County of Fairfax, Virginia

MEMORANDUM

DATE: March 30, 2007

TO: David Marshall, Chief
Facilities Planning Branch, PD, DPZ

FROM: Kevin Guinaw, Chief
Special Projects/Applications Management Branch, ZED, DPZ

SUBJECT: Proposed Verizon Telecommunications Facility at 12510 Yates Ford Road
Tax Map 85-2 ((1)) 38

This is in response to a request for a determination as to whether the telecommunications facility proposed by Verizon Wireless, at 12510 Yates Ford Road, would be in substantial conformance with the Special Exception (SE) Plat and development conditions approved by the Board of Supervisors with SE 83-S-036 for a microwave facility and tower. As described in the 2232 application dated January 19, 2007, from Nathan Campbell, twelve (12) panel antennas (six each at 70.87 inches high x 5.51 inches wide x 13.19 inches deep and six each at 47.4 inches high x 4.1 inches wide x 5.9 inches deep) are proposed on a mounting platform at a height of 130 feet on an existing 150-foot lattice tower. In addition, an equipment shelter (10 feet 7 inches high x 12 feet wide x 20 feet long) to replace an existing equipment shelter (12 feet wide x 20 feet long, approved up to 12 feet high) and a generator on a new concrete pad are proposed to be installed within the existing fenced compound. A copy of the 2232 telecommunications application, which includes illustrations depicting the proposed locations of the telecommunications equipment, is attached.

The Zoning Administration Division has determined that a telecommunications facility, as described above, is a permitted use pursuant to the provisions of Sect. 2-514 of the Zoning Ordinance provided that it is determined to be in substantial conformance with any applicable special exception. It is my determination that the proposed telecommunications facility described above is in substantial conformance with SE 83-S-036. The proposed equipment cabinet must satisfy the requirements of Article 13 of the Zoning Ordinance, subject to approval of Urban Forest Management, DPWES. Please note that this proposal is subject to 2232 review requirements and that Verizon's ability to proceed is dependent upon the pending 2232 application being approved by the Fairfax County Planning Commission. This determination has been made in my capacity as the duly authorized of the Zoning Administrator. If you have any questions regarding this memorandum, please call Carrie Lee at (703) 324-1290.

Attachments: A/S

cc: Elaine McConnell, Supervisor, Springfield District
Peter F. Murphy, Jr., Planning Commissioner, Springfield District
Barbara A. Byron, Director, Zoning Evaluation Division, DPZ
Diane E. Johnson-Quinn, Deputy Zoning Administrator, Zoning Permit Review Branch, ZAD, DPZ
Michelle Brickner, Assistant Director, Land Development Services, DPWES
Nathan Campbell, Network Building and Consulting, 812 Oregon Avenue, Suite E, Linthicum, MD, 21090
File: SE 83-S-036, ANT 0702 012, Imaging, Reading File

KG/ O:\clee01\ActAssign\Antennas\12510 Yates Ford Rd Verizon.doc

Department of Planning and Zoning
Zoning Evaluation Division
12055 Government Center Parkway, Suite 801
Fairfax, Virginia 22035-5509
Phone 703-324-1290
Fax 703-324-3924
www.fairfaxcounty.gov/dpz/

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COUNTY OF FAIRFAX, VIRGINIA

APPLICATION FOR DETERMINATION PURSUANT TO SECTION 15.2–2232 OF THE CODE OF VIRGINIA

Application Number: FS-S07-4
(assigned by staff)

The application con ains three parts: I. Application Summary; II. Statement of Justification; and I Telecommunication Proposal Details. Please do not staple, bind or hole-punch this application. Please provide at least one copy of all pages, including maps and drawings, on 8.5 x 11 inch paper.

RECEIVED
JAN 30 2007

(Please Type or Print All Requested Information)

PART I: APPLICATION SUMMARY

ADDRESS OF PROPOSED USE

Street Address 12510 Yates Ford Road

City/Town Clifton Zip Code 20124

APPLICANT(S)

Name of Applicant Verizon Wireless

Street Address 9000 Junction Drive

City/Town Annapolis Junction State MD Zip Code 20701

Telephone Number: Work (301) 512-2000 Fax (301) 512-2186

E-mail Address N/A

Name of Applicant's Agent/Contact (if applicable) Nathan Campbell

Agent's Street Address 812 Oregon Ave, Suite E

City/Town Linthicum State MD Zip Code 21090

Telephone: Work (434) 825-6820 Fax (___) 410-636-5287

PROPOSED USE

Street Address 12510 Yates Ford Road

Fairfax Co. Tax Map and Parcel Number(s) 0852-01-0038

Brief Description of Proposed Use

Install a telecommunications facility on an existing tower. Co-locate twelve antennas on an existing lattice tower and replace existing 12' x 20' equipment shelter with a new 12' x 20' shelter. Install a generator on a new concrete pad at grade level.

