

DC Office of Planning

**ANTENNAS,
ANTENNA TOWERS,
MONOPOLES**

Zoning Case 01-02

October 17, 2002



Case 01-02
Exhibit 109

ZC Round Tables

February 2001

March 2001

- **RF Emmissions**
- **Towers**
- **Antenna Types**
- **Regulation Clarification**

Participants (and Corrections)

Citizen Representatives:

Ann Loikow,
Peter Tannenwald,
Laura Richards

Dorothy Miller,
Stephanie Kinney,

Industry Representatives:

Cole, Raywid & Braverman -

Jackson & Campbell –

Holland and Knight –
Venable -

Edward L. Donahue
Terry Cooke
Robert C. Cooper
Alan R. Swendiman
Carolyn Brown
Eric V. Huey
William P. Cook

Companies Represented

- AT&T
- Cellular One
- Comcast Cable
- Nextel
- Sprint
- Winstar
- Verizon
- Verizon Wireless

Antenna Review Group Meetings

May 2001

June 2001

July 25, 2001

January 30, 2002

February 5, 2002

February 12, 2002

March 5, 2002

March 27, 2002

**OP drafted initial proposed regulations
The group reviewed**

FCC

July 25, 2001

Dr. Robert F. Cleveland and Ed Maniple of the
FCC Office of Engineering and Technology,
and

Mr. Evan Baranoff, FCC staff attorney met with
the group and explained the radio frequency
(RF) standards, the legal boundaries of local
regulation

FCC Explained

- Local municipalities cannot set RF standards in excess of those established by the FCC
- Local zoning regulations:
 - *may* address the placement and construction of antennas
 - *may not* result in the prohibition of service or the discrimination between service providers
- FCC's RF limits apply cumulatively to all sources of RF emissions affecting a given area (i.e. when co-locating must consider all RF emissions from ALL antennas on site)

Comprehensive Plan

- **102 STABILIZING & IMPROVING THE DISTRICT'S NEIGHBORHOODS**
- **106 RESPECTING & IMPROVING THE PHYSICAL CHARACTER OF THE DISTRICT**
- **108 PRESERVING THE HISTORIC CHARACTER OF THE DISTRICT**
- **109 REAFFIRMING AND STRENGTHENING THE DISTRICT'S ROLE AS THE ECONOMIC HUB OF THE NATIONAL CAPITAL REGION**
- **110 PROMOTING ENHANCED PUBLIC SAFETY**

Current Zoning Regulations

[illegible]

Create a new Chapter 26

- **ONE COMPREHENSIVE CHAPTER**

- **unify the antennas and towers regulations**
- **strengthening the purpose of the regulations**
- **providing for the reasonable expansion of antennas and wireless service**
- **accommodate emerging technologies**

- **Specify appropriate zoning districts for each use**

- **Establish**
 - **new definitions**
 - **matter-of-right uses**
 - **special exception uses**
 - **submittal information**

- **Include evidence of FCC compliance**

- **Ensure public hearing for towers and monopoles**

Intent of Regulations

“The Zoning Commission has determined that certain antennas, because of their size, shape, design, construction or location, may affect the health, welfare or safety of the population and may detract from the streetscape, landscape, skyline, scenic beauty or aesthetic interests of Washington, D.C. and its role as the Nation’s Capital;” (Sec 2520.1 (a) 11DCMR)

Zoning Authority

OP further believes that the proposed antenna regulations are consistent with Section 332(c) (7) (A) of the federal 1996 Telecommunications Act:

(7) PRESERVATION OF LOCAL ZONING AUTHORITY

(A) GENERAL AUTHORITY: 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 personal wireless service facilities.

