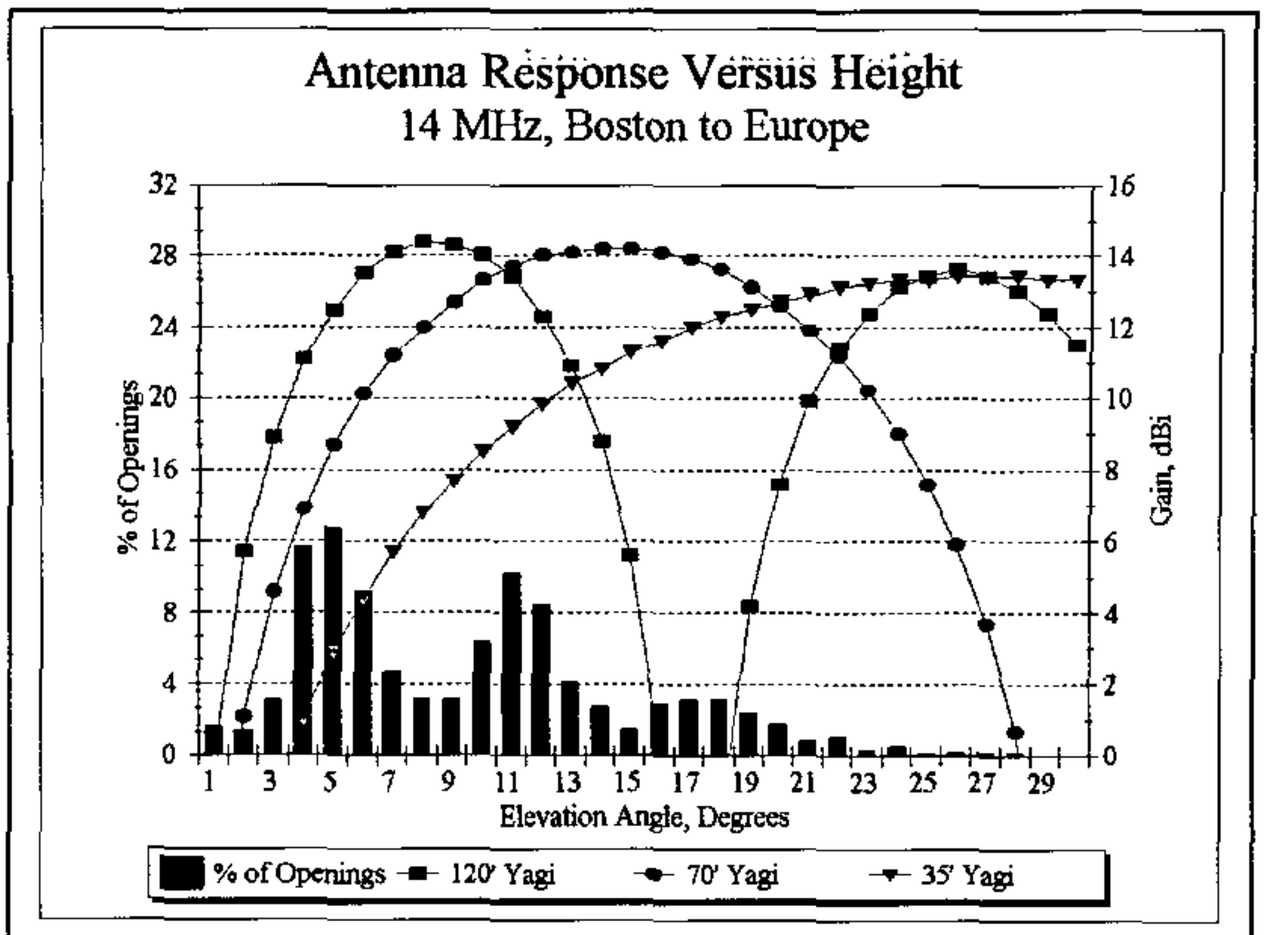


Fig 4—Elevation response patterns of three Yagis at 120, 70 and 35 feet, at 14 MHz over flat ground. The patterns are overlaid with the statistical elevation-angles for the path from Boston to continental Europe over the entire 11-year solar sunspot cycle. Clearly, the 120-foot antenna is the best choice to cover the low angles needed, but it suffers some at higher angles.

Other graphs are needed to show other target receiving areas around the world. For comparison, **Fig 5** is also for the 14-MHz band, but this time from Boston to Sydney, Australia. The peak angle for this very long path is about 2°, occurring 19% of the time when the band is actually open for communication. Here, even the 120-foot high antenna is not ideal. Nonetheless, at a moderate 5° elevation angle, the 120-foot antenna is still 10 dB better than the one at 35 feet.

Fig 4 and Fig 5 have portrayed the situation for the 14-MHz amateur band, the most popular and heavily utilized HF band used by radio amateurs. During medium to high levels of solar sunspot activity, the 21 and 28-MHz amateur bands are open during the daytime for long-distance communication. **Fig 6** illustrates the 28-MHz elevation-angle statistics, compared to the elevation patterns for the same three antenna heights shown in Fig 5. Clearly, the elevation response for the 120-foot antenna has a severe (and undesirable) null at 8°. The 120-foot antenna is almost 3.4 wavelengths high on 28 MHz (whereas it is 1.7 wavelengths high on 14 MHz.) For many launch angles, the 120-foot high Yagi on 28 MHz would simply be too high.

The radio amateur who must operate on a variety of frequencies might require two or more towers at different heights to maintain essential elevation coverage on all the authorized bands. Antennas can sometimes be mounted at different heights on a single supporting tower, although it is more difficult to rotate antennas that are "vertically stacked" around the tower to point in all the needed directions. Further, closely spaced antennas tuned to different frequencies usually interact electrically with each other, often causing severe performance degradation.

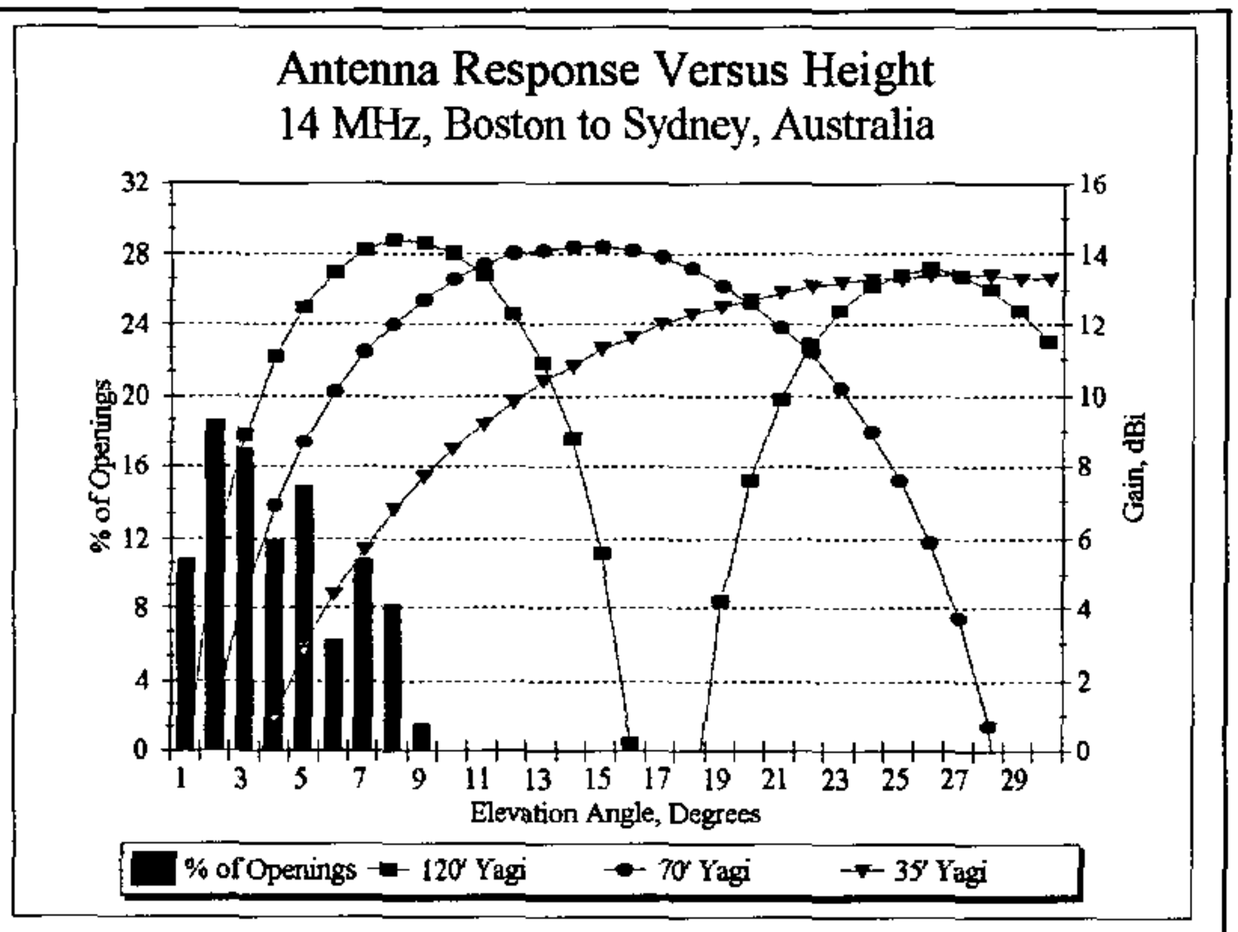


Fig 5—Elevation responses for same antennas as Fig 4, but for a longer-range path from Boston to Sydney, Australia. Note that the prevailing elevation angles are very low.

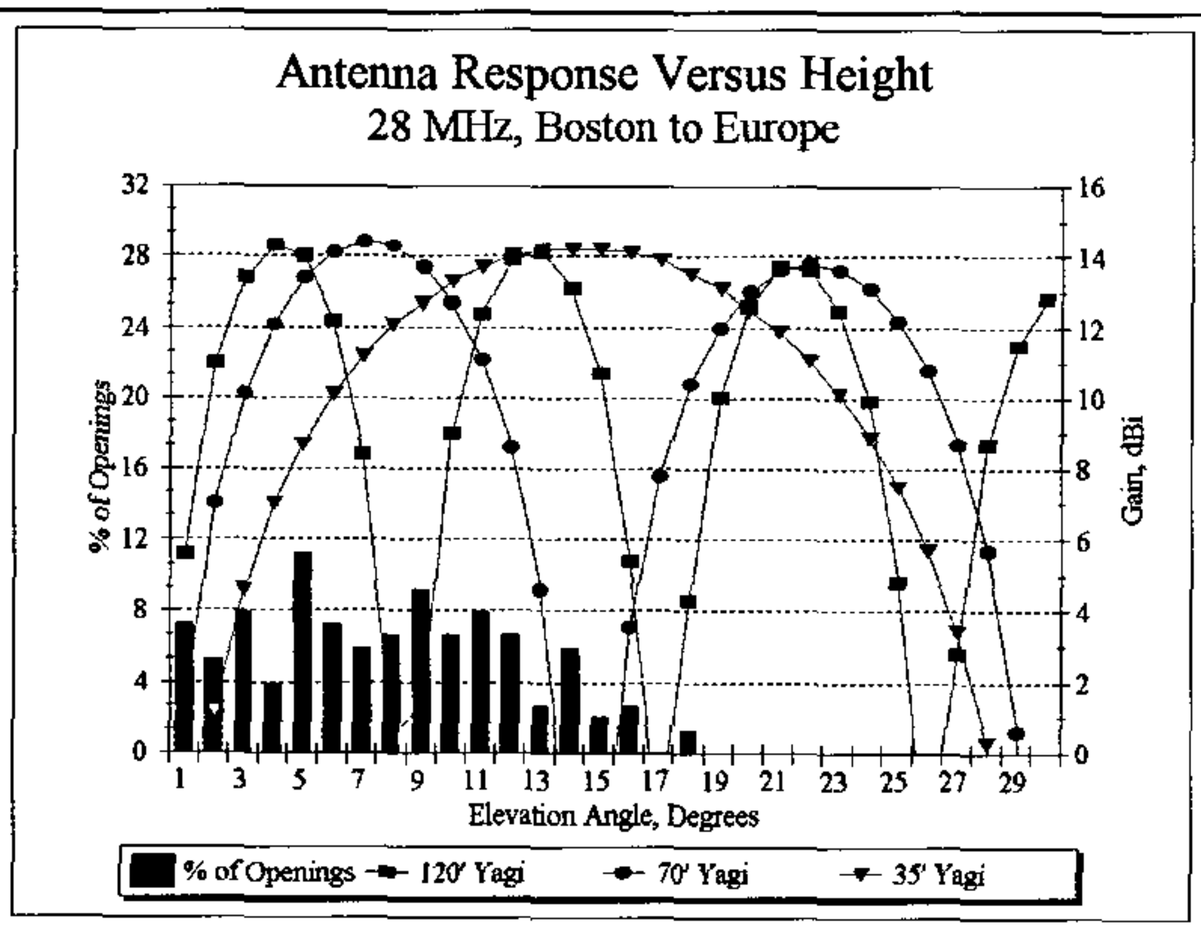


Fig 6—Elevation angles compared to antenna responses for 28-MHz path from Boston to Europe. The 70-foot antenna is probably the best overall choice on this path.

During periods of low to moderate sunspot activity (about 50% of the 11-year solar cycle), the 14-MHz band closes down for propagation in the early evening. A radio amateur wishing to continue communication must shift to a lower frequency band. The next most highly used band below the 14-MHz band is the 7-MHz amateur band. **Fig 7** portrays a 7-MHz case for another transmitting site, this time from San Francisco, California, to the European continent. Now, the range of necessary elevation angles is from about 1° to 16°, with a peak statistical likelihood of about 16% occurring at an elevation of 3°. At this low elevation angle, a 7-MHz antenna must be *very* high in the air to be effective. Even the 120-foot antenna is hardly optimal for the peak angle of 3°. The 200-foot antenna shown would be far better than a 120-foot antenna. Further, the 35-foot high antenna is *greatly* inferior to the other antennas on this path and would provide far less capabilities, on both receiving and transmitting.

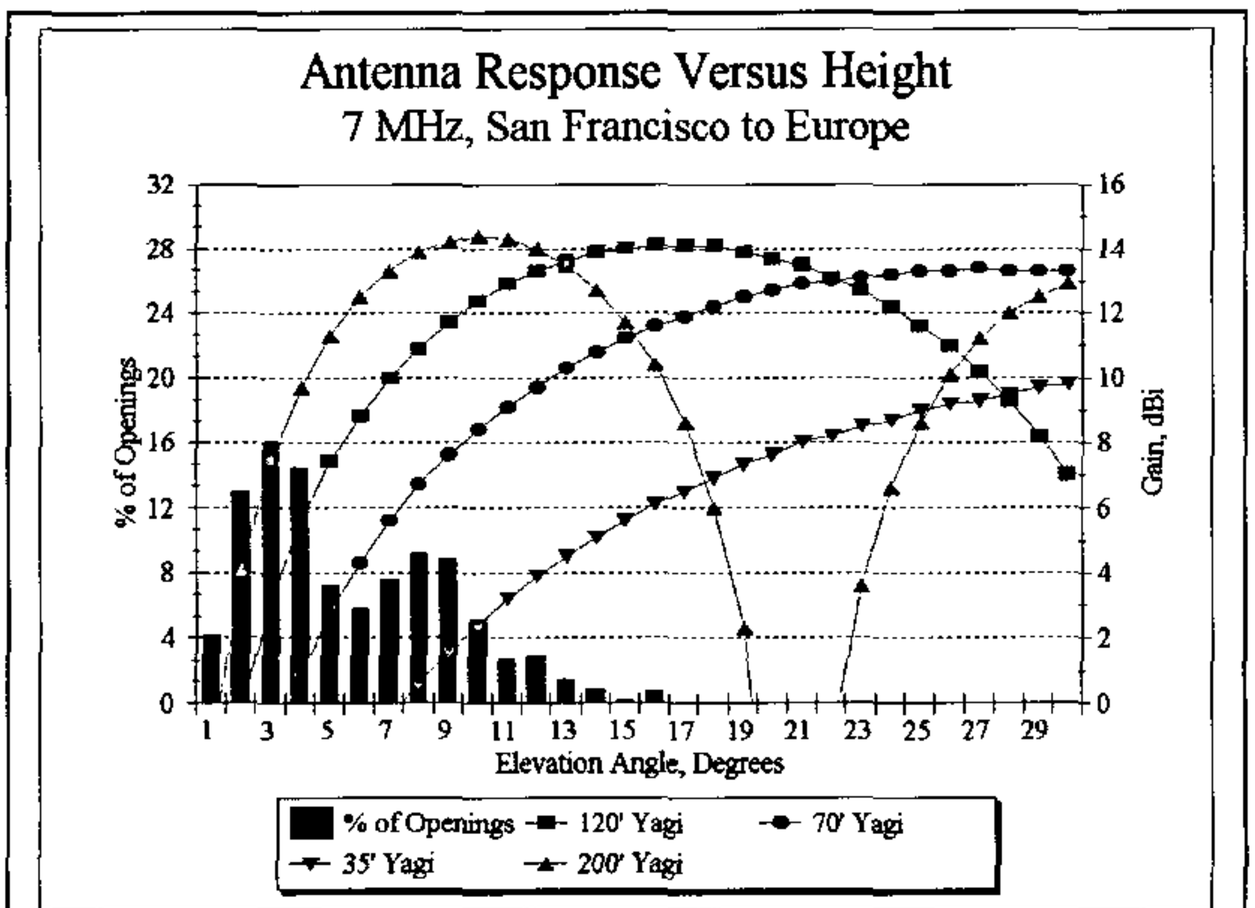


Fig 7—Comparison of antenna responses for another propagation path: from San Francisco to Europe on 7 MHz. Here, even a 120-foot high antenna is hardly optimal for the very low elevation angles required on this very long path. In fact, the 200-foot high antenna is far better suited for this path.

What If the Ground Isn't Flat?

In the preceding discussion, antenna radiation patterns were computed for antennas located over *flat ground*. Things get much more complicated when the exact local terrain surrounding a tower and antenna are taken into account. In the last few years, sophisticated ray-tracing computer models have become available that can calculate the effect that local terrain has on the elevation patterns for real-world HF installations—and *each* real-world situation is indeed different.

For simplicity, first consider an antenna on the top of a hill with a constant slope downward. The general effect is to lower the effective elevation angle by an amount equal to the downslope of the hill. For example, if the downslope is –3° for a long distance away from the tower and the flat-ground peak elevation angle is 10° (due to the height of the antenna), then the net result will be 10° – 3° = 7° peak angle. However, if the local terrain is rough, with many bumps and valleys in the desired direction, the response can be modified considerably. **Fig 8** shows the fairly complicated terrain profile for Jan Carman, K5MA, in the direction of Japan. Jan is located on one of the tallest hills in West Falmouth, Massachusetts. Within 500 feet of his tower is a small hill with a water tower on the top, and then the ground quickly falls away, so that at a distance of about 3000 feet from the tower base, the elevation has fallen to sea level, at 0 feet.