Total Area of Subject Parcel(s) 15.87 acres (acres or square feet)

Portion of Site Occupied by Proposed Use 280 sq. ft. (acres or square feet)

Fairfax County Supervisor District Springfield

Planned Use of Subject Property (according to Fairfax County Comprehensive Plan)

Zoning of Subject Property RC

List all applicable Proffer Conditions, Development Plans, Special Exceptions, Special Permits or Variances previously approved and related to this site

PROPERTY OWNER(s) OF RECORD

Owner Russell G. Hall

Street Address 12510 Yates Ford Road

City/Town Clifton State VA Zip Code 20124

PART II, *entitled "Statement of Justification," pages 4 through 6, shall be completed by all applicants and included as part of the application.* ***PART III,*** *entitled "Telecommunication Proposal Details," pages 7 through 9, also shall be completed and included for all proposed telecommunication uses.*

Name of Applicant or Agent Nathan Campbell

Signature of Applicant or Agent Nathan Campbell

Date 1/19/07

****

Please do not staple, bind or hole-punch this application. Please provide at least one copy of all pages, including maps and drawings, on 8.5 x 11 inch paper.

RECEIVED
JAN 30 2007

Submit completed application to:

Fairfax County
Department of Planning and Zoning, Planning Division
Herrity Building
12055 Government Center Parkway, Suite 730
Fairfax, Virginia 22035

****

FOR STAFF USE ONLY

Date application received: 1/30/07

By: DPH

Additional information requested to complete application:

Date application accepted: 1/2/07

By: DPH

PART III: TELECOMMUNICATION PROPOSAL DETAILS

RECEIVED
JAN 30 2007

Please complete and provide all requested information. If question is not applicable to the proposed use, please indicate with N/A.

PROPOSED TELECOMMUNICATION USE

Use is (check one):

- ☐ New structure (monopole, tower or camouflaged facility)
- ☐ Replacement of existing pole or tower at same location with another pole or tower
- ☐ Antenna placement on building or penthouse facade
- ☐ Antenna placement on building or penthouse rooftop
- ☑ Collocation on other existing telecommunications structure (monopole or tower)
- ☐ Collocation on other non-telecommunications structure (such as an electric transmission tower/pole, utility pole, water tower, etc.)
- ☐ Modification to telecommunications facility previously approved for same applicant:
  Prior 2232 Review application number: _____
  Date of Planning Commission approval: _____

PROJECT DETAILS

1. ANTENNA – See also next page

Number and Type: Six (6) LPA 80080/6
Dimensions: height 70.87" width 5.51" depth 13.19" diameter _____
Location / Placement: low-profile antenna mounting platform
Wattage: ~~[illegible]~~ 500 W
Material and Color: prefab gray (paint to match)
Material and Color of the Antenna Mounting: prefab steel
Height Above Ground: 130'

2. EQUIPMENT

Number and Type of Cabinets or Structures: 1 equipment shelter
Cabinet / Structure Dimensions: height 10' 7" width 11' 6" depth 20'
Height of equipment platforms, if any: N/A
Material and Color: Prefab washed stone finish
Location: Inside existing compound
Method of Screening: Existing vegetation and fencing

3. STRUCTURE ON WHICH ANTENNAS WILL BE MOUNTED

Maximum Height: 150'
Material: Steel
Color: Steel
If structure is within a utility right-of-way, state right-of-way width:
N/A

PROJECT DETAILS ADDENDUM

1. ANTENNA

Number and Type: Six (6) LPA 185080
Dimensions: height 47.4" width 4.1" depth 5.9"
Location/Placement: low-profile antenna mounting platform
Wattage: 250 W
Material and Color: prefab gray (paint to match)
Material and Color of the Antenna Mounting: prefab steel
Height Above Ground: 130'

Vertically Polarized, Log Periodic 80° / 14 dBd

LPA-80080/6CF ___ 5°

When ordering, replace "___" with connector type.