Proposed Regulations

Antenna Type	R Residential	C-1 Local	C-2 - C-4	CR MixedUse	SP Special	W Waterfront	CM Comm/Ind	M Manufactur
Panel *	MoR	MoR	MoR	MoR	MoR	MoR	MoR	MoR
Dish *	MoR	MoR	MoR	MoR	MoR	MoR	MoR	MoR
Yagi *	MoR	MoR	MoR	MoR	MoR	MoR	MoR	MoR
GPS *	MoR	MoR	MoR	MoR	MoR	MoR	MoR	MoR
Whip *	MoR	MoR	MoR	MoR	MoR	MoR	MoR	MoR
Monopole	Not Permit	Not Permit	Sp Ex	Sp Ex	Sp Ex	Sp Ex	Sp Ex	MoR
Tower w/ equipment	Not Permit	Not Permit	Sp Ex	Sp Ex	Sp Ex	Sp Ex	Sp Ex	MoR
Tower w/ Broadcast Studio	Not Permit	Not Permit	Sp Ex	Sp Ex	Sp Ex	Sp Ex	Sp Ex	MoR

Current Zoning Regulations

[illegible]

Definitions

Antenna Dish

Antenna Panel

Antenna Tower

Co-location

Equipment Cabinet or Shelter

Monopole

Mount

RF Field

RF Radiation

Stealth Structure

Telecom. Service Provider

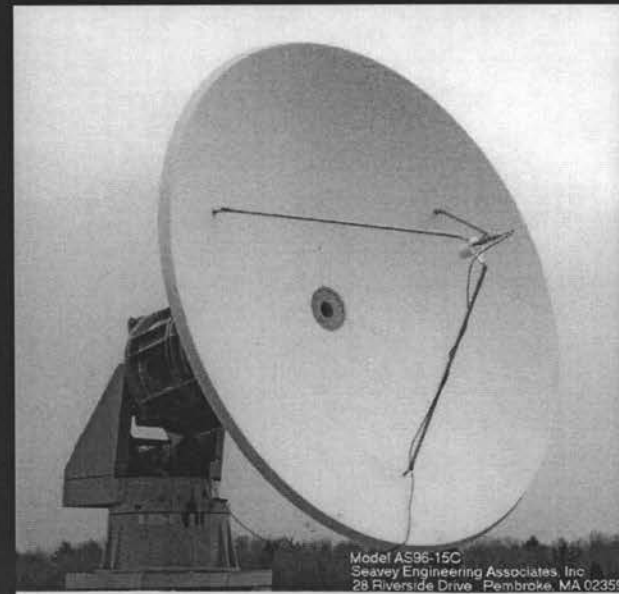
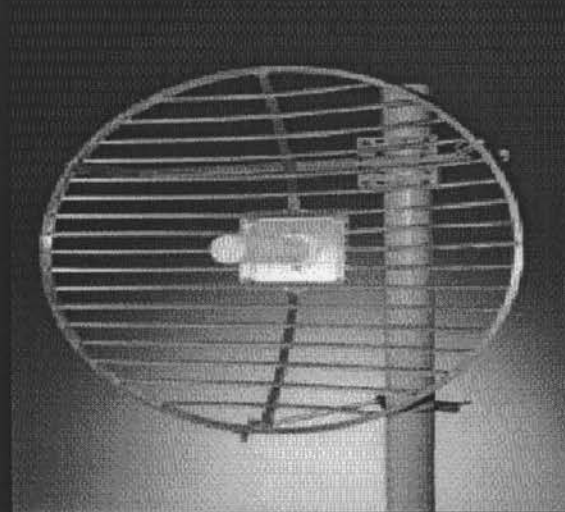
Telecom Facility

Dish

Variable in size

Can be opaque or open

Can be mounted on roof, at grade, or on towers



PANEL ANTENNAS

Typically Dimensions:

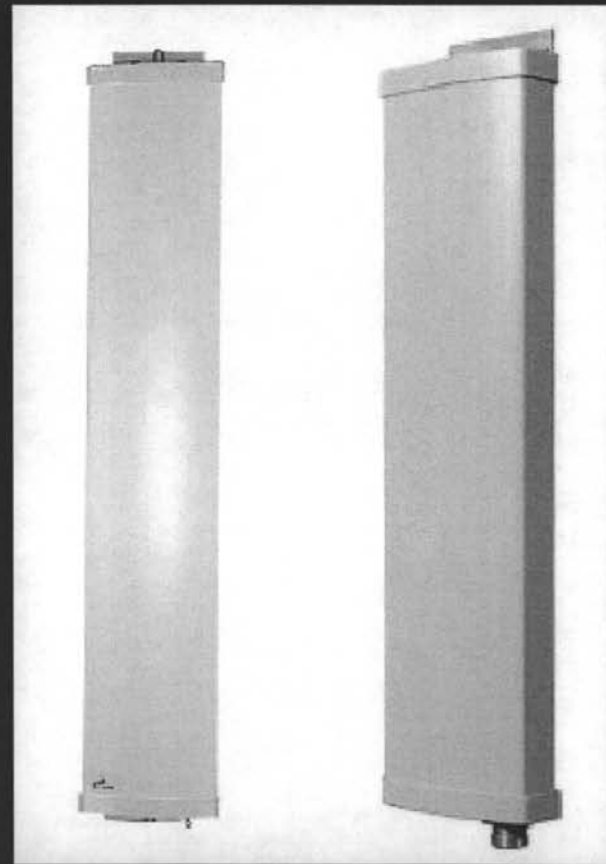
4 - 6 feet in length

5 - 12 inches in width

2 - 4 inches in depth

1 - 2 feet when mounted

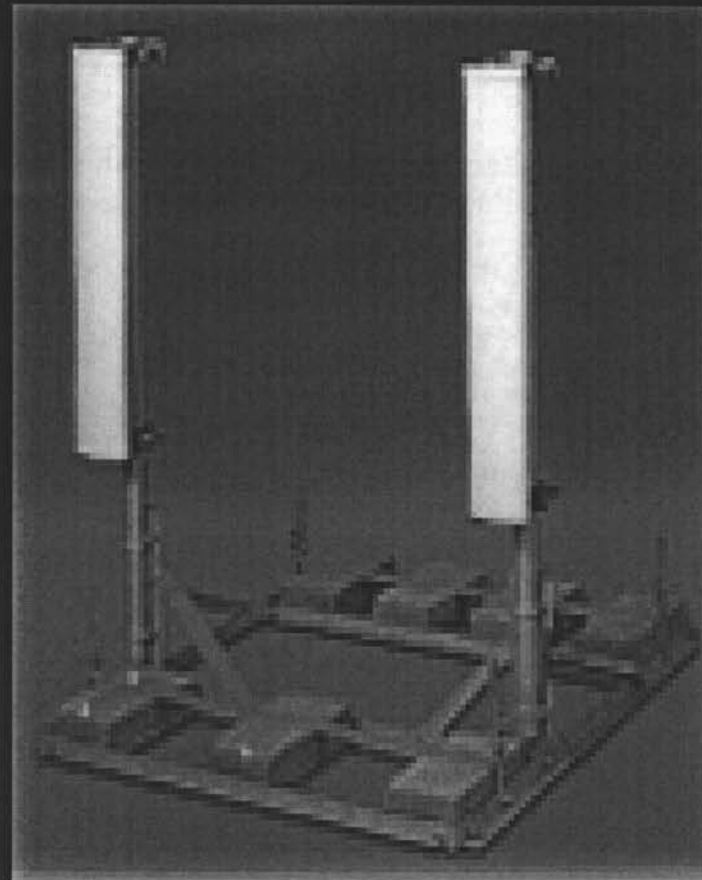
Line-of-sight needed for
signal



Sled Mounts

Non-penetrating to roof

Elevate Panels
between 3-12 feet
from roof



Building or Flush Mount

Panels can often be mounted and painted to blend in with the façade and minimize their appearance