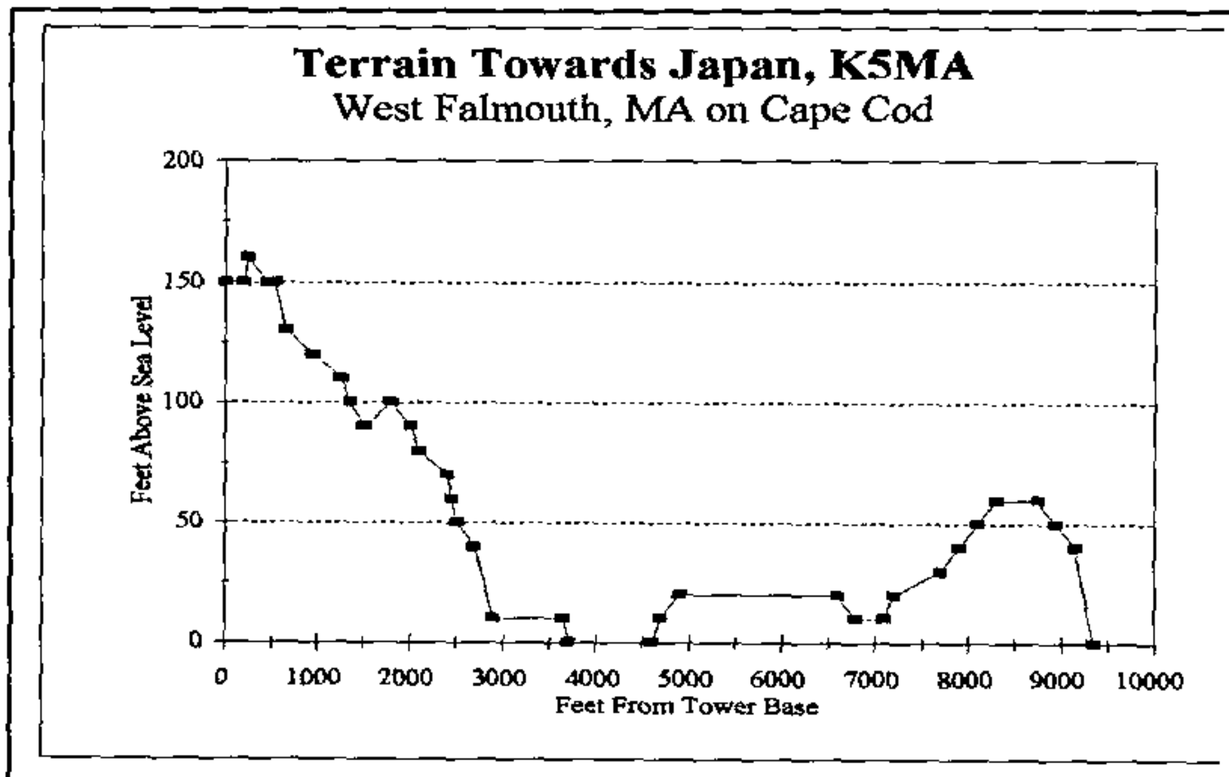


Fig 8—Terrain profile from location of K5MA, Jan Carman, in West Falmouth, MA, towards Japan. This is a moderately complicated real-world terrain on one of the highest hills on Cape Cod.

The computed responses toward Japan from this location, using a 120- and a 70-foot high Yagi, are shown in **Fig 9**, overlaid for comparison with the response for a 120-foot Yagi over flat ground. Over this particular terrain, the elevation pattern for the 70-foot antenna is actually better than that of the 120-foot antenna for angles below about 3°, but not for medium angles! The responses for each height oscillate around the pattern for flat ground — all due to the complex reflections and diffractions occurring off the terrain.

At an elevation angle of 5°, the situation reverses itself and the gain is now higher for the 120-foot-high antenna than for the 70-foot antenna. A pair of antennas on one tower would be required to cover all the angles properly. To avoid any electrical interactions between similar antennas on one tower, two towers would be much better. Compared to the flat-ground situation, the responses of real-world antenna can be very complicated due to the interactions with the local terrain.

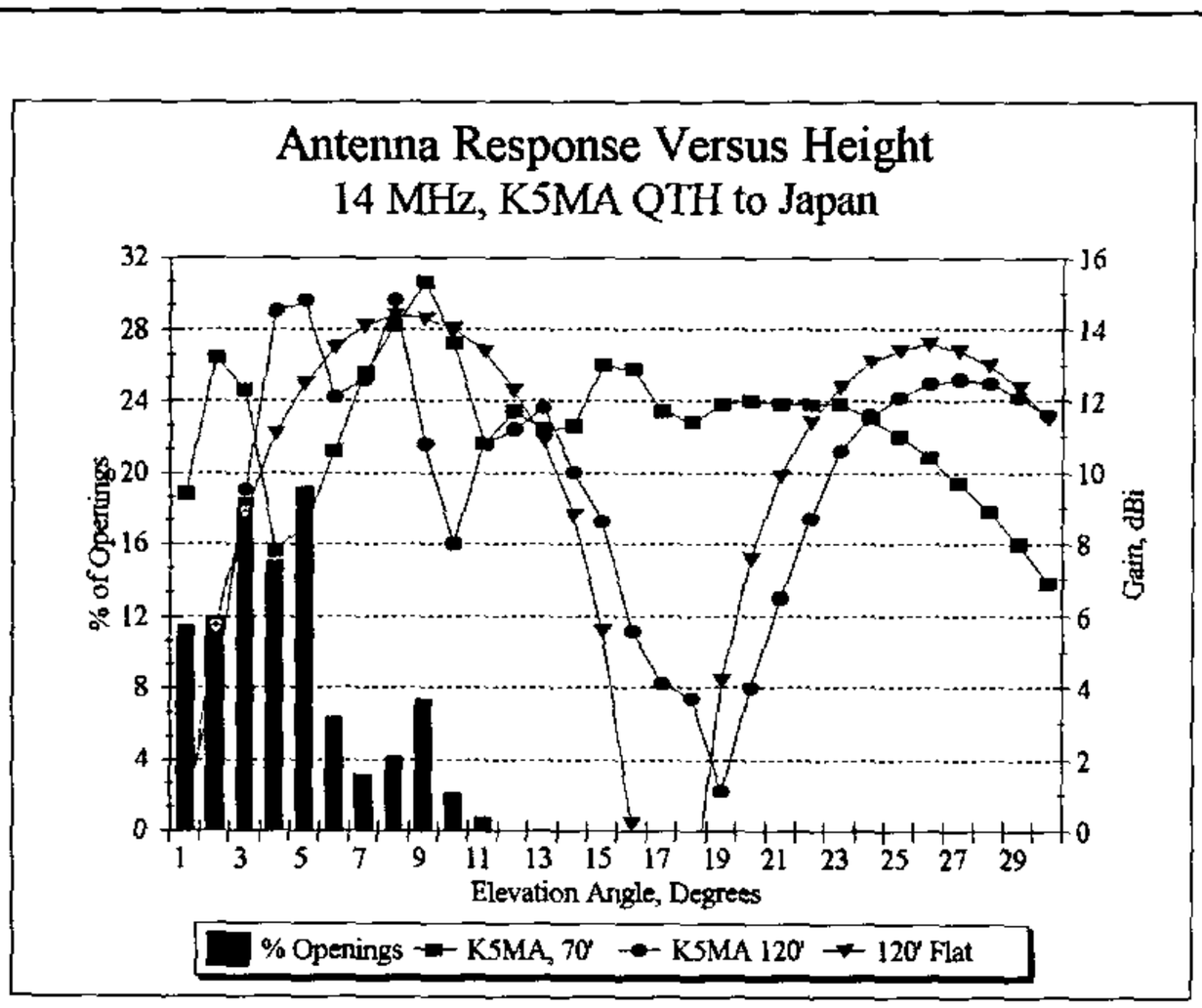


Fig 9—Computed elevation responses of 120- and 70-foot high Yagis, at the K5MA location on Cape Cod, in the direction of Japan and over flat ground, for comparison. The elevation response of the real-world antenna has been significantly modified by the local terrain.

Fig 10 shows the situation for the same Cape Cod location, but now for 7 MHz. Again, it is clear that the 120-foot high Yagi is superior by at least 3 dB (equivalent to twice the power) to the 70-foot high antenna at the statistical elevation angle of 6°. However, the response of the real-world 120-foot high antenna is still up some 2 dB from the response for an identical antenna over flat ground at this angle. On this frequency, the local terrain has helped boost the gain at the medium angles more than a similar antenna 120 feet over flat ground. The gain is even greater at lower angles, say at 1° elevation, where most signals take off, statistically speaking. Putting the antenna up higher, say 150 feet, will help the situation at this location, as would adding an additional Yagi at the 70-foot level and feeding both antennas in phase as a vertical stack.

Although the preceding discussion has been in terms of the transmitting antenna, the same principles apply when the antenna is used for reception. A high antenna will receive low-angle signals more effectively than will a low antenna. Indeed, amateur operators know very well that "If you can't hear them, you can't talk to them." Stations with tall towers can usually hear far better than their counterparts with low installations.

The situation becomes even more difficult for the next lowest amateur band at 3.5 MHz, where optimal antenna heights for effective long-range communication become truly heroic! Towers that exceed 120 feet are commonplace among amateurs wishing to do serious 3.5-MHz long-distance work.

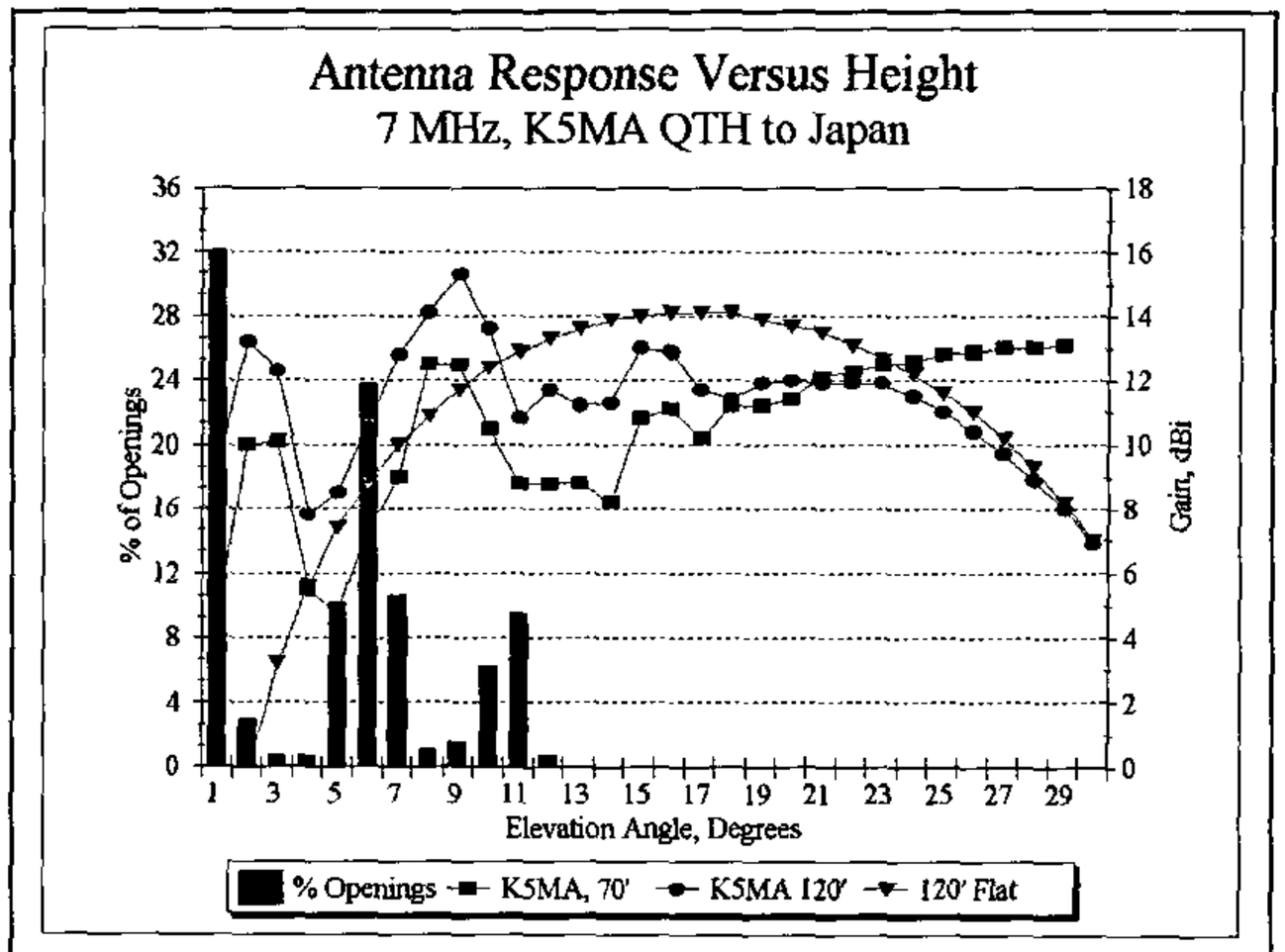


Fig 10—Elevation response on 7 MHz from K5MA location towards Japan on 7 MHz. The 120-foot high Yagi is definitely superior to the one only 70-feet high.

The 3.5 and 7-MHz amateur bands are, however, not always used strictly for long-range work. Both bands are crucial for providing communications throughout a local area, such as might be necessary in times of a local emergency. For example, earthquakes, tornadoes and hurricanes have often disrupted local communications—because telephone and power lines are down and because local police and fire-department VHF/UHF repeaters are thus knocked out of action. Radio amateurs often will use the 3.5 and 7-MHz bands to provide communications out beyond the local area affected by the disaster, perhaps into the next county or the next metropolitan area. For example, an earthquake in San Francisco might see amateurs using emergency power providing communications through amateurs in Oakland across the San Francisco Bay, or even as far away as Los Angeles or Sacramento. These places are where commercial power and telephone lines are still intact, while most power and telephones might be down in San Francisco itself. Similarly, a hurricane that selectively destroys certain towns on Cape Cod might find amateurs in these towns using 3.5 or 7.0 MHz to contact their counterparts in Boston or New York.

However, in order to get the emergency messages through, amateurs must have effective antennas. Most such relatively local emergency situations require towers of moderate height, less than about 100 feet tall typically.

Antenna Height and Interference

Extensive Federal Regulations cover the subject of interference to home electronic devices. It is an unfortunate fact of life, however, that many home electronic devices (such as stereos, TVs, telephones and VCRs) do not meet the Federal standards. They are simply inadequately designed to be resistant to RF energy in their vicinity. Thus, a perfectly legal amateur-radio transmitter may cause interference to a neighbor's VCR or TV because cost-saving shortcuts were taken in

the design and manufacture of these home entertainment devices. Unfortunately, it is difficult to explain to an irate neighbor why his brand-new $1000 stereo is receiving the perfectly legitimate transmissions by a nearby radio operator.

The potential for interference to any receiving device is a function of the transmitter power, transmitter frequency, receiver frequency, and most important of all, the proximity of the transmitter to the potential receiver. The transmitted field intensity decreases as the inverse square of the distance. This means that doubling the height of an antenna from 35 to 70 feet will reduce the potential for interference by 75%. Doubling the height again to 140 feet high would reduce the potential another 75%. Higher is better to prevent interference in the first place!

Recently enacted Federal Regulations address the potential for harm to humans because of exposure to electromagnetic fields. Amateur-radio stations rarely have problems in this area, because they use relatively low transmitting power levels and intermittent duty cycles compared to commercial operations, such as TV or FM broadcast stations. Nevertheless, the potential for RF exposure is again directly related to the distance separating the transmitting antenna and the human beings around it. Again, doubling the height will reduce potential exposure by 75%. The higher the antenna, the less there will any potential for significant RF exposure.

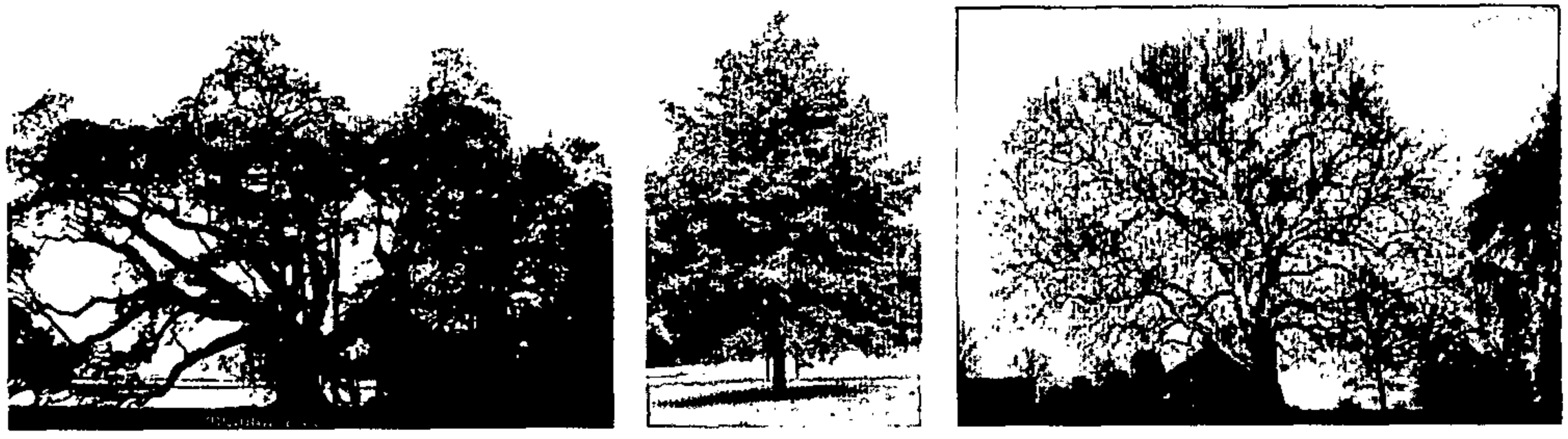
THE WORLD IS A VERY COMPLICATED PLACE

It should be pretty clear by now that designing scientifically valid communication systems is an enormously complex subject. The main complications come from the vagaries of the medium itself, the Earth's ionosphere. However, local terrain can considerably complicate the analysis also.

The main points of this paper may be summarized briefly:

The radiation elevation angle is the key factor determining effective communication distances beyond line-of-sight. Antenna height is the primary variable under control of the station builder, since antenna height affects the angle of radiation.

In general, placing an amateur antenna system higher in the air enhances communication capabilities and also reduces chances for electromagnetic interference with neighbors.