Mechanical specifications

Length	1800	mm	70.87	in
Width	140	mm	5.51	in
Depth	335	mm	13.19	in
[4] Weight	9.53	kg	21	lbs
Wind Area				
Fore/Aft	0.252	m^2	2.71	ft^2
Side	0.603	m^2	6.50	ft^2
Rated Wind Velocity (Safety factor 2.0)				
	>295	km/hr	>183	mph
Wind load @ 100 mph (161 km/hr)				
Fore/Aft	415	N	93.3	lbs
Side	870	N	195.6	lbs

Antenna consisting of aluminum alloy with brass feedlines covered by a UV safe fiberglass radome.

Mounting & Downtilting:

Mounting brackets attach to a pipe diameter of Ø50-102 mm (2.0-4.0 in).

Mounting bracket kit #21699999

Downtilt bracket kit #21699999
The downtilt bracket kit includes the mounting bracket kit.

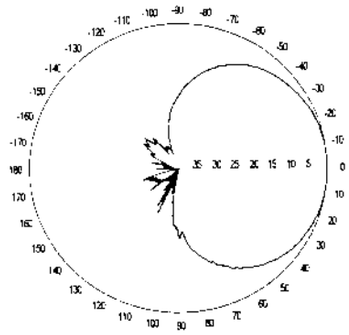
Electrical specifications

Frequency Range	806-960 MHz
Impedance	50Ω
[3] Connector	NE, E-DIN
[1] VSWR	≤1.4:1
Polarization	Vertical
[1] Gain	14 dBd
[2] Power Rating	500 W
[1] Half Power Angle	
H-Plane	80°
E-Plane	10°
[1] Electrical Downtilt	5°
[1] Null Fill	10%
Lightning Protection	Direct Ground

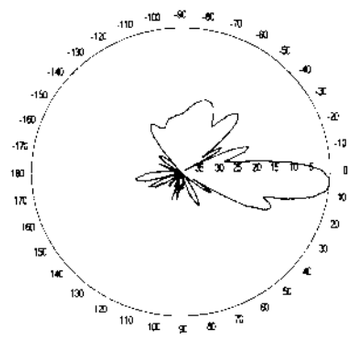
[1] Typical Values
[2] Power Rating limited by connector only.
[3] NE indicates an elongated N Connector.
E-DIN indicates an elongated DIN Connector.
[4] The antenna weight listed above does not include the bracket weight.

Improvements to mechanical and/or electrical performance of the antenna may be made without notice.

Radiation-pattern[1]



Horizontal



Vertical

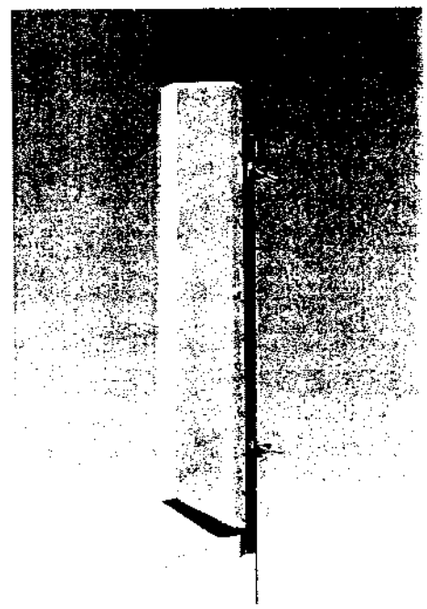
Featuring upper side lobe suppression.

Radiation patterns for all antennas are measured with the antenna mounted on a fiberglass pole.

Mounting on a metal pole will typically improve the Front-to-Back Ratio.

CF Denotes a Center-Fed Connector.

806-960 MHz



Amphenol Antel's Exclusive 3T (True Transmission Line Technology) Antenna Design:

- True log-periodic design allows for superior front-to-side characteristics to minimize sector overlap.
- Unique feedline design eliminates the need for conventional solder joints in the signal path.
- A non-collinear system with access to every radiating element for broad bandwidth and superior performance.
- Air as insulation for virtually no internal signal loss.

This Amphenol Antel antenna is under a five-year limited warranty for repair or replacement.

Antenna available with center-fed connector only.