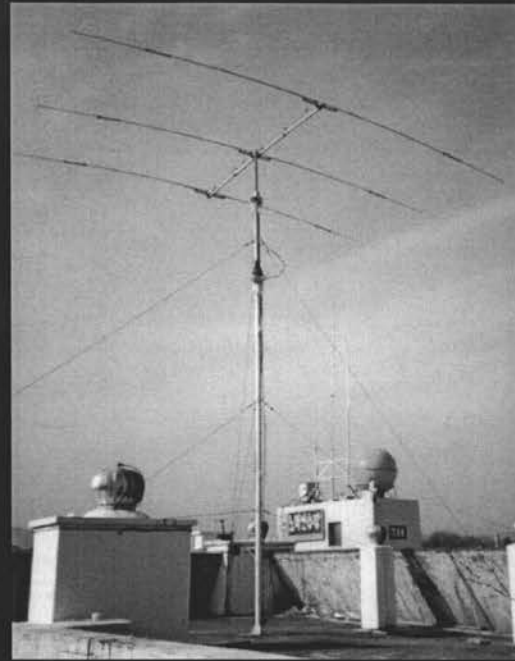


Yagi

Typical House
antenna

Vary in height

Externally mounted to
facade



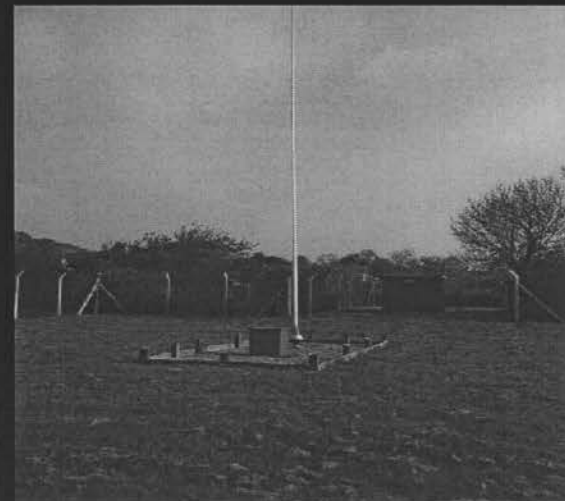
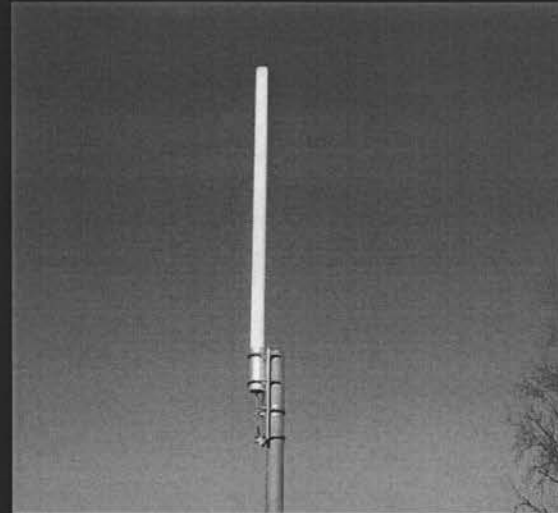
WHIP