Effects of Trees on Slant Propagation Paths

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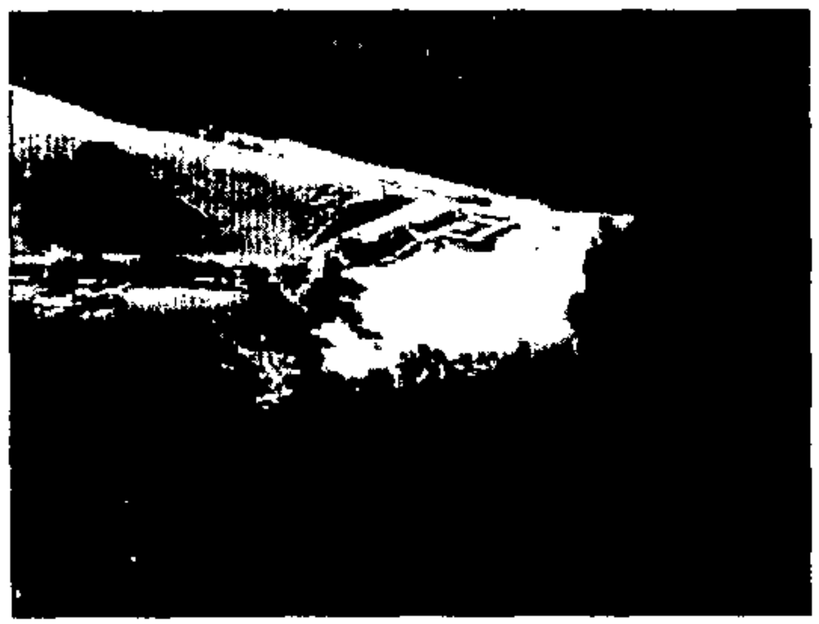
Content

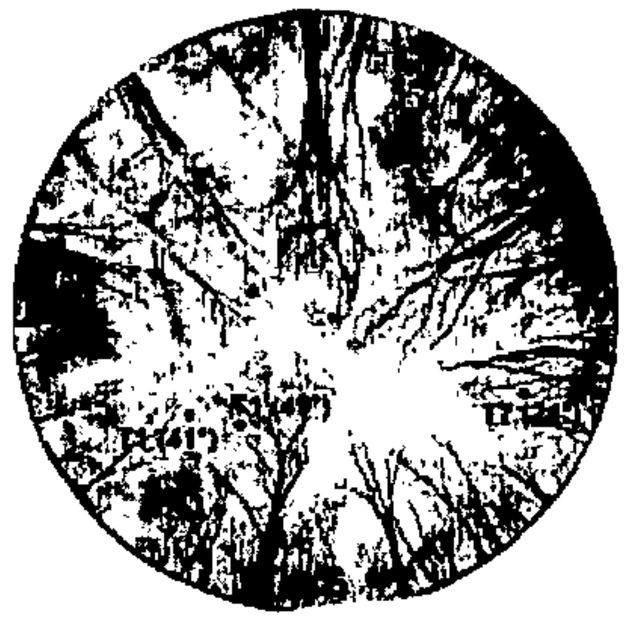
- Terrestrial vs. Satellite Tree Attenuation
- VHF, UHF, L-Band, S-Band and K-Band Measurements and Model Comparison
- Foliage Effects Scaling
- Spatial, Frequency, Elevation Variations
- Conclusions

Paths and Models

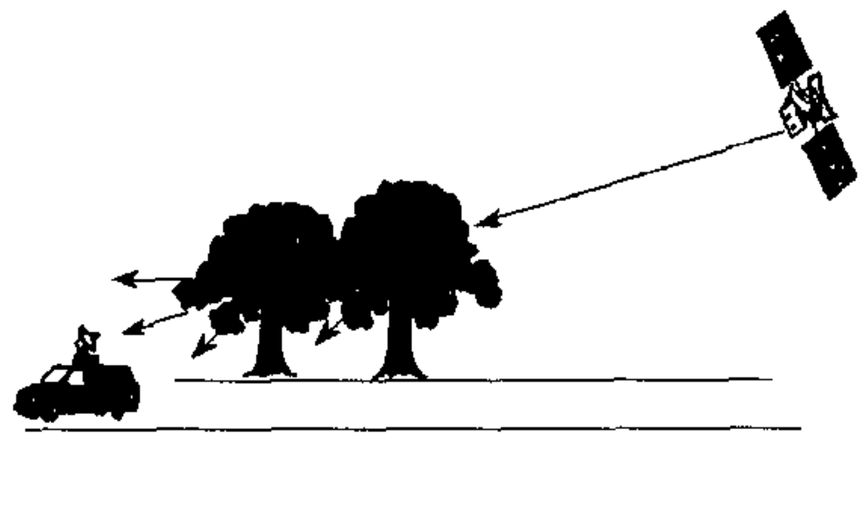
Horizontal: long



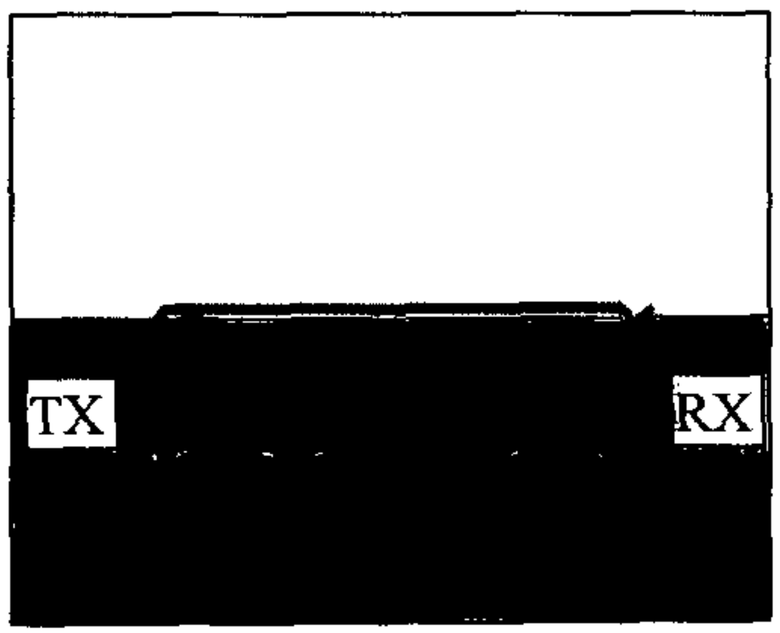
Slant: med.



Roadside: short



SLAB Model



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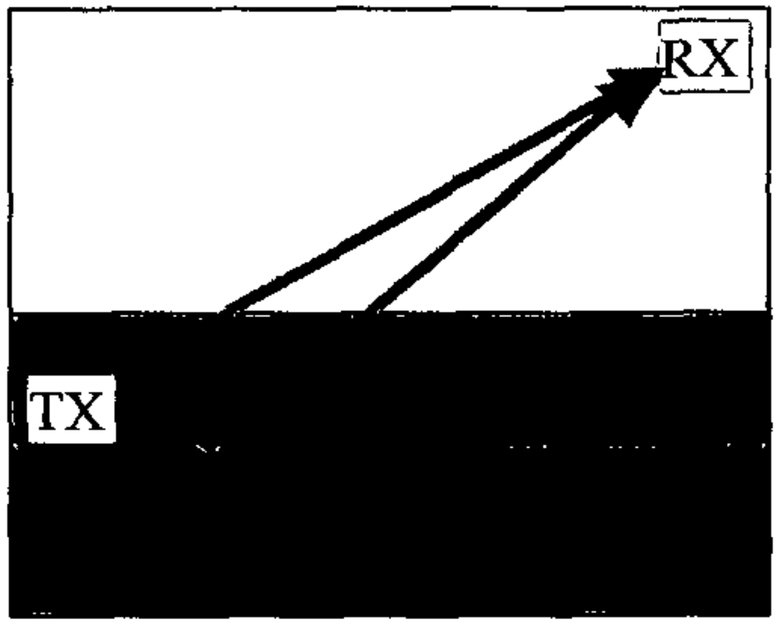
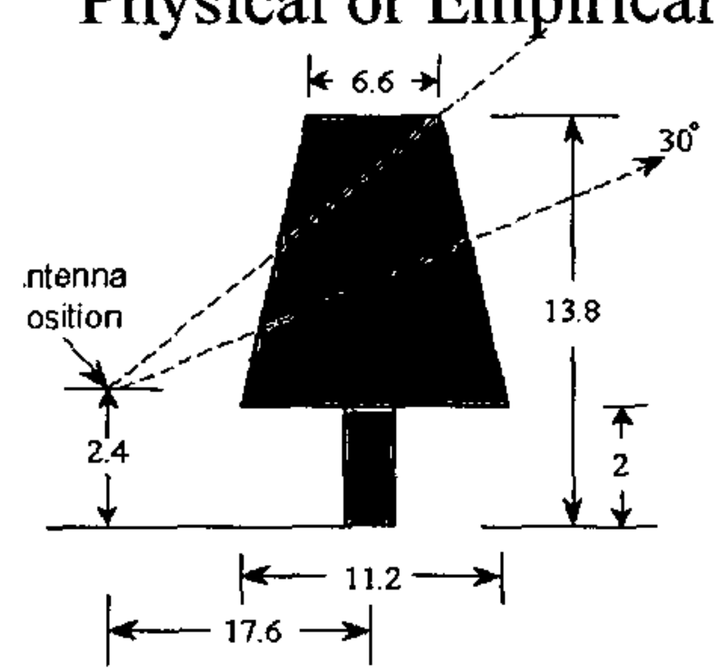


Physical or Empirical

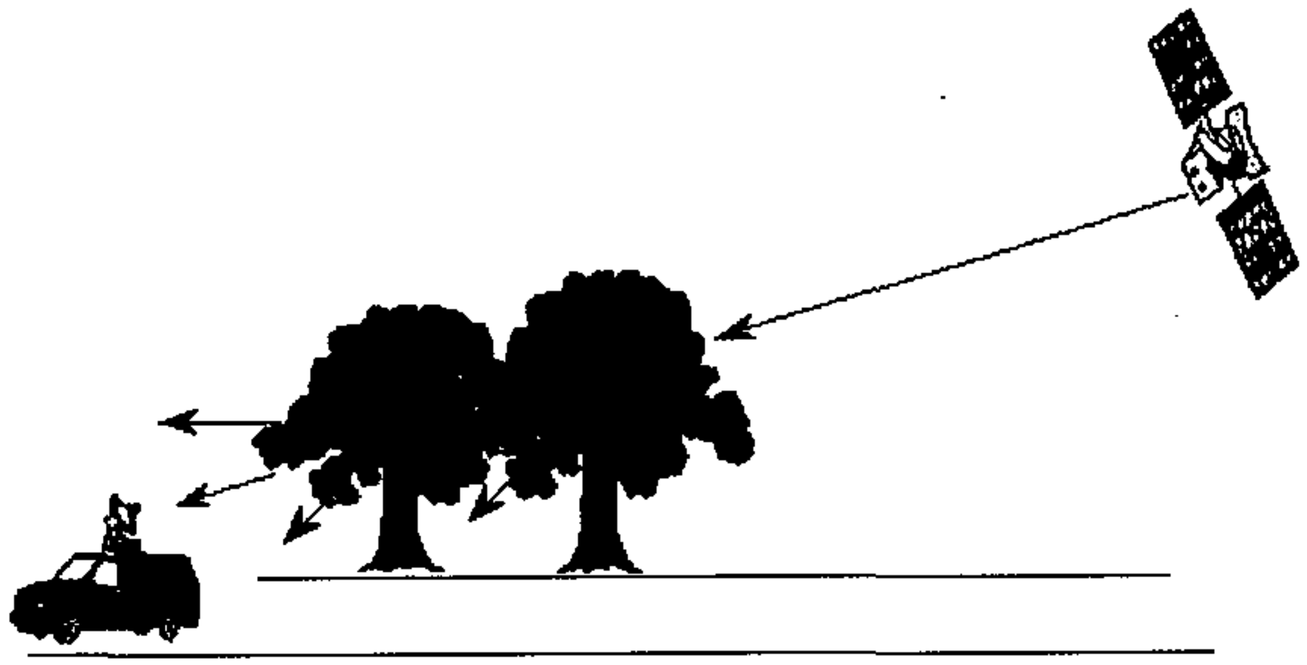


Horizontal Path Tree Attenuation

- Absorption, Scattering, Lateral wave over tree boundary layer, Slab model for layers, e.g., undergrowth, trunks, crowns
- Long propagation path through many trees
- Below 3° in elevation
- High initial specific attenuation, ***R***
  - ➢ 2-10 dB/m
- **Fade, *A* = increase diminishes with range, *d***

$$A = A_{\max}\left(1 - \exp\left(-\frac{R \cdot d}{A_{\max}}\right)\right)$$

Slant Path Tree Attenuation



- Short propagation path through 1 or 2 trees
- Absorption, Scattering, Ground reflection
- Usually above 10° in elevation
- **Fade = attenuation constant * path length**

VHF Measurements

- Vegetation
  - Eucalyptus Forest (California)
  - Tropical Rain Forest (Asia)
- Frequencies - 50, 75, 100, 250, 400 MHz
- Polarization – linear, V and H
- Platforms - aircraft towed & balloon borne
- Elevation Angles – 8° to 29°
- Calibration - Relative, by (1) differential path lengths at forest edge, (2) measured or (3) calculated clear path comparison

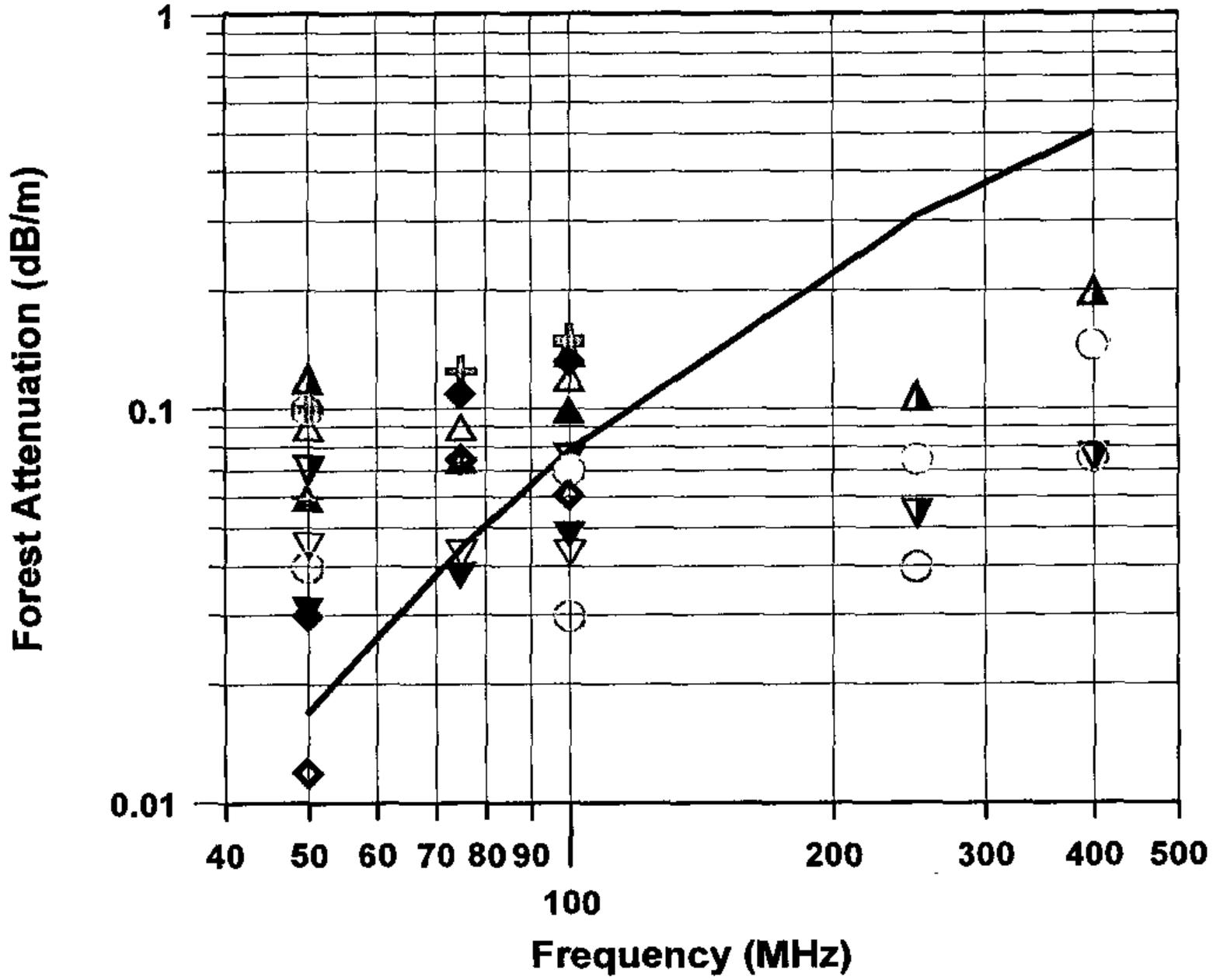
VHF Results

Freq.	Pol.	Median Attenuation Constant (dB/m)		
(MHz)	(V/H)	Jungle A	Jungle B	Eucalyptus
50	H	0.031 - 0.060	0.040 - 0.100	0.012 – 0.030
50	V	0.045 - 0.090	0.070 – 0.120	0.060 – 0.100
75	H	0.038 - 0.075		0.075 – 0.110
75	V	0.043 - 0.090		0.075 – 0.125
100	H	0.048 - 0.100	0.030 – 0.070	0.061 – 0.133
100	V	0.043 - 0.120	0.075 – 0.140	0.145 – 0.151
250	H		0.040 – 0.075	
250	V		0.054 – 0.108	
400	H		0.076 – 0.146	
400	V		0.075 – 0.200	

Comparison to Frequency Scaling Model

$$A(f_2) = A(f_1)\exp\left\{b\cdot\left[\left(\frac{1}{f_1}\right)^{0.5} - \left(\frac{1}{f_2}\right)^{0.5}\right]\right\}$$

b =1.173 for median fade level



Solid line: Model with 1dB/m at 1 GHz

Red symbols: H Pol.

Blue symbols: V Pol.