Amphenol Antel, Inc.
The Antenna Technology Company

1300 Capital Drive Rockford, IL 61109 Toll-Free (888) 417-9562 Tel. (815) 399-0001
Fax. (815) 399-0156 Email: antel@antelinc.com www.antelinc.com

Revision Date. 11/30/06

Vertically Polarized, Log Periodic 80° / 16 dBi

LPA-185080/8CF ___

When ordering, replace "___" with connector type.

Mechanical specifications

Length	1204	mm	47.4	in
Width	104	mm	4.1	in
Depth	150	mm	5.9	in
[4] Weight	3.2	kg	7.0	lbs
Wind Area				
Front	0.125	m^2	1.35	ft^2
Side	0.144	m^2	1.55	ft^2
Rated Wind Velocity (Safety factor 2.0)				
	>658	km/hr	>409	mph
Wind load @ 100 mph (161 km/hr)				
Front	202	N	45	lbs
Side	270	N	60.8	lbs

Antenna consisting of aluminum alloy with brass feedlines covered by a UV safe fiberglass radome.

Mounting & Downtilting:

Wall mounted or pole tower mount with mounting brackets.

Mounting bracket kit #26799997

Downtilt bracket kit #26799999
The downtilt bracket kit includes the mounting bracket kit.

Electrical specifications

Frequency Range	1850-1990 MHz
Impedance	50Ω
[3] Connector	NE, E-DIN
[1] VSWR	≤1.4:1
Polarization	Vertical
[1] Gain	16 dBi
[2] Power Rating	250 W
[1] Half Power Angle	
H-Plane	80°
E-Plane	8°
[1] Electrical Downtilt	0°
[1] Null Fill	10%
Lightning Protection	Direct Ground

[1] Typical Values
[2] Power Rating limited by connector only.
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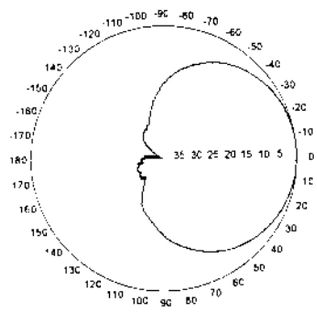
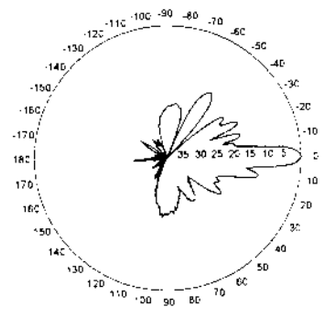


Horizontal



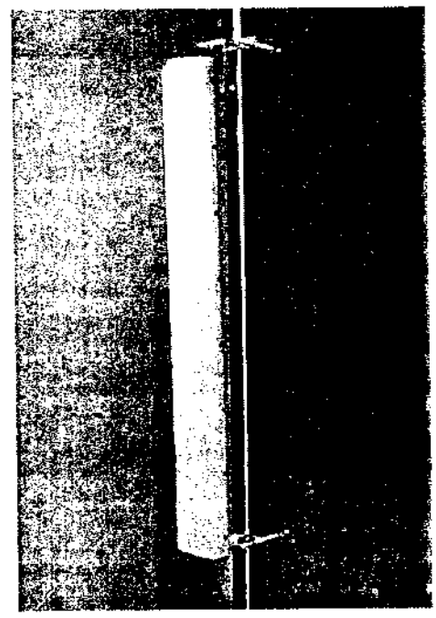
Vertical

Radiation patterns for all antennas are measured with the antenna mounted on a fiberglass pole.

Mounting on a metal pole will typically improve the Front-to-Back Ratio.

CF Denotes a Center-Fed Connector.

1850-1990 MHz



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Fax. (815) 399-0156 Email: antel@antelinc.com www.antelinc.com

Revision Date: 9/21/04

DESCRIPTION OF PROPOSED USE:

Verizon proposes to install an unmanned wireless telecommunications facility which will consist of twelve (12) panel antennas mounted on an existing 150-foot telecommunications tower located at 12510 Yates Ford Road in Clifton, Virginia. The antennas will be mounted at a height of approximately 130 feet. In addition, Verizon will install one (1) 12-foot by 20-foot equipment shelter, replacing an existing equipment shelter within the compound. Verizon will also install a generator on a new concrete pad on grade within the compound. Shelter and antenna details are shown on the attached zoning drawings prepared by Morris & Ritchie Associates ("MRA").