Rigid, usually white, plastic rod,

Typically 2 ½ inches in dia

Vertically Mounted to
facades or towers but can be
ground mounted

Omnidirectional - can
transmit and receive equally
well in all directions

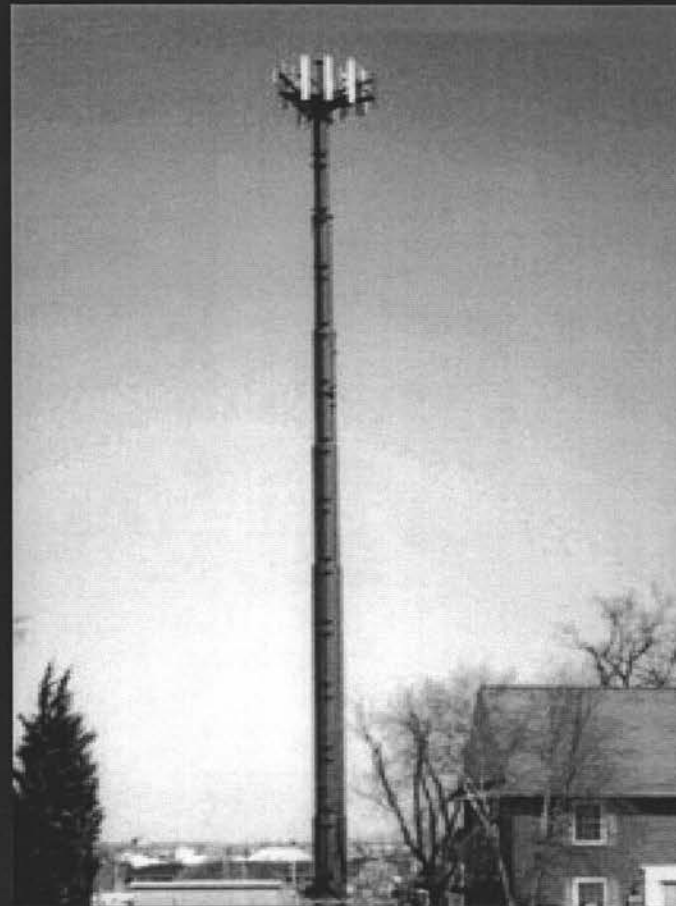


MONOPOLES

a single, self-supporting pole-type structure

Typically holds 3 arrays

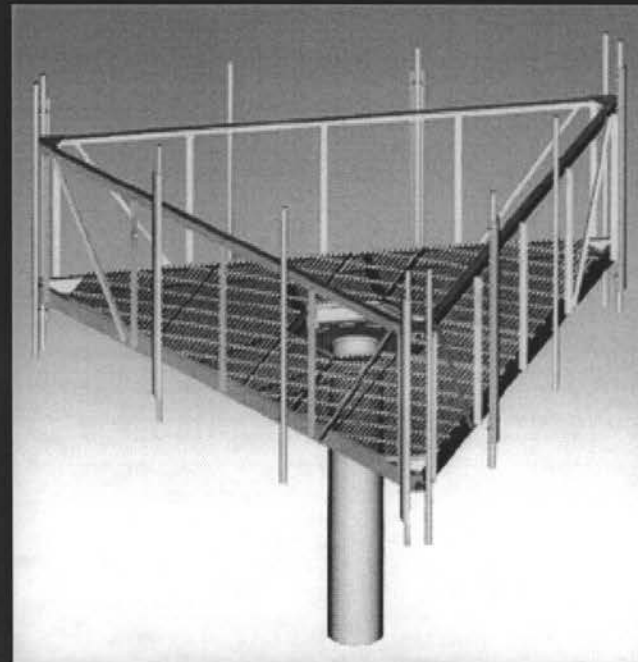
High elevations
Typically 100-199'



MONOPOLES

Multiple antenna arrays

antenna platform



TOWERS

Variable in height and
shape

Accommodates large
numbers of antennas



TOWERS

Holds multiple antennas

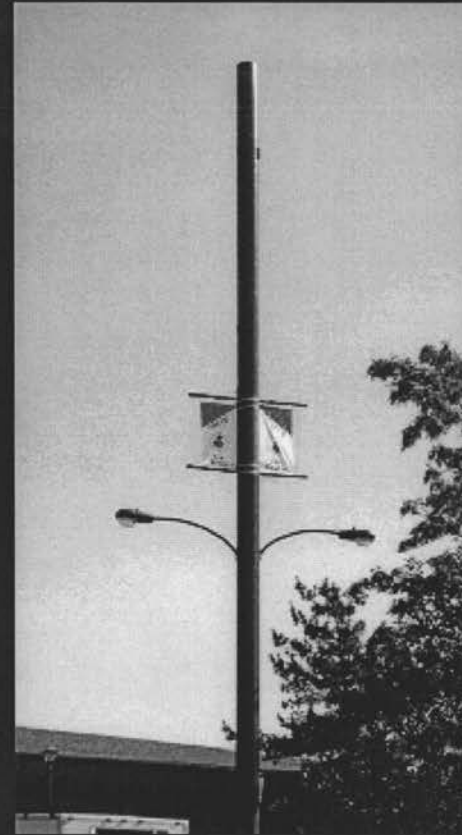
Industrial in nature



STEALTH STRUCTURES

Can take several shapes:

Streetlight with banner -



STEALTH STRUCTURES

Crosses —



Flag Poles -



SUMMARY OF PROPOSED AMENDMENTS:

**The attached proposed amendments define
and regulate antenna towers and
monopoles separately from antennas.**

Proposed Regulations for Antennas

Matter of Right- All antennas (other than broadcast antennas in residence zone districts) are allowed as matter of right

Exempt — Some antennas are exempt and limited by quantity

Location Based- Unless exempted, antennas must comply with certain conditions depending upon whether they are placed on a roof, mounted on a building, or mounted on the ground

Special Exception -Unless exempted, antennas must comply with certain conditions depending upon whether they are placed on a roof, mounted on a building, or mounted on the ground

Proposed Regulations for Towers and Monopoles

Matter of Right- Towers and Monopoles are allowed as a matter of right up to 120 feet in the M industrial zone

Special Exception -Towers and Monopoles are allowed as a special exception in the C-2, C-3, C-4, SP, CR, W and CM zone districts with height to be determined by need, and M zone if height exceeds 120 feet

Not Permitted- Towers and Monopoles may not be permitted in the R, residential or C-1, local commercial zone districts.