Comments to VHF Results

- Due to tree morphology, vertical polarization fades more than horizontal polarization
- Model under-predicts attenuation to 100 MHz
  - Model is based on UHF to K-Band measurements
- Model over-predicts attenuation at 250 and 400 MHz
  - Paths were longer than 5 – 10 m, above which the effective specific attenuation decreases
- Model could be tuned to reflect VHF measurements

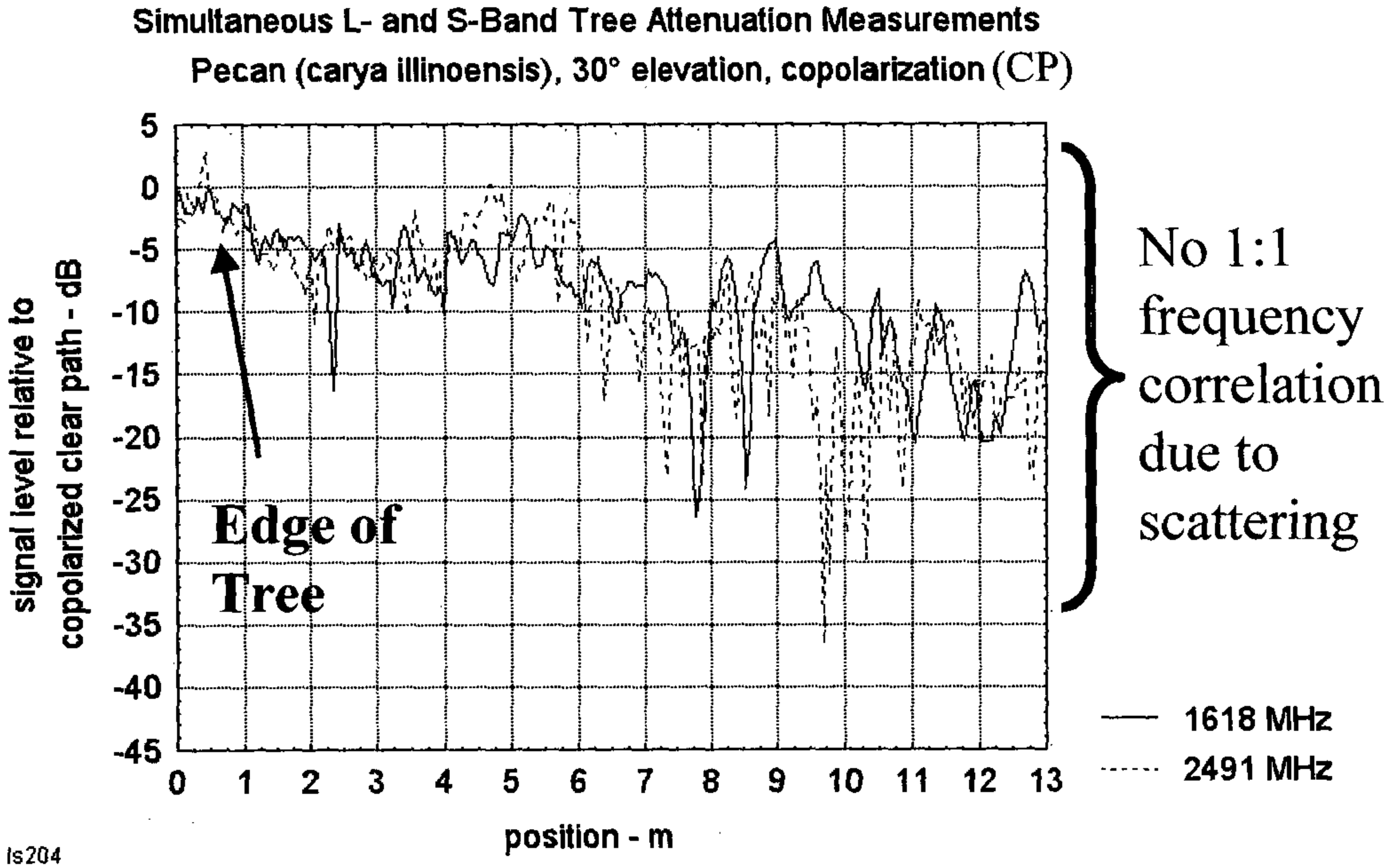
UHF (870 MHz, CP) Measurements of Single Trees

Tree Type	Attenuation (dB)		Attenuation Coefficient (dB/m)	
	Largest	Average	Largest	Average
Burr Oak*	13.9	11.1	1.0	0.8
Callery Pear	18.4	10.6	1.7	1.0
Holly*	19.9	12.1	2.3	1.2
Norway Maple	10.8	10.0	3.5	3.2
Pin Oak	8.4	6.3	0.85	0.6
Pin Oak*	18.4	13.1	1.85	1.3
Pine Grove	17.2	15.4	1.3	1.1
Sassafras	16.1	9.8	3.2	1.9
Scotch Pine	7.7	6.6	0.9	0.7
White Pine*	12.1	10.6	1.5	1.2
Average	14.3	10.6	1.8	1.3
RMS	4.15	2.6	0.9	0.7

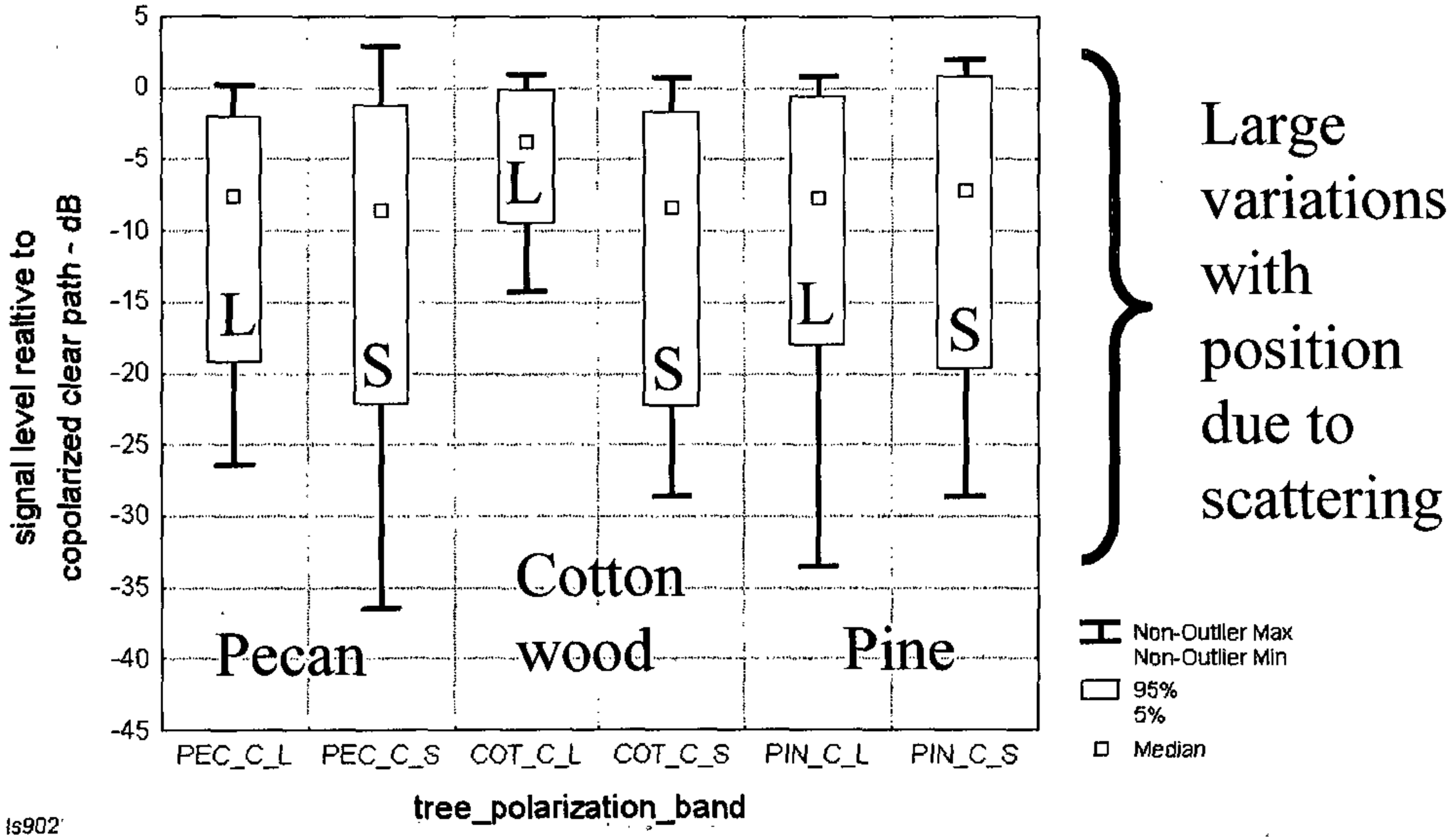
L-Band (1.6 GHz, CP) Measurements of Single Trees

Tree Type	Average Attenuation (dB)	Attenuation Coefficient (dB/m)
Willow	10.45	1.1
Pine	18.0	1.8
Linden	9.1	1.4
European Alder	7.0	1.0
Acacia	6.75	0.9
Poplar	3.5	0.7
Elm	9.0	1.2
Hazelnut	2.75	1.1
Maple	16.25	1.25
White Spruce	20.1	1.75
Laurel Cherry	12.0	2.0
Plane	16.9	1.35
Fir	12.75	1.5
Fruit	9.6	1.2
Average	11.0	1.3
RMS	5.1	0.35

Signal Variation with Position



Simultaneous L- and S-Band Measurements of Single Trees VS Position

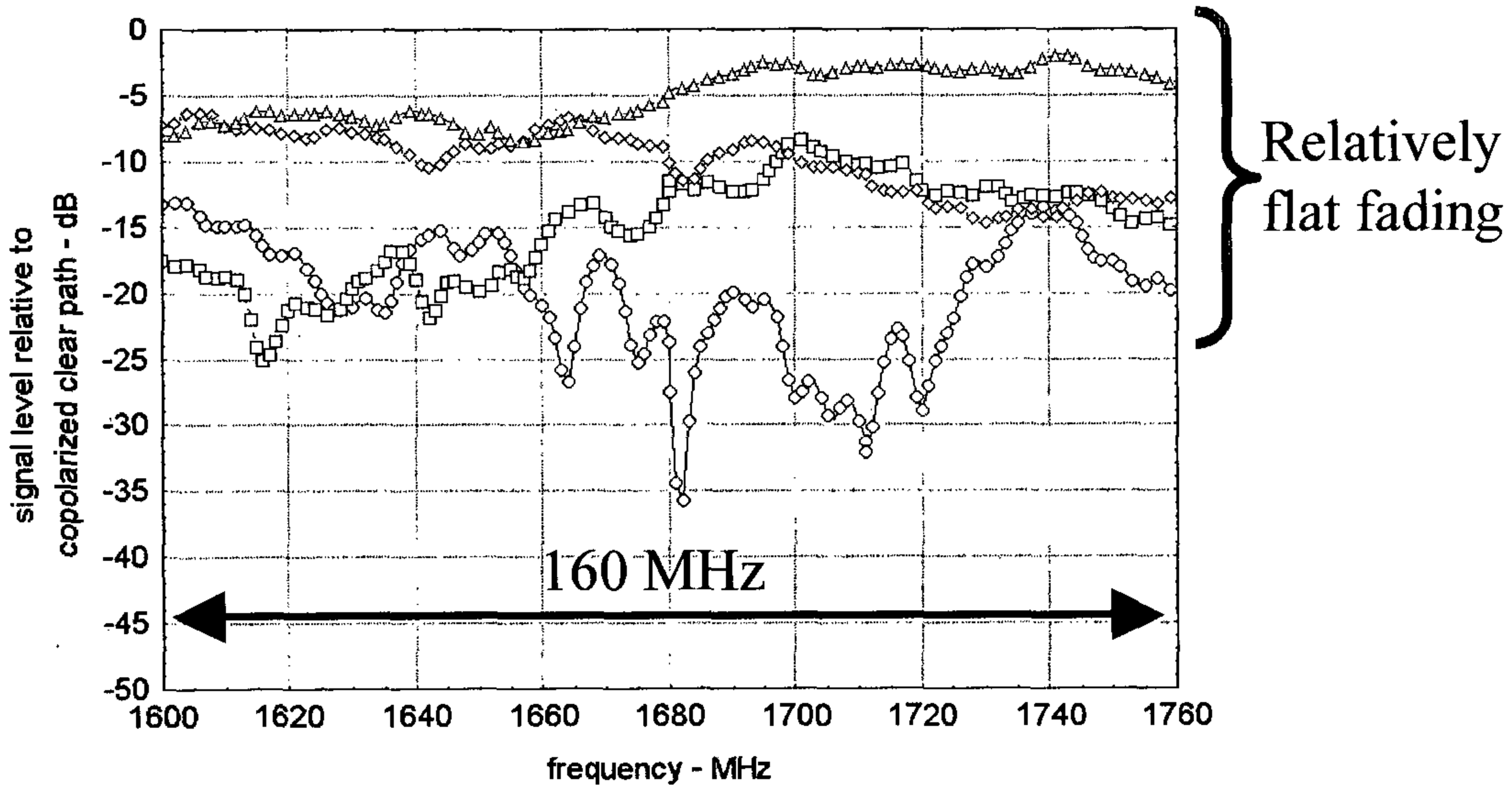


ts902

weak frequency dependence

Signal Variation with Frequency

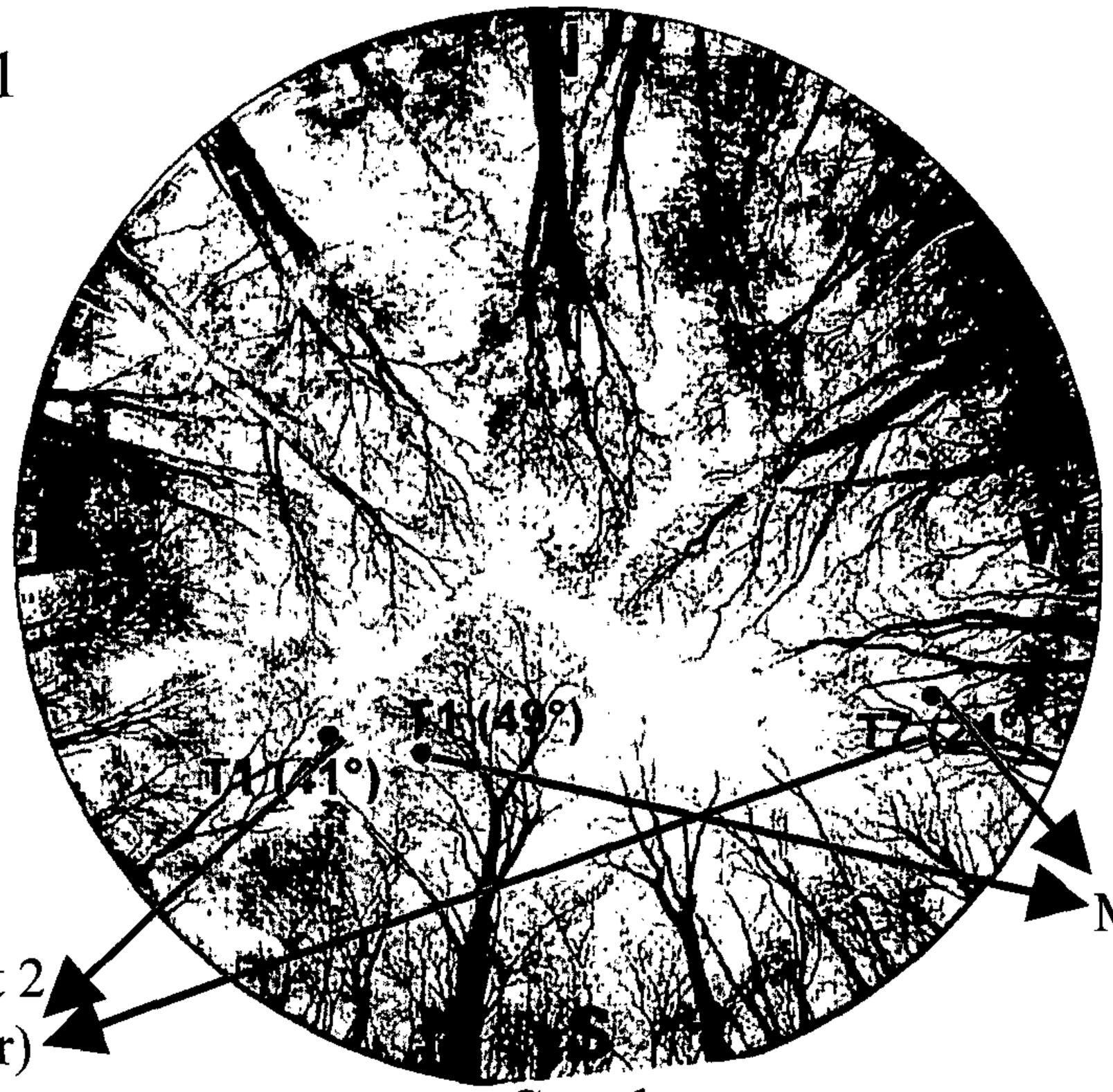
Pine Tree; 5, 10, 15, 20 dB average fade



Short delay times of mostly forward scattered waves

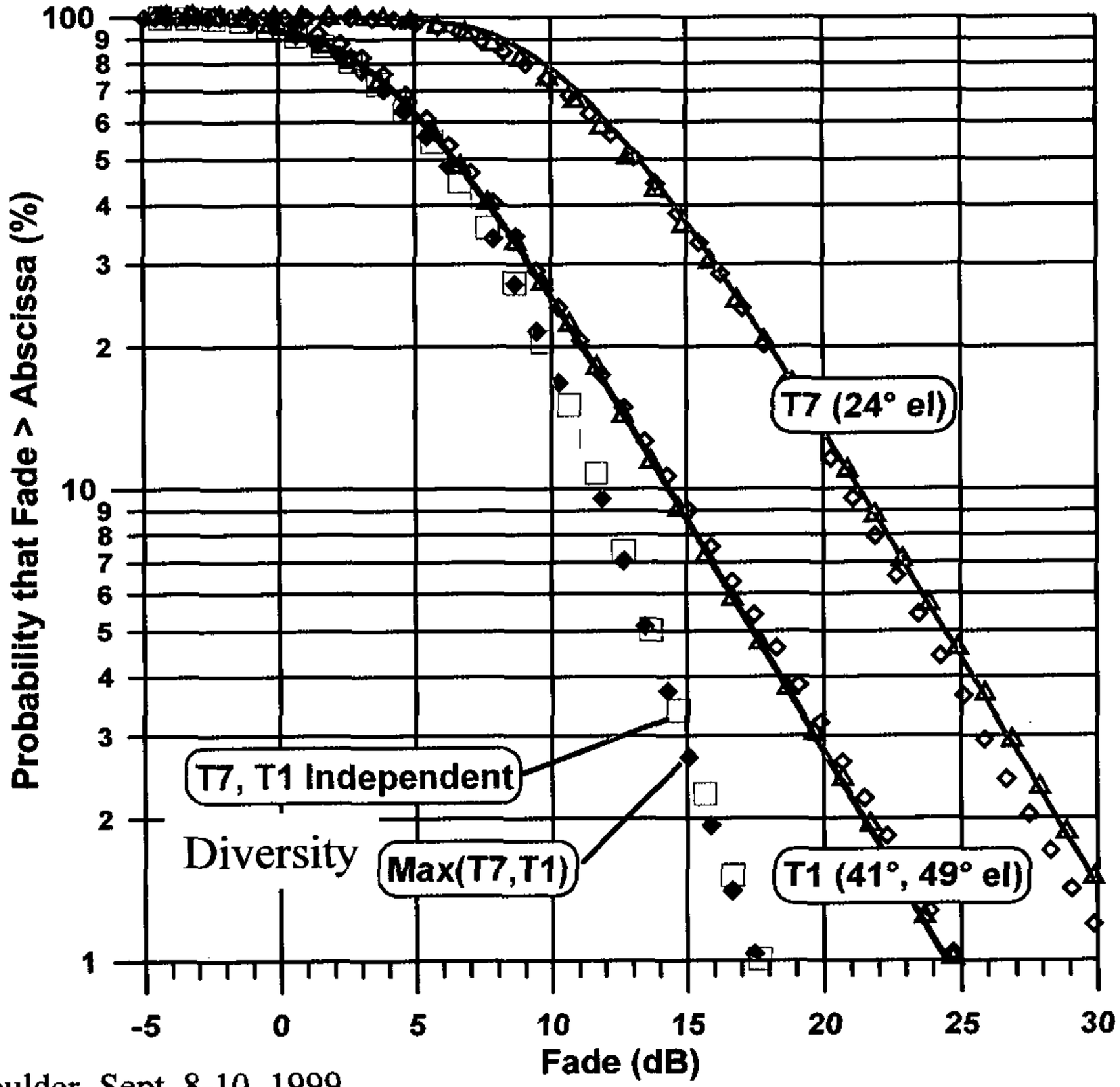
2 GHz Measurements

Deciduous tree grove, TDRSS, CP



Tree Grove Fading at 2 GHz (TDRSS)

Elevation Angle Dependence, 24° vs 41° and 49°



Comments to 2 GHz TDRSS Data

- CDFs for T7 at 24° repeated to within 0.5 dB rms
- CDFs for T1 at 49° and later at 41° are almost identical
  - for a layer of uniform-height vegetation
  - if attenuation proportional to path length in the medium
  - fading at 41° should be 87% of fading at 49°
- Loo Model for tree shadowing

$$p_{Loo}(x) = \frac{8.686\sqrt{2}Kx}{\sigma\sqrt{\pi}} \int_0^\infty \frac{1}{z} \exp[\frac{(20\log z - \mu)^2}{2\sigma^2}$$

- ratio of means agrees with layer model

$$\mu_{49°}/\mu_{24°} = 0.54 = \sin 24° / \sin 49°$$

K-Band Measurements

Roadside Trees in Maryland

Foliage scaling of fading in dB:

UHF

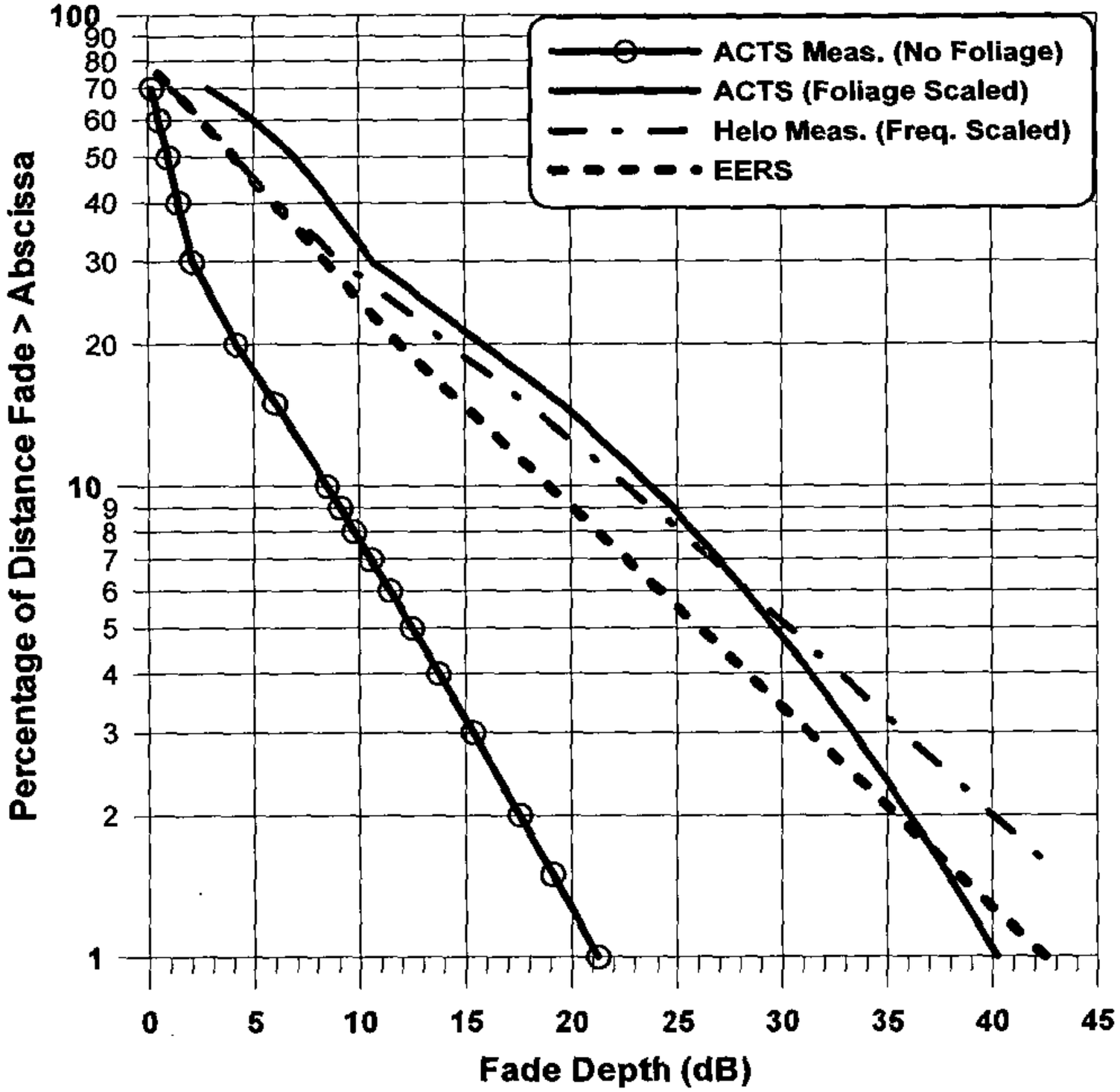
$A_F = 1.35 * A_{NF}$

L-Band

$A_F = 2.33 + 0.9 * A_{NF}$

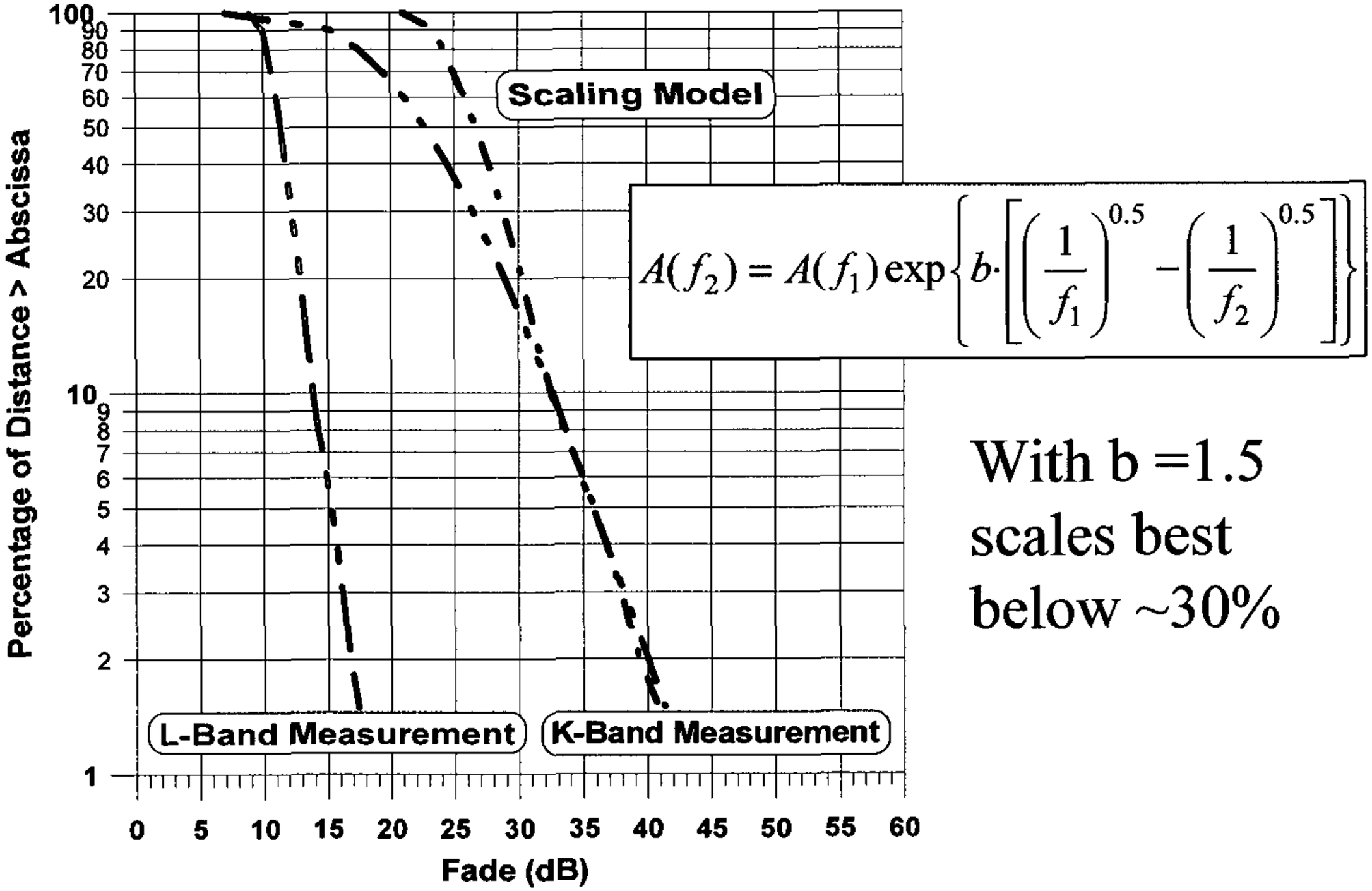
K-Band

$A_F = 0.35 + 6.8 A_{NF}^{0.58}$



Frequency Scaling of Fade Distribution

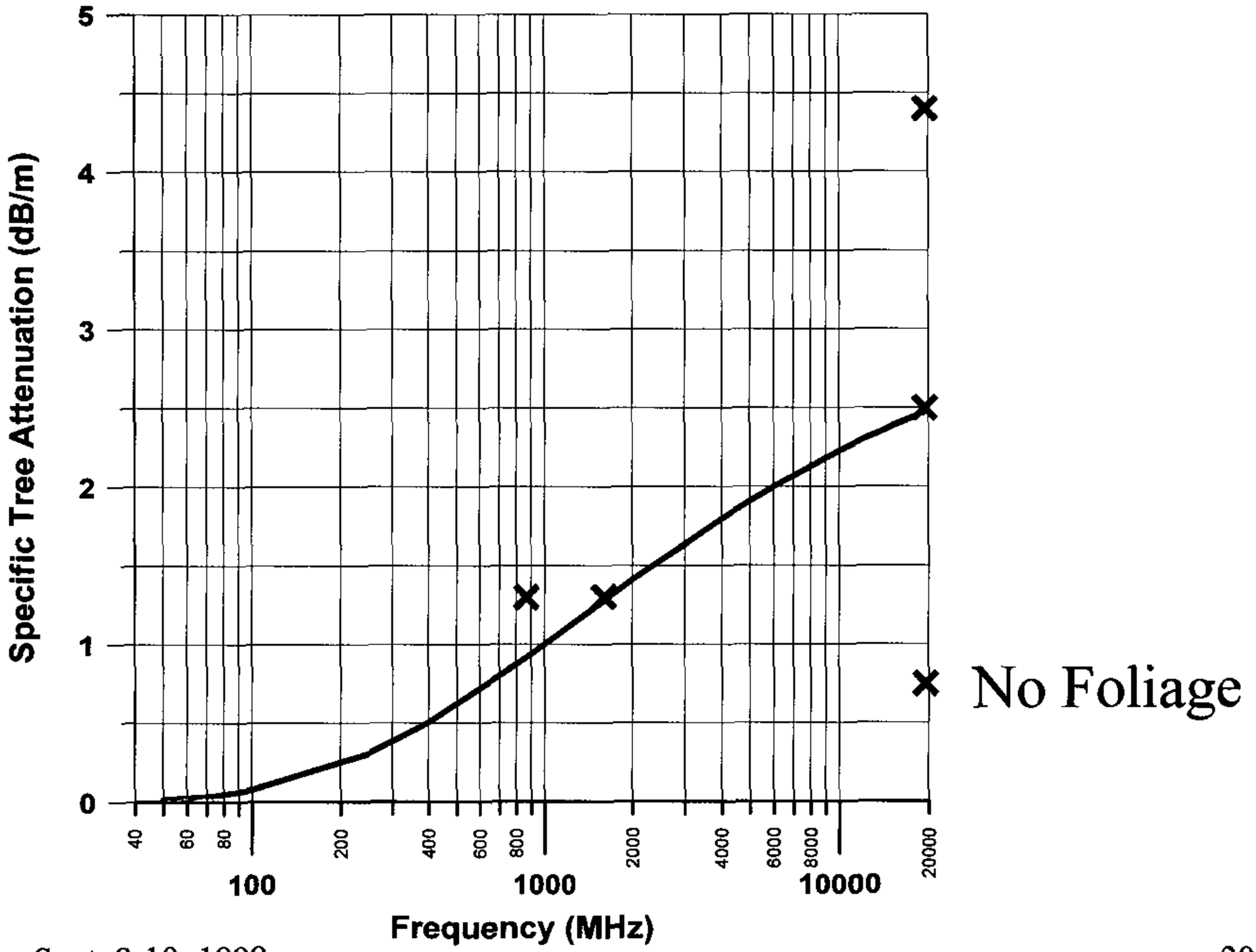
Single Tree: Pecan in Leaf



With b =1.5 scales best below ~30%

Frequency Scaling for Median Fade

Valid for Trees with Foliage, b=1.173



Conclusions - 1

- Average short path multi-tree attenuation at
  - VHF (100 MHz) is 0.03 to 0.15 dB/m
  - VHF (400 MHz) is 0.075 to 0.2 dB/m
- Average single tree attenuation at
  - UHF (870 MHz) is 10.6 dB (2.6 dB RMS)
  - L-Band (1.6 GHz) is 11 dB (5.1 dB RMS)
  - K-Band (20 GHz) is 23 dB
- The frequency scaling formulation pertaining to trees in full foliage at frequencies between VHF (25 MHz) and K-Band (20 GHz) is given by

$$A(f_2) = A(f_1)\exp\left\{b\cdot\left[\left(\frac{1}{f_1}\right)^{0.5} - \left(\frac{1}{f_2}\right)^{0.5}\right]\right\}$$

where A(f1), A(f2) are the respective equal probability attenuations (dB) at frequencies f1, f2 (in GHz), with b=1.173 for median, b=1.5 for 1% to 30% of distribution.

Conclusions - 2

- The dominant contributor to attenuation is the wood part of the tree at frequencies between VHF (50 MHz) and S-Band (4 GHz). For example, foliage has been found to introduce approximately 35% additional attenuation at UHF and 15% at L-Band
- At K-Band (20 GHz), the wood and leaf parts of the tree are both important showing increases due to foliage ranging from 2 to 3 times the attenuation
- As most signal variations in the shadow of a tree are due to forward scattering effects, the delays associated with the multipath are short and the fading is flat.

COUNTY COUNCIL OF BALTIMORE COUNTY, MARYLAND
Legislative Session 1998, Legislative Day No. 4

Bill No. 30-98

All Councilmembers

By the County Council, February 17, 1998

A BILL
ENTITLED

AN ACT concerning

Zoning - Wireless Telecommunications Towers and Antennas

FOR the purpose of amending the Zoning Regulations in order to establish guidelines regarding the regulation of certain towers and antennas; excepting certain towers and antennas from regulation; establishing the Tower Review Committee; requiring certain persons to meet with and submit certain information to the Committee; authorizing the Committee to provide certain comments; authorizing certain towers and antennas to be located in certain zones under certain circumstances; requiring certain towers and structures to meet certain requirements; requiring a security bond or fee; requiring the owner of certain towers and structures to take certain actions; providing for the issuance of certain notices under certain circumstances; providing for the removal of a tower under certain circumstances; requiring towers by special exception to meet certain conditions;

EXPLANATION: CAPITALS INDICATE MATTER ADDED TO EXISTING LAW.
[Brackets] indicate matter stricken from existing law.
~~Strike out~~ indicates matter stricken from bill.
Underlining INDICATES AMENDMENTS TO BILL.

providing for certain enforcement and hearing procedures; establishing conditions for variances for towers; establishing guidelines regarding radio operator antennas; defining certain terms; repealing certain provisions; making certain technical amendments to certain sections; providing for the application and severability of this Act; establishing time frames for the issuance of certain decisions; providing for the interpretation of this Act; and generally relating to the regulation of towers and antennas.

BY repealing

Sections 101, the definitions of "Antenna, Long-Wire" and "Antenna, Rigid-Structure", and 426
Baltimore County Zoning Regulations, as amended

BY adding

Sections 101, alphabetically, the definitions of "Radio Operator Antenna", "Wireless Telecommunications Antenna", "Wireless Telecommunications Facilities", and "Wireless Telecommunications Tower", 426, and 426A
Baltimore County Zoning Regulations, as amended

BY repealing and re-enacting, with amendments

Sections 101, the definition of "Satellite Receiving Dish", 1A01.2.B.7.g, 1A01.2.C.23, 1A02.2.B.31, 1A03.3.B.14, 1A04.2.B.21, 1A05.2.C.6, 1B01.1.C.20, 205.3.B.3, 206.3.A.5, 206.3.B.2.d, 209.3.A.14, 209.3.D.2, 230.9, 230.13, 233.4, 236.4, 248.4.A, 253.1.B.19, 253.2.D.2, 256.1, 256.4, and 502.7

WHEREAS, the Baltimore County Council has received a final report from the Planning Board, dated November 20, 1997, concerning the subject legislation and has held a public hearing thereon on December 15, 1997, now, therefore,

SECTION 1. BE IT ENACTED BY THE COUNTY COUNCIL OF BALTIMORE COUNTY, MARYLAND, that Sections 101, the definitions of "Antenna, Long-Wire" and

"Antenna, Rigid-Structure", and 426 of the Baltimore County Zoning Regulations, as amended, be and they are hereby repealed.

SECTION 2. AND BE IT FURTHER ENACTED, that Sections 101, alphabetically, the definitions of "Radio Operator Antenna", "Wireless Telecommunications Antenna", "Wireless Telecommunications Facilities", and "Wireless Telecommunications Tower", 426, and 426A of the Baltimore County Zoning Regulations, as amended, be and they are hereby added to read as follows:

Section 101--Definitions.

RADIO OPERATOR ANTENNA: A WIRELESS ANTENNA USED IN CONJUNCTION WITH RADIO TRANSMITTING AND RECEIVING FACILITIES USED BY A RESIDENT AMATEUR RADIO OPERATOR POSSESSING AN AMATEUR RADIO OPERATOR'S LICENSE ISSUED BY THE FEDERAL COMMUNICATIONS COMMISSION.

WIRELESS TELECOMMUNICATIONS ANTENNA: A DIRECTIONAL OR OMNIDIRECTIONAL DEVICE THAT: (1) IS MOUNTED ON A TOWER, BUILDING, OR STRUCTURE; AND (2) TRANSMITS OR RECEIVES COMMUNICATIONS FOR THE PROVISION OF PERSONAL WIRELESS SERVICES, INCLUDING RADIO, TELEVISION, COMMERCIAL MOBILE SERVICES, UNLICENSED WIRELESS SERVICES, AND COMMON CARRIER WIRELESS EXCHANGE SERVICES. WIRELESS TELECOMMUNICATIONS ANTENNA INCLUDES ANY RELATED EQUIPMENT HOUSED AT THE BASE OF THE TOWER ON WHICH THE ANTENNA IS MOUNTED. WIRELESS TELECOMMUNICATIONS ANTENNA DOES NOT INCLUDE: (1) RADIO

OPERATOR ANTENNAS; (2) ACCESSORY USE SATELLITE RECEIVING DISHES; OR (3) ACCESSORY USE RADIO OR TELEVISION RECEIVING ANTENNAS.

WIRELESS TELECOMMUNICATIONS FACILITIES: FACILITIES USED FOR THE PROVISION OF PERSONAL WIRELESS SERVICES, INCLUDING WIRELESS TELECOMMUNICATIONS ANTENNAS, WIRELESS TELECOMMUNICATIONS TOWERS, AND PERSONAL WIRELESS SERVICE FACILITIES.

WIRELESS TELECOMMUNICATIONS TOWER: A SELF-SUPPORTING, GUYED, OR FREESTANDING STRUCTURE ERECTED FOR THE PURPOSE OF SUPPORTING ONE OR MORE WIRELESS TELECOMMUNICATIONS ANTENNAS.

SECTION 426 -- WIRELESS TELECOMMUNICATIONS FACILITIES

426.1 DEFINITIONS.

A. IN THIS SECTION THE FOLLOWING WORDS HAVE THE MEANINGS INDICATED.

B. "ANTENNA" MEANS A WIRELESS TELECOMMUNICATIONS ANTENNA.

C. "CODE OFFICIAL" MEANS THE DIRECTOR OF THE DEPARTMENT OF PERMITS AND DEVELOPMENT MANAGEMENT OR THE DIRECTOR'S DESIGNEE.