The antennas will be mounted on a low-profile platform at a height of approximately 130 feet on the existing lattice communications tower. The 10-foot by 12-foot by 20-foot equipment shelter will replace an existing shelter within the compound, as shown on the zoning drawings, and will be no more visible from adjacent properties.

The proposed telecommunications facility will operate automatically and will not require personnel or hours of attendance. It will operate 24 hours a day, 365 days a year. Maintenance personnel will make periodic visits to the site for routine maintenance and occasionally for emergency repairs.

REQUIREMENTS FOR PROPOSED USE:

The proposed facility is a vital component of Verizon's area-wide wireless communications network. Verizon proposes to collocate on this existing lattice tower to eliminate the need for a new telecommunications structure in the Clifton area. The proposed site is both well-suited to Verizon's coverage and capacity needs, and in accordance with the stated goals of the Comprehensive Plan and Zoning Ordinance.

Verizon requires this site to provide seamless coverage and signal strength to customers in the Clifton area, and those traveling along Clifton Road and Chapel Road. In the absence of this site, callers will experience significantly degraded signal and the potential for loss of coverage, which is inconsistent with Verizon's legal obligation to provide a complete network of wireless telecommunications coverage as required by its FCC license.

Verizon's analysis indicates the need for additional coverage in the Clifton area of Fairfax County. Collocating on this existing lattice tower satisfies those coverage objectives without the need for a new structure, providing the least disruptive means of improving coverage and network capacity in this area.

ANTICIPATED IMPACTS ON ADJOINING PROPERTIES:

The proposed facility will have no impact on adjoining properties with respect to traffic, noise, light pollution, air and water quality or exposure to radiation. As previously stated, site visits by maintenance personnel will be minimal and will have no impact on traffic volume in the area. Collocating on an existing lattice tower will create little to no adverse visual impact on surrounding properties. Ground-based equipment will be screened by fencing and existing mature vegetation and will be visually unobtrusive.

ALTERNATIVE SITES CONSIDERED FOR THE PROPOSAL:

Verizon considered and rejected several sites in the Clifton area before settling on the proposed location. No other site provided the height necessary to achieve the required coverage, and no other site presented an opportunity to collocate on an existing telecommunications facility, as encouraged by the Fairfax County Comprehensive Land Use Plan. Collocating on the existing lattice tower serves both Verizon's coverage needs and the County's land use goals.

RELATIONSHIP OF THE PROPOSAL TO THE COMPRHENSIVE PLAN:

The proposed facility is consistent with and furthers the goals of the Fairfax County Comprehensive Land Use Plan ("Plan"). The location, character and extent of the application should be found to be in substantial accord with the Plan. In terms of location, property that contains existing telecommunications towers is encouraged for additional site development.

The extent of the proposed facility should be found to be in substantial accord with the Plan as well. The facility poses no encroachment on any existing easements or services, and the antenna mounting height is the minimum necessary to achieve the site's coverage goals.

The application is also consistent with the objectives found under the Policy Plan of the Comprehensive Plan concerning "Mobile and Land-Based Telecommunication Services."

GENERAL GUIDELINES

Objective 42: **In order to provide for the mobile and land based telecommunication network for wireless telecommunication systems licensed by the Federal Communications Commission, and in order to achieve opportunities for the collocation of related facilities and the reduction of their visual impact, locate the network's necessary support facilities which include antennas, monopoles, lattice towers and equipment buildings in accordance with the following policies.**

Policy a. **Avoid the construction of new structures by locating mobile and land- based telecommunication facilities on available existing structures such as building rooftops, telecommunication and broadcast poles and towers, electrical utility poles and towers, and water storage facilities when the telecommunication facilities can be placed inconspicuously to blend with such existing structures.**

By collocating on an existing telecommunications lattice tower Verizon has avoided building a new structure, furthering this Plan objective.

Policy e. **Locate mobile and land-based telecommunication facilities operated by different service providers on single sites and/or structures whenever appropriate. Locate single-use structures on a property when a collocation structure for multiple service providers is not desirable or feasible due to site limitations or visual impact concerns.**

Verizon has collocated on an existing structure with another service provider, avoiding a single-use site and structure and advancing this policy.

Policy f. **Ensure that the height of towers and monopoles has the least visual impact and is no greater than required to achieve service area requirements and potential collocation, when visually appropriate.**

Verizon is mounting its equipment below an existing carrier, and at the minimum height necessary to achieve its coverage objectives for this site.