Intent of the R Zones

The R-1 district is designed to protect quiet residential areas now developed with one-family detached dwellings and adjoining vacant areas likely to be developed for those purposes (200.1 11DCMR)

The provisions of this chapter are intended to stabilize the residential areas and to promote a suitable environment for family life. For that reason, *only a few additional and compatible uses shall be permitted.* (200.1 b 11DCMR)

C-1 Intent

- 7 The C-1 district is designed to provide convenient retail and personal service establishments for the day-to-day needs of a small tributary area, with a minimum impact upon surrounding residential development.
(Emphasis added)

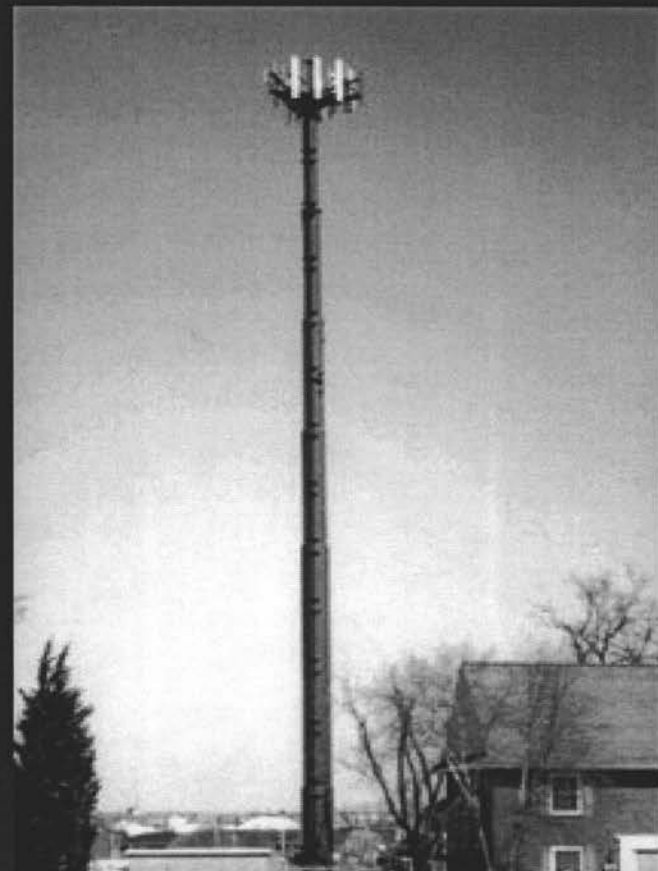
Each C-1 district shall only permit low-bulk development and, in general, shall be mapped only in outlying areas. (700.2)

Some community facilities, housing, and mixed uses, as well as the usual neighborhood shopping and service establishments, shall be permitted (700.3)

Comp Plan Support for R Zones

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Not low bulk or local serving



Tower and Monopoles By Right

The General Industry (M) Districts are designed to provide areas suitable for development as heavy industrial sites, but at the same time protect those industrial developments from the intrusion of non-industrial uses that impede the full utilization of properly located industrial sites (820.1 11DCMR)

Setbacks

OP recommended doubling the minimum setbacks for towers and monopoles from
1' for every 6 feet of height
1' for every 3 feet of height

- Help Tower not be attractive nuisance
- Create an increased buffer incase of collapse

Collapsed Tower in Raleigh



More Lenient Regulations

To encourage service beyond towers and
monopoles;

OP recommends amendments that no longer
cap the maximum antennas that may be
placed on a roof subject to FCC compliance

Suggestions

OP recognizes:

- Washington is an information city
- There is an increasing demand for wireless
- Complex issue

OP welcomes any and all input on this issues
and how to make the proposed regulations
more functional and efficient