D. "COMMITTEE" MEANS THE TOWER REVIEW COMMITTEE ESTABLISHED UNDER SECTION 426.4.

E. "OWNER" MEANS THE OWNER, AGENT, LESSEE, OR PERSON IN CONTROL OF A WIRELESS TELECOMMUNICATIONS TOWER.

F. "TOWER" MEANS A WIRELESS TELECOMMUNICATIONS TOWER.

G. "PROVIDER" MEANS A WIRELESS TELECOMMUNICATIONS SERVICE

PROVIDER.

426.2 LEGISLATIVE POLICY FOR SITING OF WIRELESS TELECOMMUNICATIONS ANTENNAS AND TOWERS.

IT IS THE INTENT OF BALTIMORE COUNTY THAT:

A. ANTENNAS SHOULD BE PLACED ON EXISTING TOWERS, BUILDINGS, AND STRUCTURES, INCLUDING THOSE OF PUBLIC UTILITIES, WHERE FEASIBLE; AND

B. IF A NEW TOWER MUST BE BUILT, THE TOWER SHOULD BE:

1. CONSTRUCTED TO ACCOMMODATE ~~MULTIPLE WIRELESS TELECOMMUNICATIONS ANTENNAS~~ AT LEAST 3 PROVIDERS;

2. ERECTED IN A MEDIUM OR HIGH INTENSITY COMMERCIAL ZONE WHEN AVAILABLE; AND

3. LOCATED AND DESIGNED TO MINIMIZE ITS VISIBILITY FROM RESIDENTIAL AND TRANSITIONAL ZONES.

426.3 EXCEPTIONS.

THE PROVISIONS OF THIS SECTION DO NOT APPLY TO:

A. ANTENNAS OR TOWERS SERVING GAS AND ELECTRIC OR LAND-BASED LOCAL TELEPHONE PUBLIC UTILITY COMMUNICATIONS NEEDS AT EXISTING FACILITIES, PROVIDED THAT A PUBLIC UTILITY THAT OWNS ANY ANTENNAS OR TOWERS SHALL ESTABLISH THAT THE ANTENNAS OR TOWERS AND SERVICE MEET CRITICAL COMMUNICATIONS NEEDS FOR PUBLIC SAFETY; OR

B. ANTENNAS USED BY CABLE SYSTEMS OPERATING IN ACCORDANCE

WITH TITLE 8 OF THE BALTIMORE COUNTY CODE, 1988, AS AMENDED, IF LOCATED ON PROPERTY OWNED BY THE COUNTY, STATE, OR FEDERAL GOVERNMENT.

426.4 TOWER REVIEW COMMITTEE.

A. THERE IS A TOWER REVIEW COMMITTEE IN BALTIMORE COUNTY.

B. THE COMMITTEE SHALL CONSIST OF:

1. A TOWER COORDINATOR, WHO SHALL HAVE TECHNICAL EXPERTISE REGARDING THE SITING OF WIRELESS TELECOMMUNICATIONS TOWERS AND SHALL SERVE AS COMMITTEE CHAIRPERSON;

2. THE DIRECTOR OF THE OFFICE OF PLANNING OR THE DIRECTOR'S DESIGNEE;

3. THE DIRECTOR OF THE OFFICE OF INFORMATION TECHNOLOGY OR THE DIRECTOR'S DESIGNEE;

4. AN AT-LARGE CITIZEN REPRESENTATIVE APPOINTED BY THE COUNTY COUNCIL; AND

5. DEPENDING ON THE PARTICULAR SITE FOR A TOWER, REPRESENTATIVES OF OTHER GOVERNMENTAL AGENCIES AS DETERMINED BY THE TOWER COORDINATOR.

C. AN APPLICANT FOR A BUILDING PERMIT FOR AN ANTENNA SHALL SUBMIT A DUPLICATE COPY OF THE PERMIT APPLICATION TO THE TOWER COORDINATOR.

D. 1. PRIOR TO SUBMITTING A PETITION FOR A SPECIAL EXCEPTION OR

AN APPLICATION FOR A BUILDING PERMIT FOR A TOWER, A PETITIONER OR AN APPLICANT SHALL MEET WITH THE COMMITTEE. THE COMMITTEE SHALL MEET WITH THE PETITIONER OR THE APPLICANT WITHIN 3 WEEKS AFTER A WRITTEN REQUEST FOR A MEETING IS SUBMITTED.

2. THE PETITIONER OR THE APPLICANT SHALL SUBMIT TO THE COMMITTEE:

A. INFORMATION DETAILING THE MAXIMUM NUMBER OF PROVIDERS AND ANTENNAS THE PROPOSED TOWER CAN SUPPORT; AND

B. ANY OTHER RELEVANT TECHNICAL INFORMATION REQUESTED BY THE COMMITTEE.

3. THE COMMITTEE SHALL REVIEW THE INFORMATION SUBMITTED BY THE PETITIONER OR THE APPLICANT AND EVALUATE THE PROPOSED TOWER WITH REGARD TO THE LEGISLATIVE POLICY UNDER SECTION 426.2.

4. THE COMMITTEE MAY PROVIDE ADVISORY COMMENTS TO THE ZONING COMMISSIONER OR THE CODE OFFICIAL CONCERNING THE PROPOSED TOWER.

426.5 WIRELESS TELECOMMUNICATIONS TOWERS AND ANTENNAS.

	Antennas		Towers	
	How Permitted	Maximum Antenna Height and Antenna Diameter	<200 ft. high	> =200 ft. high
Residential Zone RC, RCC, CR District, DR, ROA	R	15 feet high, diameter three feet	SE	SE
			R if in an RC zone within the rights-of-way of public utility overhead electrical transmission lines carrying more than 69,000 volts, provided that the height of the tower does not exceed 250 feet	
Transitional Zones SE, RO, OR1, BMM, BMYC, BMB, CB	R	15 feet high, diameter three feet	SE	SE
Medium Intensity Commercial OR2, BLR, BL, BM, BR, MR, ML, MLR	R	Not regulated	R	SE
High Intensity Commercial O3, OT, MH	R	Not regulated	R	SE

A. IN THIS SUBSECTION THE FOLLOWING WORDS HAVE THE MEANINGS INDICATED.

B. "R" MEANS BY RIGHT.

C. "SE" MEANS BY SPECIAL EXCEPTION

D. THE COLUMN FOR ANTENNAS REFERS TO ANTENNAS LOCATED ON A TOWER, BUILDING, OR STRUCTURE LEGALLY EXISTING PRIOR TO THE INSTALLATION OF THE ANTENNA EVEN IF THE TOWER, BUILDING, OR STRUCTURE WAS APPROVED BY SPECIAL EXCEPTION.

E. THE HEIGHT OF A TOWER IS MEASURED FROM THE BASE OF THE TOWER TO THE TIP OF THE TOWER OR THE TIP OF THE HIGHEST ANTENNA ON THE TOWER, WHICHEVER DISTANCE IS GREATER.

426.6 REQUIREMENTS FOR WIRELESS TELECOMMUNICATIONS TOWERS.

A. SETBACKS.

~~1. FOR DETERMINING SETBACK REQUIREMENTS, THE HEIGHT OF A TOWER IS MEASURED FROM BASE OF THE TOWER TO THE TIP OF THE TOWER OR THE TIP OF HIGHEST ANTENNA LOCATED ON THE TOWER, WHICHEVER DISTANCE IS GREATER.~~

~~2. A TOWER SHALL BE SET BACK FROM ANY OTHER OWNER'S PROPERTY LINE A DISTANCE EQUAL TO AT LEAST THE HEIGHT OF THE TOWER, EXCEPT THAT IF THE TOWER IS LOCATED IN A RESIDENTIAL ZONE, THE TOWER SHALL BE SET BACK AT LEAST 200 FEET FROM ANY OTHER OWNER'S PROPERTY LINE.~~

~~3. IF A TOWER IS LOCATED IN A MEDIUM OR HIGH INTENSITY COMMERCIAL ZONE, THE TOWER SHALL BE SET BACK FROM ANY RESIDENTIAL~~

~~OR TRANSITIONAL ZONE LINE AT LEAST 200 FEET. IF A TOWER IS LOCATED IN A TRANSITIONAL ZONE, THE TOWER SHALL BE SET BACK FROM ANY RESIDENTIAL ZONE AT LEAST 200 FEET.~~

1. IF A TOWER IS LOCATED IN A RESIDENTIAL ZONE, THE TOWER SHALL BE SET BACK AT LEAST 200 FEET FROM ANY OTHER OWNER'S RESIDENTIAL PROPERTY LINE.

2. IF A TOWER IS LOCATED IN A TRANSITIONAL ZONE, THE TOWER SHALL BE SET BACK AT LEAST 200 FEET FROM ANY RESIDENTIAL ZONE.

3. IF A TOWER IS LOCATED IN A MEDIUM OR HIGH INTENSITY COMMERCIAL ZONE, THE TOWER SHALL BE SET BACK FROM AN ADJOINING PROPERTY LINE A DISTANCE EQUAL TO THE SETBACK REQUIRED FOR OTHER STRUCTURES IN THE ZONE. HOWEVER, IF THE PROPERTY ADJOINS A RESIDENTIAL ZONE, THE TOWER SHALL BE SET BACK AT LEAST 200 FEET FROM THE RESIDENTIAL ZONE LINE.

4. A STRUCTURE HOUSING EQUIPMENT FOR A TOWER SHALL MEET THE MINIMUM SETBACK REQUIREMENTS FROM ANY OTHER OWNER'S PROPERTY OR ZONE LINE.

5. NOTWITHSTANDING THE PROVISIONS OF SECTION 102.2 OF THESE REGULATIONS, IF MULTIPLE STRUCTURES HOUSING EQUIPMENT FOR A TOWER ARE LOCATED ON THE SAME OWNER'S PROPERTY, A YARD OR SETBACK IS NOT REQUIRED BETWEEN THE STRUCTURES.

B. EXCEPT AS REQUIRED BY THE FEDERAL AVIATION ADMINISTRATION,:

1. STROBOSCOPIC LIGHTS ARE NOT PERMITTED ON A TOWER; AND

2. THE TOWER, ANTENNA, AND SUPPORTING LINES SHALL BE NEUTRAL IN COLOR.

C. IF A TOWER IS LOCATED IN A RESIDENTIAL OR TRANSITIONAL ZONE, ANY STRUCTURE HOUSING EQUIPMENT FOR THE TOWER SHALL BE:

1. SCREENED IN ACCORDANCE WITH THE LANDSCAPE MANUAL, CLASS "A" SCREENING REQUIREMENTS; AND

2. FACED WITH A MATERIAL COMPATIBLE WITH BUILDINGS OR STRUCTURES SURROUNDING THE TOWER.

D. UPON COMPLETION OF A TOWER AND EVERY FIVE YEARS AFTER THE DATE OF COMPLETION, THE OWNER OF THE TOWER SHALL SUBMIT TO THE CODE OFFICIAL WRITTEN CERTIFICATION FROM A PROFESSIONAL ENGINEER VERIFYING THAT THE TOWER AND ANY STRUCTURE HOUSING EQUIPMENT FOR THE TOWER MEETS ALL <u>APPLICABLE BUILDING CODE AND</u> SAFETY REQUIREMENTS.

E. THE OWNER OF A TOWER SHALL SUBMIT ANNUALLY TO THE TOWER COORDINATOR WRITTEN CERTIFICATION OF THE NUMBER OF <u>PROVIDERS AND</u> ANTENNAS ON THE TOWER.

426.7 SECURITY BOND.

~~A. AN APPLICANT FOR A BUILDING PERMIT FOR A TOWER SHALL PROVIDE A SECURITY BOND IN A FORM AND AMOUNT SUFFICIENT TO CAUSE REMOVAL OF THE TOWER IF REQUIRED BY THE CODE OFFICIAL.~~

A. AN APPLICANT FOR A BUILDING PERMIT FOR A TOWER SHALL PROVIDE:

1. A SECURITY BOND IN AN AMOUNT NOT TO EXCEED $40,000 AND A TERM NOT TO EXCEED 25 YEARS; OR

2. A FEE NOT TO EXCEED $5,000.

B. THE ADMINISTRATIVE OFFICER SHALL DETERMINE THE FORM AND AMOUNT OF THE BOND OR FEE IN ACCORDANCE WITH SECTION 15-9 OF THE CODE.

~~B~~C. THE CODE OFFICIAL MAY USE THE BOND OR FEE TO PROCURE REPAIR OF UNSAFE OR HAZARDOUS CONDITIONS UNDER SECTION 426.8 OR REMOVAL OF A TOWER UNDER SECTION 426.10 IN ACCORDANCE WITH SECTION 1-7.1(B) OF THE CODE.

426.8 UNSAFE OR HAZARDOUS CONDITIONS.

A. *THE OWNER OF A TOWER AND ANY STRUCTURE HOUSING EQUIPMENT* FOR THE TOWER SHALL MAINTAIN THE TOWER AND ANY STRUCTURE IN GOOD WORKING CONDITION AND CORRECT ANY UNSAFE OR HAZARDOUS CONDITIONS, WHICH MAY INCLUDE:

1. CONDITIONS CAUSED BY VANDALISM;

2. FLAKING OR WORN EXTERIOR PAINT; AND

3. ILLEGAL OR IMPROPER OCCUPANCY OF THE TOWER OR STRUCTURE.

B. THE PROVISIONS OF THIS SUBSECTION SHALL BE ENFORCED IN

ACCORDANCE WITH SECTION 1-7 OF THE CODE.

426.9 ~~SPECIAL EXCEPTIONS~~ ADDITIONAL CONDITIONS FOR TOWERS PERMITTED BY SPECIAL EXCEPTION.

A. TOWERS PERMITTED BY SPECIAL EXCEPTION SHALL MEET THE REQUIREMENTS OF THIS SUBSECTION.

B. 1. A PETITIONER SHALL HAVE THE BURDEN OF DEMONSTRATING THAT:

A. THE PETITIONER HAS MADE A DILIGENT ATTEMPT TO LOCATE THE ANTENNA ON AN EXISTING TOWER; OR NON-RESIDENTIAL BUILDING; OR STRUCTURE;

B. DUE TO THE LOCATION, ELEVATION, ENGINEERING, TECHNICAL FEASIBILITY, OR INABILITY TO OBTAIN A LEASE OR OWNERSHIP OF A LOCATION ELSEWHERE, THE CONSTRUCTION OF A TOWER AT THE PROPOSED LOCATION IS WARRANTED;

C. TO THE EXTENT TECHNICALLY FEASIBLE, THE TOWER HAS BEEN DESIGNED TO ACCOMMODATE ~~AT LEAST 2 OTHER ANTENNAS~~ ANTENNAS OF AT LEAST 2 OTHER PROVIDERS; AND

D. THE HEIGHT OF THE TOWER IS NO HIGHER THAN WHAT IS REQUIRED TO ENABLE PRESENT AND FUTURE CO-LOCATION OF OTHER ~~ANTENNAS~~ PROVIDERS.

2. THE ZONING COMMISSIONER SHALL REVIEW THE PETITIONER'S SUBMITTAL WITH REGARD TO THE LEGISLATIVE POLICY UNDER SECTION 426.2.

C. IN A RESIDENTIAL OR TRANSITIONAL ZONE MEET THE FOLLOWING ADDITIONAL REQUIREMENTS:

1. A PETITIONER SHALL HAVE THE BURDEN OF PROVING THAT:

A. THERE IS NO AVAILABLE, SUITABLE OR ADEQUATE SITE FOR THE TOWER IN A MEDIUM OR HIGH INTENSITY COMMERCIAL ZONE, IDENTIFYING WITH PARTICULARITY ANY SITES CONSIDERED; OR

B. DUE TO TOPOGRAPHICAL OR OTHER CONDITIONS, THE PROPOSED SITE IS MORE CONSISTENT WITH THE LEGISLATIVE INTENT UNDER SECTION 426.2 THAN A SITE IN AN AVAILABLE MEDIUM OR HIGH INTENSITY COMMERCIAL ZONE.

2. A TOWER IN AN R.C. ZONE SHALL BE LOCATED ON A LOT OF AT LEAST 5 ACRES. IN ALL OTHER RESIDENTIAL OR TRANSITIONAL ZONES, A TOWER SHALL BE LOCATED ON A LOT OF AT LEAST [illegible]

3. IN GRANTING A SPECIAL EXCEPTION, THE COMMISSIONER, OR BOARD OF APPEALS UPON APPEAL, SHALL IMPOSE RESTRICTIONS AS PROVIDED IN SECTION 502.2. IN ADDITION, THE COMMISSIONER SHALL REQUIRE THAT THE TOWER BE LOCATED ON A STRUCTURE OR NATURAL FORMATION, SUCH AS A HILL, OR TREE, WHICH IS FOUND, OR LIKELY TO BE FOUND, IN THE TOWER VICINITY UNLESS THE COMMISSIONER FINDS THAT THE REQUIREMENT IS NOT REASONABLE OR ADVISABLE FOR THE PROTECTION

SURROUNDING THE TOWER.

426.10 REMOVAL OF TOWERS.

A. THE CODE OFFICIAL MAY ISSUE A CITATION FOR REMOVAL OF A TOWER, INCLUDING ALL ABOVE-GROUND STRUCTURES, EQUIPMENT, AND PAVING, TO THE OWNER IF :

1. THE CODE OFFICIAL DETERMINES THAT THE TOWER HAS NOT BEEN IN ACTUAL AND CONTINUOUS USE FOR 12 CONSECUTIVE MONTHS;

2. THE OWNER HAS FAILED TO CORRECT AN UNSAFE OR HAZARDOUS CONDITION UNDER SECTION 426.8 WITHIN THE TIME PRESCRIBED IN A CORRECTION NOTICE ISSUED BY THE CODE OFFICIAL; OR

3. THE OWNER HAS NOTIFIED THE CODE OFFICIAL THAT USE OF THE TOWER HAS TERMINATED.

B. A SPECIAL EXCEPTION FOR THE OPERATION OF A TOWER BECOMES VOID UPON A FINAL ORDER OF THE CODE OFFICIAL FOR REMOVAL OF THE TOWER.

C. THE PROVISIONS OF THIS SUBSECTION SHALL BE ENFORCED IN ACCORDANCE WITH SECTION 1-7 OF THE CODE.

D. 1. THE CODE OFFICIAL MAY PROCURE COMPLIANCE IN ACCORDANCE WITH SECTION 1-7.1(B) OF THE CODE IF THE OWNER FAILS TO COMPLY WITH A FINAL ORDER TO REMOVE THE TOWER.

2. EXPENSES FOR REMOVAL OF A TOWER WHICH EXCEED THE AMOUNT OF ANY SECURITY BOND POSTED UNDER SECTION 426.7 SHALL

BECOME A LIEN ON THE PROPERTY OF THE OWNER.

426.11 VARIANCES.

THE ZONING COMMISSIONER, AND BOARD OF APPEALS UPON APPEAL, MAY GRANT A VARIANCE TO A HEIGHT OR AREA REQUIREMENT, INCLUDING ANY SETBACK, FOR A TOWER OR STRUCTURE HOUSING EQUIPMENT FOR A TOWER IN ACCORDANCE WITH SECTION 307 OF THESE REGULATIONS.

426.12 ISSUANCE OF BUILDING PERMITS.

A. BUILDING PERMITS FOR ANTENNAS AND TOWERS PERMITTED BY RIGHT SHALL BE ISSUED IN ACCORDANCE WITH THE REQUIREMENTS OF THIS SUBSECTION.

B. A DECISION ON AN APPLICATION FOR A BUILDING PERMIT SHALL BE MADE WITHIN 30 DAYS OF RECEIPT OF A COMPLETE PERMIT APPLICATION.