Policy j. **Mitigate the visual impact of proposed telecommunication structures, and their antennas and ancillary equipment, using effective design options appropriate to the site such as:**

- **locating facilities near to or within areas of mature vegetation and trees which effectively screen or provide an appropriate setting for the proposed structure or which, when viewed in context, considering perspective views, relative topography and other factors, mitigate their visual presence and prominence**

Verizon selected a structure located near and partially screened by a stand of mature vegetation, thereby minimizing the visual impact of the proposed telecommunications installation.

CONCLUSION:

Because this application is in substantial conformance with the Fairfax County Comprehensive Land Use Plan, Verizon respectfully requests that the Planning Commission issue a determination that the proposed telecommunications facility serving the Clifton area of Fairfax County is a Feature Shown of the Comprehensive Plan. Please do not hesitate to contact me with any questions regarding this application.

Nathan B Campbell

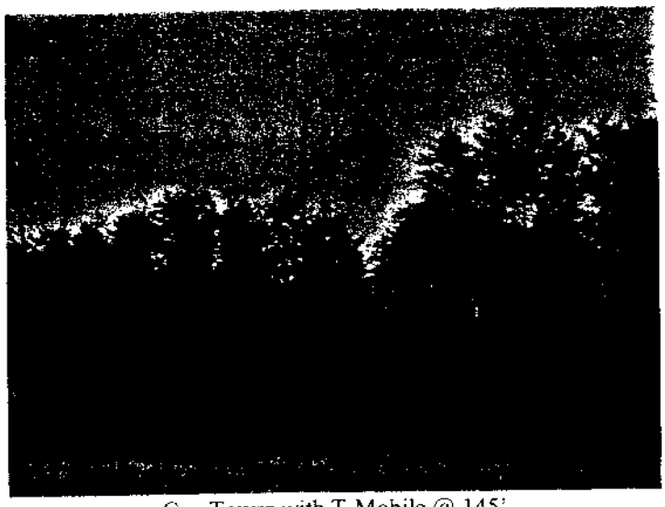
Nathan B. Campbell
Zoning Manager for Verizon Wireless
Network Building & Consulting, LLC

PARID: 0852 01 0038
HALL RUSSELL G **12510 YATES FORD RD**

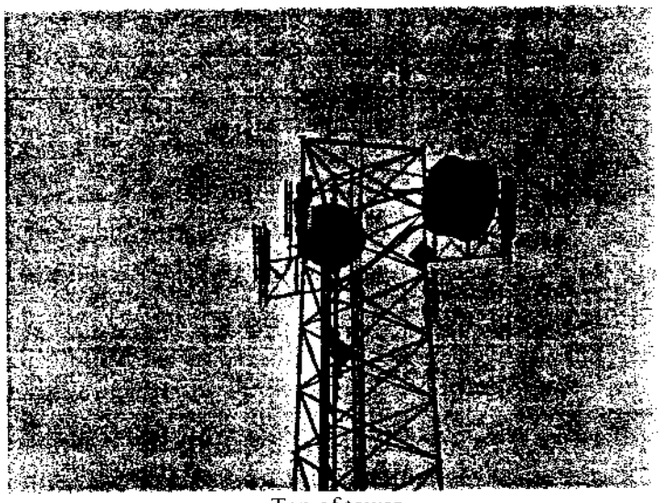
Aerial Imagery © 2002 Commonwealth of Virginia
Fairfax © 2003

Source: Fairfax County Department
of Tax Administration, Real Estate Division.

Photographs

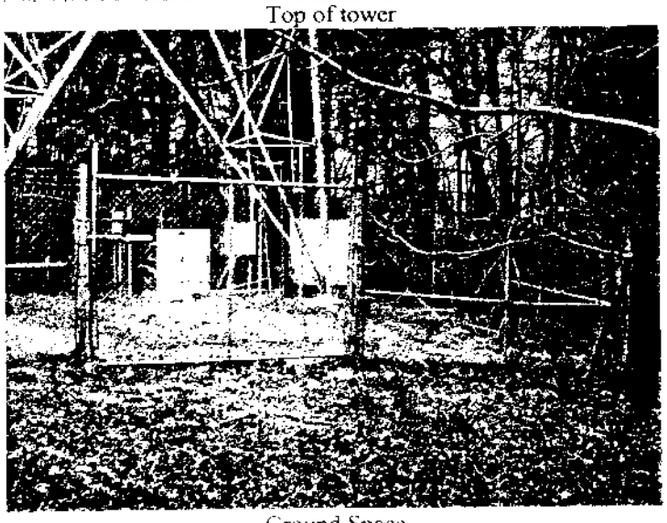


Cox Tower with T-Mobile @ 145'