C. ANY DECISION DENYING AN APPLICATION FOR A BUILDING PERMIT SHALL BE SET FORTH IN WRITING AND SUPPORTED BY SUBSTANTIAL EVIDENCE CONTAINED IN A WRITTEN RECORD

SECTION 426A -- RADIO OPERATOR ANTENNAS

A. A RADIO OPERATOR ANTENNA AND RELATED EQUIPMENT, INCLUDING ANY SUPPORTING STRUCTURE, IS CONSIDERED AN ACCESSORY STRUCTURE OR USE AND IS PERMITTED BY RIGHT IN ANY ZONE IF THE RADIO ANTENNA AND THE RELATED EQUIPMENT MEETS THE REQUIREMENTS OF THIS SECTION.

B. A RADIO OPERATOR ANTENNA SHALL BE OPERATED BY AN AMATEUR RADIO OPERATOR WHO IS LICENSED BY THE FEDERAL COMMUNICATIONS

COMMISSION AND WHOSE DOMICILE IS ON THE LOT WHERE THE ANTENNA AND THE RELATED EQUIPMENT IS PLACED.

C. A SUPPORTING STRUCTURE FOR A RADIO OPERATOR ANTENNA MAY NOT BE LOCATED WITHIN 20 FEET OF ANY PROPERTY LINE.

D. A RADIO OPERATOR ANTENNA MAY NOT EXTEND CLOSER THAN THE FRONT BUILDING LINE TO ANY STREET ON WHICH THE LOT FRONTS.

E. A RADIO OPERATOR ANTENNA MAY NOT BE HIGHER THAN THE LESSER OF 100 FEET OR THE HORIZONTAL DISTANCE TO THE NEAREST PROPERTY LINE ABOVE GRADE LEVEL.

SECTION 3. AND BE IT FURTHER ENACTED, that Sections 101, the definition of "Satellite Receiving Dish", 1A01.2.B.7.g, 1A01.2.C.23, 1A02.2.B.31, 1A03.3.B.14, 1A04.2.B.21, 1A05.2.C.6, 1B01.1.C.20, 205.3.B.3, 206.3.A.5, 206.3.B.2.d, 209.3.A.14, 209.3.D.2, 230.9, 230.13, 233.4, 236.4, 248.4.A, 253.1.B.19, 253.2.D.2, 256.1, 256.4, and 502.7 of the Baltimore Zoning Regulations, as amended, be and they are hereby repealed and re-enacted to read as follows:

Section 101--Definitions.

Satellite Receiving Dish: A device used or designed to receive electromagnetic signals from earth-orbiting satellites and other extraterrestrial sources and is external to or is attached to THE GROUND OR the exterior of any building. The term satellite receiving dish includes satellite earth station, satellite television antenna, satellite dish antenna, or any other device designed to receive signals from satellites in the manner described above. For the purposes of these regulations, accessory satellite receiving dishes shall not be considered [as wireless

transmitting and receiving structures, rigid-structure antennas or long-wire antennas] WIRELESS TELECOMMUNICATIONS ANTENNAS OR RADIO OPERATOR ANTENNAS.

Section 1A01--R.C. 2 (Agricultural) Zones

1A01.2--Use Regulations.

B. Uses permitted as of right. The following uses, only, are permitted as of right in all R.C. 2 zones:

7. Accessory uses or structures, including, but not limited to, the following:

g. Radio OPERATOR antennas [in conjunction with wireless transmitting or receiving facilities, provided that any such facility is used by a resident who has an amateur radio operator's license issued by the Federal Communications Commission. No such antenna may extend closer than the front building line to any street on which the lot may front; no rigid-structure antenna may be taller above grade level than the horizontal distance to the nearest property line or 100 feet, whichever is less; and no supporting structure may be situated within 50 feet of any property line (see also Section 400)], SUBJECT TO SECTION 426A.

C. Uses permitted by special exception. The following uses, only, may be permitted by special exception in any R.C. 2 zone, provided that in each case the hearing authority empowered to hear the petition finds that the use would not be detrimental to the primary agricultural uses in its vicinity; and, in the case of any use permitted under Item 24, further provided that the hearing authority finds that the use would support the primary agricultural use in its vicinity and would not itself be situated on land more appropriately used for primary agricultural uses:

23. [Wireless transmitting or receiving facilities as principal uses] WIRELESS TELECOMMUNICATIONS TOWERS, SUBJECT TO SECTION 426.

Section 1A02--R.C. 3 (Deferral of Planning and Development) Zones

1A02.2--Use Regulations.

B. Uses permitted by special exception. The following uses, only, are permitted by special exception in R.C. 3 zones.

31. [Wireless transmitting and receiving structures, except that a radio antenna in conjunction with transmitting and receiving facilities used by a resident amateur radio operator possessing an amateur radio operator's license issued by the Federal Communications Commission shall be considered an accessory structure or, if attached to another structure, an accessory use, and, as such, is permitted without a special exception, provided: (a) that if it is an accessory structure, it shall be subject to the provisions of Section 400; (b) that if it is a rigid-structure antenna, it shall be no higher than 100 feet or the horizontal distance to the nearest property line, whichever is less, above the grade level, and nor supporting structure thereof shall be closer than 50 feet to any property line; and, further, (c) that it does not extend closer to the street on which the lot fronts than the front building line] WIRELESS TELECOMMUNICATIONS TOWERS, SUBJECT TO SECTION 426.

Section 1A03--R.C. 4 (Watershed Protection) Zones

1A03.3--Use Regulations

B. Uses permitted by special exception. The following uses, only, are permitted by special exception in R.C. 4 zones:

14. [Wireless transmitting and receiving structures, except that a radio antenna in conjunction with transmitting and receiving facilities used by a resident amateur radio operator possessing an amateur radio operator's license issued by the Federal Communications

Commission shall be considered an accessory structure, or, if attached to another structure, an accessory use, and, as such, is permitted without a special exception, provided: (a) that if it is an accessory structure, it shall be subject to the provisions of Section 400; (b) that if it is a rigid-structure antenna, it shall be no higher than 100 feet or the horizontal distance to the nearest property line, whichever is less, above grade level, and no supporting structure thereof shall be closer than 50 feet to any property line; and, further, (c) that it does not extend closer to the street on which the lot fronts than the front building line] WIRELESS TELECOMMUNICATIONS TOWERS, SUBJECT TO SECTION 426.

Section 1A04--R.C. 5 (Rural - Residential) Zone

1A04.2--Use Regulations

B. Uses permitted by special exception. The following uses, only, are permitted by special exception in R.C. 5 zones.

21. [Wireless transmitting and receiving structures, except that a radio antenna in conjunction with transmitting and receiving facilities used by a resident amateur radio operator possessing an amateur radio operator's license issued by the Federal Communications Commission shall be considered an accessory structure, or, if attached to another structure, an accessory use, and, as such, is permitted without a special exception, provided: (a) that if it is an accessory structure, it shall be subject to the provisions of Section 400; (b) that if it is a rigid-structure antenna, it shall be no higher than 100 feet or the horizontal distance to the nearest property line, whichever is less, above the grade level, and nor supporting structure thereof shall be closer than 50 feet to any property line; and, further, (c) that it does not extend closer to the street on which the lot fronts than the front building line] WIRELESS

TELECOMMUNICATIONS TOWERS, SUBJECT TO SECTION 426.

Section 1A05--R.C. 20 and R.C. 50 Zones

1A05.2 Table of Land Use Regulations

C. Institutional, Public and Quasi-Public Uses

6. [Wireless transmission or receiving and relay facilities as a principal use]

WIRELESS TELECOMMUNICATIONS TOWERS, SUBJECT TO SECTION 426.

Section 1B01--Regulations with Respect to D.R. Zones in General

1B01.1--General Use Regulations in D.R. Zones.

C. Uses Permitted by Special Exception. The following uses, only, are permitted by special exception in all D.R. zones, subject to the restrictions hereinafter prescribed:

20. [Wireless transmitting and receiving structures, as principal uses or structures, provided that any exterior transmitting and receiving antenna greater than 50 feet above grade level shall be considered a principal use or structure] WIRELESS TELECOMMUNICATIONS TOWERS, SUBJECT TO SECTION 426.

Section 205--OR-1 (Office Building - Residential) Zones

205.3 Use Regulations in OR-1 Zones.

B. The following uses, only, are allowable by special exception:

3. [Wireless transmitting or receiving structures] WIRELESS TELECOMMUNICATIONS TOWERS, SUBJECT TO SECTION 426.

Section 206--OR-2 (Office Building - Residential) Zones

206.3 Use Regulations in OR-2 Zones.

A. Uses permitted by right. The following uses, only, are permitted by right:

5. [Wireless transmitting or receiving structures 200 feet or less in height above grade level (see Section 426)] WIRELESS TELECOMMUNICATIONS ANTENNAS OR WIRELESS TELECOMMUNICATIONS TOWERS, SUBJECT TO SECTION 426.

B. Uses allowable by special exception.

2. The following accessory uses are allowable by special exception if they are not within office buildings, as permitted by Section 305.3.A.3, or would occupy more floor area than would be allowed under the standard of Section 205.3.C.1.b, provided that the zoning commissioner finds that the uses will primarily serve the principal uses of the lot or office park:

d. [Wireless transmitting or receiving structures not permitted by Section 426] WIRELESS TELECOMMUNICATIONS TOWERS, SUBJECT TO SECTION 426.

Section 209--O.T. (Office and Technology) Zone.

209.3 Permitted Uses.

A. Principal Uses. The following principal uses are permitted as a matter of right:

14. [Wireless transmitting or receiving structures 200 feet or less in height above grade level] WIRELESS TELECOMMUNICATIONS ANTENNAS OR WIRELESS TELECOMMUNICATIONS TOWERS, SUBJECT TO SECTION 426.

D. Uses permitted by Special Exception.

2. [Wireless transmitting or receiving structures not permitted by Section 426] WIRELESS TELECOMMUNICATIONS TOWERS, SUBJECT TO SECTION 426.

B.L. Zone--Business, Local

Section 230--Use Regulations

The following uses only are permitted (see Section 230.12):

230.9--

[Wireless transmitting or receiving structures 200 feet or less in height above grade level]

WIRELESS TELECOMMUNICATIONS ANTENNAS OR WIRELESS TELECOMMUNICATIONS TOWERS, SUBJECT TO SECTION 426.

230.13--Special Exceptions--The following uses when permitted as special exceptions (see Sections 270 and 502):

[Wireless transmitting or receiving structure not permitted by Section 426] WIRELESS TELECOMMUNICATIONS TOWERS, SUBJECT TO SECTION 426.

B.M. Zone--Business, Major

Section 233--Use Regulations

The following uses only are permitted (see Section 233.3):

233.4 Special Exceptions. The following uses are permitted as special exceptions (see Sections 270 and 502):

[Wireless transmitting or receiving structure not permitted by Section 426] WIRELESS TELECOMMUNICATIONS TOWERS, SUBJECT TO SECTION 426.

Section 236 -- B.R. Zone (Business, Roadside) Use Regulations

The following uses only are permitted:

236.4 Special Exceptions. The following uses when permitted as special exceptions (see Sections 270 and 502):

[Wireless transmitting or receiving structure not permitted by Section 426] WIRELESS TELECOMMUNICATIONS TOWERS, SUBJECT TO SECTION 426.

M.L.R. Zone--Manufacturing Light, Restricted

Section 248--Use Regulations:

The following uses only are permitted:

248.4--Special Exceptions--When permitted as special exceptions (see Sections 270 and 502).

A. The following uses:

[Wireless transmitting or receiving structure not permitted by Section 426] WIRELESS TELECOMMUNICATIONS TOWERS, SUBJECT TO SECTION 426.

Section 253 -- M.L. Zone (Manufacturing, Light) Use Regulations

253.1 Uses permitted as of right. The uses listed in this subsection, only, shall be permitted as of right in M.L. zones, subject to any conditions hereinafter prescribed.

B. The following transportation, storage, or quasi-public uses or utilities:

19. [Wireless transmitting or receiving structures 200 feet or less in height above grade level (see Section 426)] WIRELESS TELECOMMUNICATIONS ANTENNAS OR WIRELESS TELECOMMUNICATIONS TOWERS, SUBJECT TO SECTION 426.

253.2 Uses permitted by Special Exception. The uses listed in this subsection are permitted by special exception only (see Section 502).

D. The following miscellaneous uses:

2. [Wireless transmitting or receiving structures not permitted by Section 426] WIRELESS TELECOMMUNICATIONS TOWERS, SUBJECT TO SECTION 426; and

M.H. Zone--Manufacturing, Heavy

Section 256--Use Regulations

256.1--Uses permitted in MR zones, Section 241.1 and in Section 253.4 of the M.L. zone:

[Wireless transmitting or receiving structure 200 feet or less in height above grade level] WIRELESS TELECOMMUNICATIONS ANTENNAS OR WIRELESS TELECOMMUNICATIONS TOWERS, SUBJECT TO SECTION 426.

256.4--Special Exceptions--the following uses only when permitted as special exceptions (see Sections 270 and 502):

[Wireless transmitting or receiving structure not permitted by Section 426] WIRELESS TELECOMMUNICATIONS TOWERS, SUBJECT TO SECTION 426.

Section 502--Special Exceptions

502.7--[Wireless Transmitting and Receiving Facilities.] WIRELESS TELECOMMUNICATIONS TOWERS.

[A.] A special exception may not be granted for any [wireless transmitting or receiving facility] WIRELESS TELECOMMUNICATIONS TOWER <u>OVER 200 FEET IN HEIGHT</u> which is within one and one-half miles of (1) an existing district on the Baltimore County Final Historic Landmarks list, or (2) any of the following historical districts on the national register of historic places, namely, Oella, My Lady's Manor, Western Run, Worthington Valley, Greenspring Valley, and Long Green Valley[, if the horizontal distance from the facility to the boundary or property line of such district does not exceed ten times the height of the facility above grade, and] unless the zoning commissioner or the board of appeals, upon appeal, finds that the proposed use will not be detrimental to or detract from the documented values of any such district due to the height of the proposed [structure] TOWER and its placement and

visibility relative to such district.

[B. Paragraph 502.7.A. does not apply to a wireless transmitting or receiving facility which is:

1. Not higher than three hundred fifty feet above grade level, or

2. Authorized by grant of special exception that is final and unappealable on the effective date of this act. Such a facility may be fully restored in accordance with the terms of the special exception if it is destroyed or damaged to any extent, and such a facility may be enlarged, extended, or expanded notwithstanding the provisions of Subsection A. above, subject to the approval of the zoning commissioner or board of appeals.

C. Wireless transmitting or receiving structures in R.C., D.R. or R-O zones are subject to the following additional requirements; provided that nothing herein shall be deemed to prohibit the granting, where appropriate, or variances from such requirements pursuant to Section 307 of these regulations.

1. Petitioner shall have the burden of establishing that it has made a diligent search for a location within a business, office or industrial zone, or for mounting on any existing structure over fifty (50) feet in height and that, due to valid considerations, including but not limited to: location, economic, elevation, engineering or technologic feasibility, no appropriate location is available.

2. The setback of such structure from the nearest property line shall equal or exceed two (2) times its height above-grade level.

3. The structure shall be located on a lot of at least five (5) acres.

4. The structure shall be enclosed within a locked, chain-link fence, or comparable wall or structure, at least 8 feet high.

5. A landscape plan, designed to minimize the visual impact of accessory

buildings and the lower portion of the structure shall be submitted to and approved by the director of the office of planning and zoning.

6. Environmental protection agency standards and guidelines relating to radiation emissions shall be met at all times.

7. When the use is terminated, the structure shall be removed.

8. Every five years, or sooner in the event of substantial damage, a certification by a professional engineer registered in Maryland a certification by a Maryland registered professional engineer shall be filed with the department of permits and licenses indicating that the aforementioned structure meets all safety requirements. Any upgrading or maintenance required to comply with any changes in the safety requirements, or to maintain the safety thereof, shall be performed prior to the filing of such certification.

9. No white stroboscopic lights are permitted.

10. In order to insure against adverse effects on its surroundings, an environmental impact statement, as defined in Section 101, shall be submitted to the zoning commissioner or, in the event of an appeal, to the county board of appeals of Baltimore County. Such environmental impact statement shall include information on emission levels and shall evaluate the impact of the proposed structure on the ecosystem; and based on such environmental impact statement and other evidence produced at the hearing, it must appear that the proposed structure will not have a substantial adverse impact on the environment.

11. The zoning commissioner or, in the event of an appeal, the county board of appeals of Baltimore County shall determine that there will not be a substantial adverse impact on surrounding property values, park lands or open space.

D. Exemptions.

1. The provisions of Subparagraphs 502.7.C.1, 2, 3, 4 and 5 do not apply to

wireless transmitting or receiving structures that are mounted on any existing structure over fifty (50) feet in height.

2. The provisions of Paragraph 502.7.C do not apply to wireless transmitting or receiving structures serving gas and electric or land-based local telephone public utility communication needs at existing facilities except as required by the zoning commissioner under the authority of Subsections 502.1 and 502.2; provided that such public utility affirmatively establishes that the structure and service meets critical communication needs for public safety purposes.]

SECTION 4. AND BE IT FURTHER ENACTED, that if any provision, sentence, phrase, or portion of this Act is held by a court of competent jurisdiction to be unenforceable or invalid for any reason, this holding shall not affect the validity of the remaining portion of this Act.

SECTION 5. AND BE IT FURTHER ENACTED, that this Act shall be construed only prospectively and may not be applied or interpreted to have any effect on or application to any person who has had a hearing on a proposed tower before the Zoning Commissioner before the effective date of this Act.

SECTION 6. AND BE IT FURTHER ENACTED, that the provisions of this Act shall be interpreted consistent with the Telecommunications Act of 1996.

~~SECTION 6~~ SECTION 7. AND BE IT FURTHER ENACTED, that this Act, having been passed by an affirmative vote of five members of the County Council, shall take effect on March 20, 1998.

Legislative Project 96-06

Introduced June 5, 1997; Planning Board Hearing July 10, 1997; Supplement to June 5 Report October 29, 1997; Revised Staff Report November 10, 1997; Addendum to Revised Staff Report November 19, 1997; Final Report November 20, 1997

PROPOSED AMENDMENTS TO THE BALTIMORE COUNTY ZONING REGULATIONS REGARDING WIRELESS TELECOMMUNICATION FACILITIES

A Final Report of the Baltimore County Planning Board
Adopted November 20, 1997

PROJECT DESCRIPTION

This report is in response to Council Resolutions 55-96 and 27-97 which request the Planning Board to consider whether the Zoning Regulations need to be updated to reflect the increased demand for antennas and towers for wireless telecommunication.

BACKGROUND

The Zoning Regulations were most recently revised regarding telecommunication structures in 1986. They permit antennas and towers as follows:

	Antenna	Tower <=200' high	Tower >200' high
RC, DR, RO	SE	SE*	SE*
MR	By right if the antenna will not be more than 50 feet above grade level	R	SE
OR2, OT, BL, BM, BR, ML, MLR, MR, MH	By right if the antenna will not be more than 50' above grade level	R**	SE

R= By Right; SE= By Special Exception

* Must be set back from the property line at least twice the height of the tower
** Must be set back at least 200 feet from a residential or RO zone line

In 1994, the Planning Board recommended, in response to a Council Resolution, that the Zoning Regulations not be further amended but that all regulations regarding telecommunications equipment and structures be consolidated into one section of the BCZR. Council held a public hearing on March 7, 1994 but did not take further action on the report.