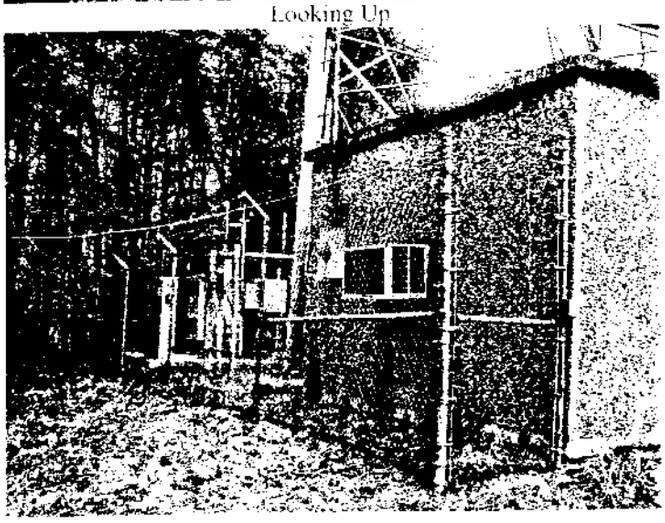


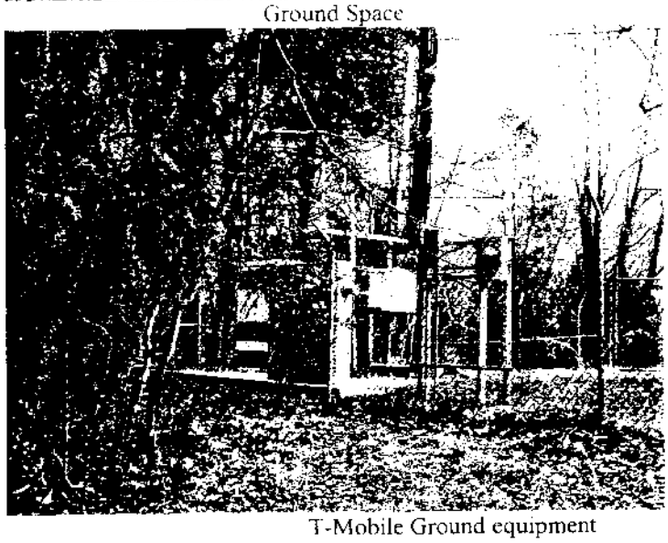
Top of tower

Looking Up



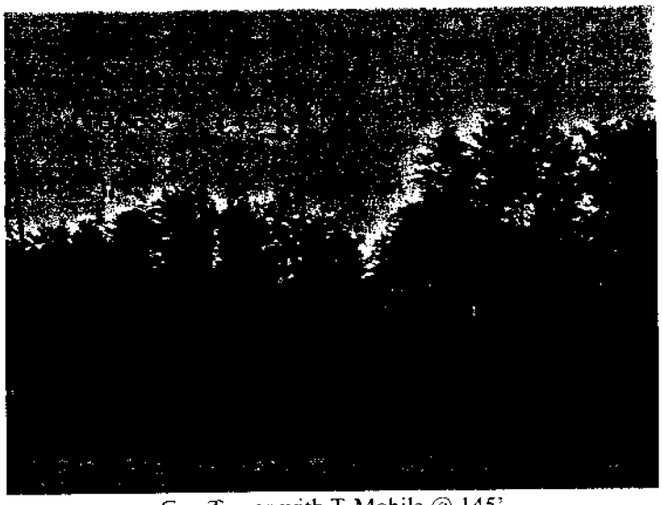
Ground Space



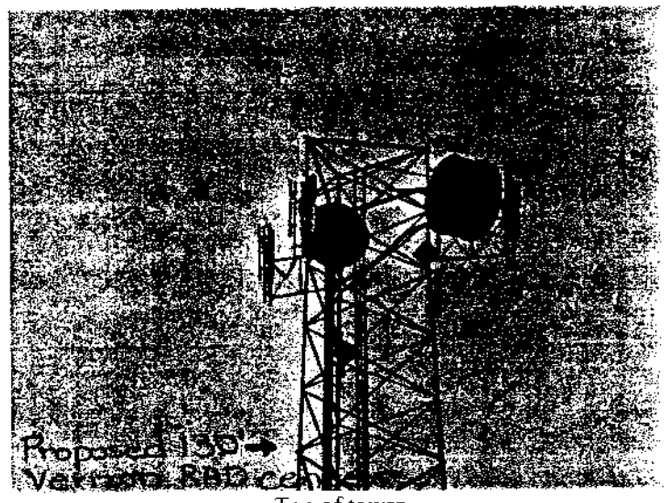


T-Mobile Ground equipment

Photographs