Since the Planning Board sent its recommendations to Council, Congress has comprehensively overhauled the way radio, television and telephone communications are regulated. The Telecommunications Act of 1996 encourages market growth and network building by removing impediments to competition. As a result of these changes, the Federal Communications Commission (FCC) can approve licenses to allow multiple carriers to provide the same services within the same geographic market. Applications to erect new antennas and towers have dramatically increased in Baltimore County and across the nation. Technological innovations, including digitizing, which provides clearer reception, are leading to the need for a larger number of antenna locations.

DISCUSSION

The Telecommunications Act of 1996 acknowledges the role of local government with regard to regulating the placement and construction of antennas and towers:

> Except as provided in this paragraph, nothing in this Act shall limit or affect the authority of a State or local government or instrumentality thereof over decisions regarding the placement, construction, and modification of wireless service facilities. [Telecommunications Act of 1996, § 704(a); 47 USC § 332(c)(7)(A)].

The Act places several constraints on the scope of local authority. The Act explicitly prohibits local government from imposing environmental regulations stricter than the FCC's.

Section 704(a) of the Act also states that local governments, in regulating the placement and construction of wireless equipment for "personal wireless facilities" (which includes cellular, paging and Personal Communication Services facilities) cannot "unreasonably" discriminate among providers by "prohibit[ing] or have[ing] the effect of prohibiting the provision of such services." Local government must act on an antenna application within a "reasonable" time period and support its decision in written findings based on "substantial evidence." The scope of this language is ambiguous. However, the conference committee report provides some guidance as to Congress's intent. According to the report, Congress did not intend that a locality treat the placement of facilities uniformly throughout a jurisdiction, regardless of the zone or district in which the facility is to be located:

> It is not the intent of the bill that if a State or local government grants a permit in a commercial district, it must also grant a permit for a competitor's 50-foot tower in a residential district. [Telecommunications Act of 1996, Conference Report 104-458, p. 208.]

On the other hand, the conference committee report makes clear that local government cannot ban the provision of wireless services.

The County's policy favoring the placement of towers in non-residential zones appears not to violate the Act, based on the conference committee's report. The Zoning Regulations do not prevent a tower from being located within a residential zone, but provide a different approval process and setback standards for such towers. A possible area of concern, based on the Act, is that it is not clear whether the Zoning Regulations permit wireless telecommunications facilities in the Service-Employment, the Performance Based Business zones and the Maritime zones. Unless a use is listed, it is not permitted. This affects the ability of providers to obtain sites to provide services.

COMMENTS FOLLOWING JULY 10, 1997 PUBLIC HEARING

The Planning Board held a public hearing on July 10, 1997 and received numerous comments. In response to comments made at the public hearing, and by the Office of Law and other County agencies, the County recommends changes to the Zoning Regulations to further the objective of co-location of antennas. The Planning Board also recommends that the County organize a Tower Review Committee, consisting of the Directors of Planning and the Office of Information Technology, and other government agencies considered appropriate for a particular site as well as a Council-designated citizen-at-large. This group will track the location of all towers and work with providers to determine the need for new tower locations. When considering a new tower application, representatives of communities where the tower could be located should be added to the group. Acting in an advisory capacity, the purpose of the group will be to coordinate co-location. The Tower Review Committee will also work with the State and Baltimore Gas and Electric with regard to possible antenna locations at their properties.

RECOMMENDATIONS

The Baltimore County Zoning Regulations, 1955, as amended, should be further amended as follows. **Boldfaced** text denotes language to be added to the Zoning Regulations. [Bracketed text] indicates text to be deleted from the Zoning Regulations.

1. In Section 101, add the following definitions:

Wireless telecommunication antenna: A directional or omnidirectional device which transmits or receives communications including radio, television, personal wireless services (commercial mobile services, unlicensed wireless services and common carrier wireless exchange services) and its related equipment housed at its base, but not including an amateur radio operator's antenna. A wireless telecommunication antenna is mounted on a wireless telecommunication tower or on another structure or building.

Wireless telecommunication tower: A self-supporting, guyed or freestanding structure erected for the purpose of supporting one or more wireless communication antennas.

2. Delete Section 426 and Subsection 502.7.C. Enact a new Section 426 as follows:

426.1 Statement of Legislative Policy for the Siting of Wireless Telecommunication Antennas

A. It is the intent of Baltimore County that wireless telecommunication antennas be placed on existing structures wherever feasible.

B. It is the intent of Baltimore County that, if it is necessary to construct a wireless telecommunication tower, the tower be designed to accommodate multiple wireless telecommunication antennas and sited so as to minimize its visibility.

C. It is further the intent of Baltimore County that, if it is necessary to construct a wireless telecommunication tower, the tower be erected in a medium or high intensity commercial zone wherever such a site is available, and constructed so as to minimize its visibility from residential areas.

426.2 Wireless Telecommunication Antennas and Towers

	Antennas*		Towers	
	How Permitted	Maximum Antenna Height and Antenna Diameter	<200 ft. high	> =200 ft. high
Residential Zone RC, RCC, CR District, DR, ROA	R	15 feet high, diameter three feet	SE	SE
Transitional Zones Service-Employment, RO, OR1, BMM, BMYC, BMB, CB,	R	15 feet high, diameter three feet	SE	SE
Medium Intensity Commercial OR2, BLR, BL, BM, BR, MR, ML, MLR	R	Not regulated	R	SE
High Intensity Commercial O3, OT, MH	R	Not regulated	R	SE

R= By Right; SE= By Special Exception

*** This column refers to antennas located on a building, structure or tower which was legally erected prior to the installation of the antenna. The number of antennas or antenna clusters placed on a building, structure or tower is not regulated.**

426.3 Wireless Telecommunication Towers are subject to the following standards:

A. For all wireless telecommunication towers:

1. Before submitting a petition for a special exception or an application for a building permit for a wireless telecommunication tower, the applicant shall meet with the County's Tower Review Committee.

a. The Tower Review Committee shall include the Directors of the Office of Planning and the Office of Information Technology, or designees; an at-large citizens' representative appointed by Council and such other government agencies or community groups deemed appropriate by the Directors with regard to a particular site.

b. The applicant shall indicate the maximum number of wireless telecommunication carriers whose equipment the structure can support and such other location and technical information as requested by the County.

c. The Tower Review Committee shall evaluate the proposal with regard to the Statement of Legislative Intent in 426.1 and may provide advisory comments.

2. No stroboscopic lights are permitted on a tower, unless required by the Federal Aviation Administration (FAA).

3. Setbacks

   a. A wireless telecommunication tower shall be set back from any property line a distance equivalent to at least the height of the tower.

   b. The tower shall be set back from any residential or transitional zone line at least 200 feet.

4. The tower, antenna and any supporting lines shall be of a neutral color except as may be required by the FAA. The owner of the wireless communications facility is required to maintain, replace or repair any hazardous or unsafe condition flaking or worn exterior paint, or conditions caused by acts of vandalism.

5. The height of a wireless telecommunication tower is measured from the base of the tower to the tip of the highest antenna placed on the tower.

7. Upon completion of the tower, and every five years thereafter, a professional engineer registered in Maryland shall certify that the structure meets all safety requirements

8. Antennas may be installed by right on any legally existing tower, regardless of whether the tower was approved by special exception.

9. The applicant shall annually certify to the Director of Permits and Development Management the number of antennas on the tower.

10. Any special exception for the operation of a wireless telecommunication tower shall become void upon notice of cessation or termination by the owner and the tower may be considered abandoned. The right to resume the use of an abandoned tower may be terminated.

11. Removal of Towers

a. Prior to obtaining a building permit for a wireless telecommunication tower, the applicant shall provide security to the County in a form and amount sufficient to accomplish the tower's removal. Removal of the tower shall mean all above ground structures, including paving.

b. The Director of Permits and Development Management (the code official) shall issue an order for the removal of the tower if it is abandoned or unsafe.

i. Notwithstanding the failure of the owner to notify the Director of Permits and Development Management, any wireless telecommunication tower which has not been in actual and continuous operation as a telecommunication tower for a period of twelve consecutive months shall be presumed to have been abandoned..

ii. A wireless telecommunication tower which has been determined by the code official to constitute a fire hazard or to be otherwise dangerous to human life or the public welfare, *or to involve illegal or improper occupancy* or inadequate maintenance, shall be considered unsafe. The *code official shall issue to the owner an order to correct the* deficiencies. If the owner does not correct the deficiencies within the time period ordered by the code official, *the code* official shall issue an order for removal of the tower.

c. Procedure

i. The owner shall have 15 days to contest the order and request a hearing.

ii. The hearing shall be conducted within 30 days of the filing of the request for a hearing.

iii. Appeals shall be as provided in §1-7(g) of the Baltimore County Code, 1988, as amended, except that if the owner does not request, or fails to appear at, the hearing, the order shall be a non-appealable, final order of the code official.

iv. If the owner fails to comply with a final order, the code official may procure compliance in accordance with the procedure authorized in §1-7.1(b) except that only those expenses exceeding the security obtained by the County prior to the issuance of the building permit shall become a lien on the property.

B. For wireless telecommunication towers permitted by special exception:

1. The petitioner shall have the burden of demonstrating, through written documentation, that:

   a. The petitioner has made a diligent search for mounting the antenna on an existing building, structure or wireless telecommunication tower; and

   b. That due to location, elevation, engineering, technical feasibility, or inability to obtain a lease or ownership of a location elsewhere, the building of a tower at the proposed location is warranted; and

   c. The tower has been designed to accommodate at least two other personal wireless services antennas, to the extent technically feasible; and

   d. The height of the tower is no higher than what is required to enable present and future co-location of antennas.

   e. The Zoning Commissioner shall review the petitioner's submittal with regard to the County's goals for co-location and community conservation, as stated in 426.1.

2. In a residential or transitional zone:

   a. In addition to the requirements of 426.3.B.1, the petitioner shall have the burden of demonstrating, with written documentation, that there is no available, suitable site for the wireless telecommunication tower in a medium or high intensity commercial zone, or that due to topographic or other unique features, the proposed site will better meet the intent of 426.1.B than a site in a medium or high intensity commercial zone; and

   b. The tower shall be located on a lot of at least three acres except where the petitioner can prove that a site less than three acres would better meet the intent of 426.1.B.

   c. The Zoning Commissioner may require the tower to be camouflaged by taking the form of a structure or natural formation found in the area.

426.4 Each structure housing equipment shall meet minimum setback requirements from the property line. Notwithstanding the provisions of Section 102.2, if multiple equipment structures are placed on the same property, no yard or setback shall be required between them. If located in a residential or transitional zone, the structure housing equipment shall be screened in accordance with the Landscape

Manual (Class A screening requirements) and shall be faced with brick unless the Director of Planning approves the use of an alternate material.

426.5 Notwithstanding the provisions of Section 307 (Variances), in cases where a variance to a height or area requirement for a wireless telecommunication tower, antenna or a structure housing antenna equipment is requested, the Zoning Commissioner may grant the variance if the petitioner proves that the variance requested is the minimum needed to enable present or future co-location of antennas.

4. Enact a new Section 427 and provide references to it in all zones where amateur radio antennas are permitted, deleting duplicative text in each zone; this does not change the substance of the current regulations.

Section 427

427 --- Radio antennas and related equipment, including any supporting structure, shall be considered an accessory structure or use and as such shall be permitted by right provided that:

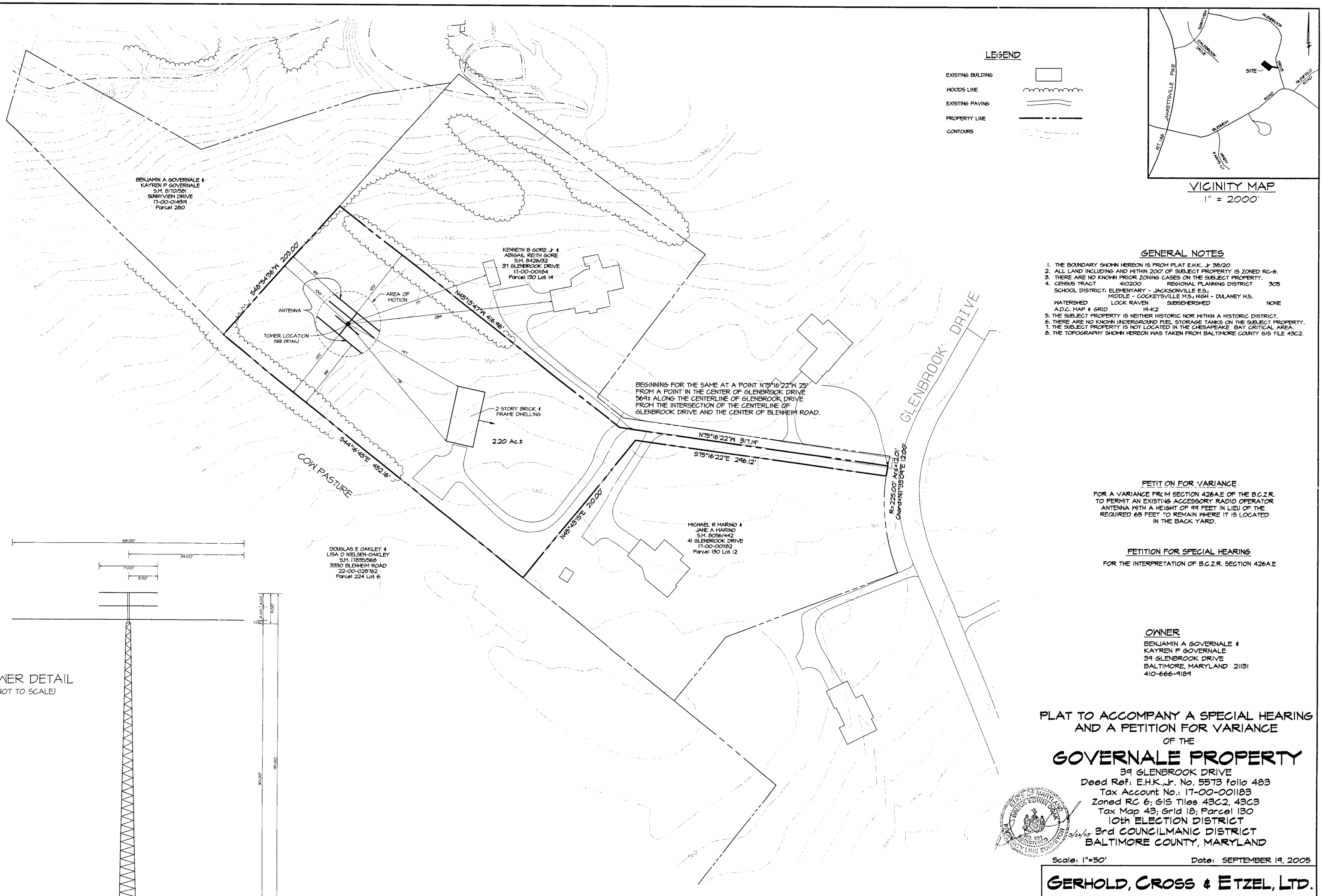
A. They are operated by an amateur radio operator who is licensed by the Federal Communications Commission and whose domicile is on the lot where the facility is placed;

B. No supporting structure is located within 20 feet of any property line;

C. No antenna extends closer than the front building line to any street on which the lot fronts;

D. No antenna shall be higher than 100 feet or the horizontal distance to the nearest property line, whichever is less, above grade level;

MARYLAND COORDINATE SYSTEM
NAD83(1991)



LEGEND

EXISTING BUILDING
WOODS LINE
EXISTING PAVING
PROPERTY LINE
CONTOURS

VICINITY MAP
1" = 2000'

GENERAL NOTES

1. THE BOUNDARY SHOWN HEREON IS FROM PLAT E.H.K. Jr 38/20
2. ALL LAND INCLUDING AND WITHIN 200' OF SUBJECT PROPERTY IS ZONED RC-6.
3. THERE ARE NO KNOWN PRIOR ZONING CASES ON THE SUBJECT PROPERTY.
4. CENSUS TRACT 410200 REGIONAL PLANNING DISTRICT 305
   SCHOOL DISTRICT; ELEMENTARY - JACKSONVILLE ES.;
   MIDDLE - COCKEYSVILLE MS.; HIGH - DULANEY HS.
   WATERSHED LOCK RAVEN SUBSEWERSHED NONE
   A.D.C. MAP & GRID 19-K2
5. THE SUBJECT PROPERTY IS NEITHER HISTORIC NOR WITHIN A HISTORIC DISTRICT.
6. THERE ARE NO KNOWN UNDERGROUND FUEL STORAGE TANKS ON THE SUBJECT PROPERTY.
7. THE SUBJECT PROPERTY IS NOT LOCATED IN THE CHESAPEAKE BAY CRITICAL AREA.
8. THE TOPOGRAPHY SHOWN HEREON WAS TAKEN FROM BALTIMORE COUNTY GIS TILE 43C2.

PETITION FOR VARIANCE

FOR A VARIANCE FROM SECTION 426A.E OF THE B.C.Z.R. TO PERMIT AN EXISTING ACCESSORY RADIO OPERATOR ANTENNA WITH A HEIGHT OF 99 FEET IN LIEU OF THE REQUIRED 65 FEET TO REMAIN WHERE IT IS LOCATED IN THE BACK YARD.

PETITION FOR SPECIAL HEARING

FOR THE INTERPRETATION OF B.C.Z.R. SECTION 426A.E

TOWER DETAIL
(NOT TO SCALE)

OWNER

BENJAMIN A GOVERNALE &
KAYREN P GOVERNALE
39 GLENBROOK DRIVE
BALTIMORE, MARYLAND 21131
410-666-9189

PLAT TO ACCOMPANY A SPECIAL HEARING AND A PETITION FOR VARIANCE

OF THE

GOVERNALE PROPERTY

39 GLENBROOK DRIVE
Deed Ref: E.H.K.,Jr. No. 5573 folio 483
Tax Account No.: 17-00-001183
Zoned RC 6; GIS Tiles 43C2, 43C3
Tax Map 43; Grid 18; Parcel 130
10th ELECTION DISTRICT
3rd COUNCILMANIC DISTRICT
BALTIMORE COUNTY, MARYLAND

STATE OF MARYLAND — BRIDGETOWN BURKE — NO. 881 — REGISTERED — PROFESSIONAL LAND SURVEYOR — 9/23/05

Scale: 1"=50' Date: SEPTEMBER 19, 2005

GERHOLD, CROSS & ETZEL, LTD.
REGISTERED PROFESSIONAL LAND SURVEYORS
Suite 100
320 East Towsontown Boulevard
Towson, Maryland 21286
(410) 823-4470

REVISION	DATE	COMPUTED:	DRAWN: SMH	CHECKED:	FILE: X:\Governale\BASEPLAN.pro

PETITIONER'S EXHIBIT CBM #2
ALL STATE LEGAL

PETITIONER'S EXHIBIT NO. 1

180 LTR

BALTIMORE COUNTY, MARYLAND

INTEROFFICE CORRESPONDENCE

TO: Timothy M. Kotroco, Director
Department of Permits & Development Management

DATE: October 19, 2005

FROM: Dennis A. Kennedy, Supervisor
Bureau of Development Plans Review

SUBJECT: Zoning Advisory Committee Meeting
For October 17, 2005
Item Nos. 169, 170, 171, 172, 173, 176, 178, 180, 181, 182, 183 and 184

The Bureau of Development Plans Review has reviewed the subject zoning items, and we have no comments.

DAK:CEN:clw
cc: File
ZAC-NO COMMENTS-10192005.doc