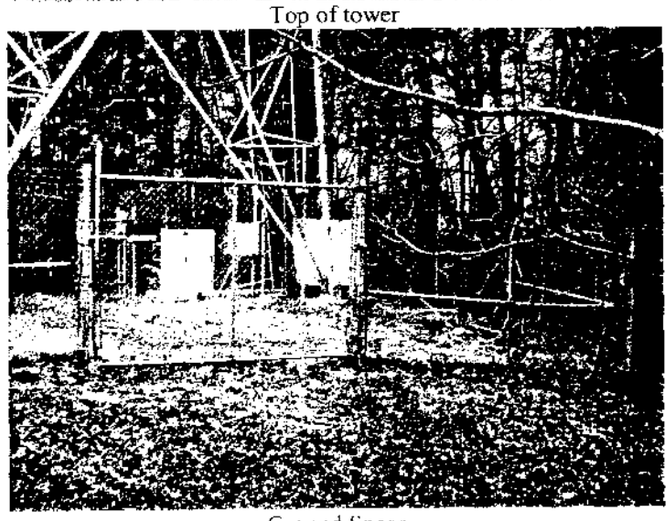


Cox Tower with T-Mobile @ 145'

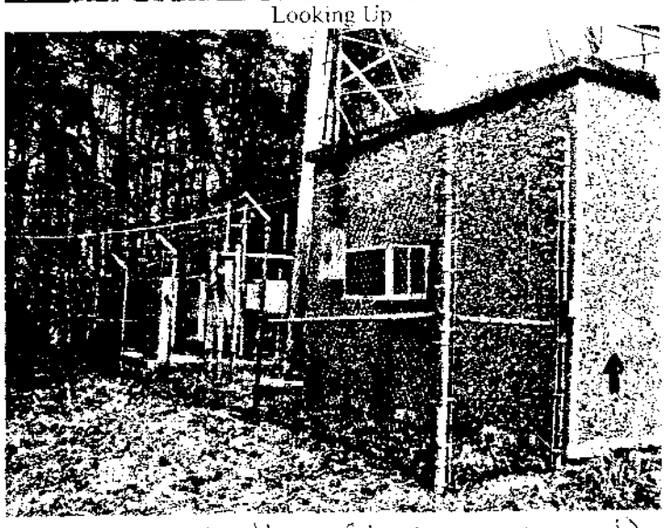


Top of tower

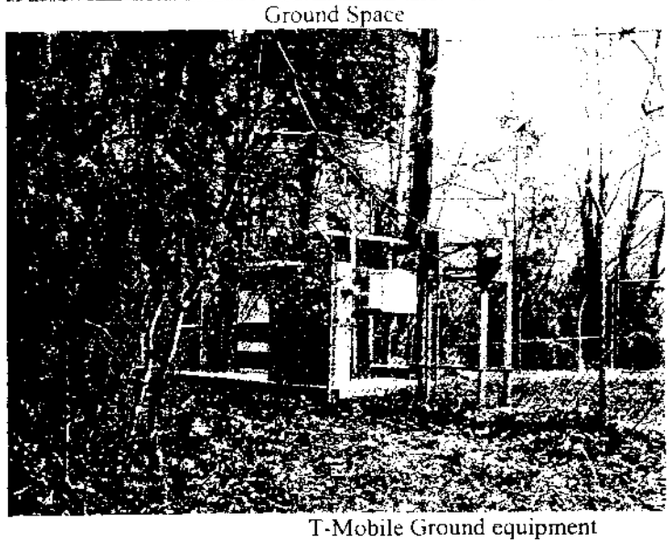
Looking Up



Ground Space



Existing shelter (to be replaced)



T-Mobile Ground equipment

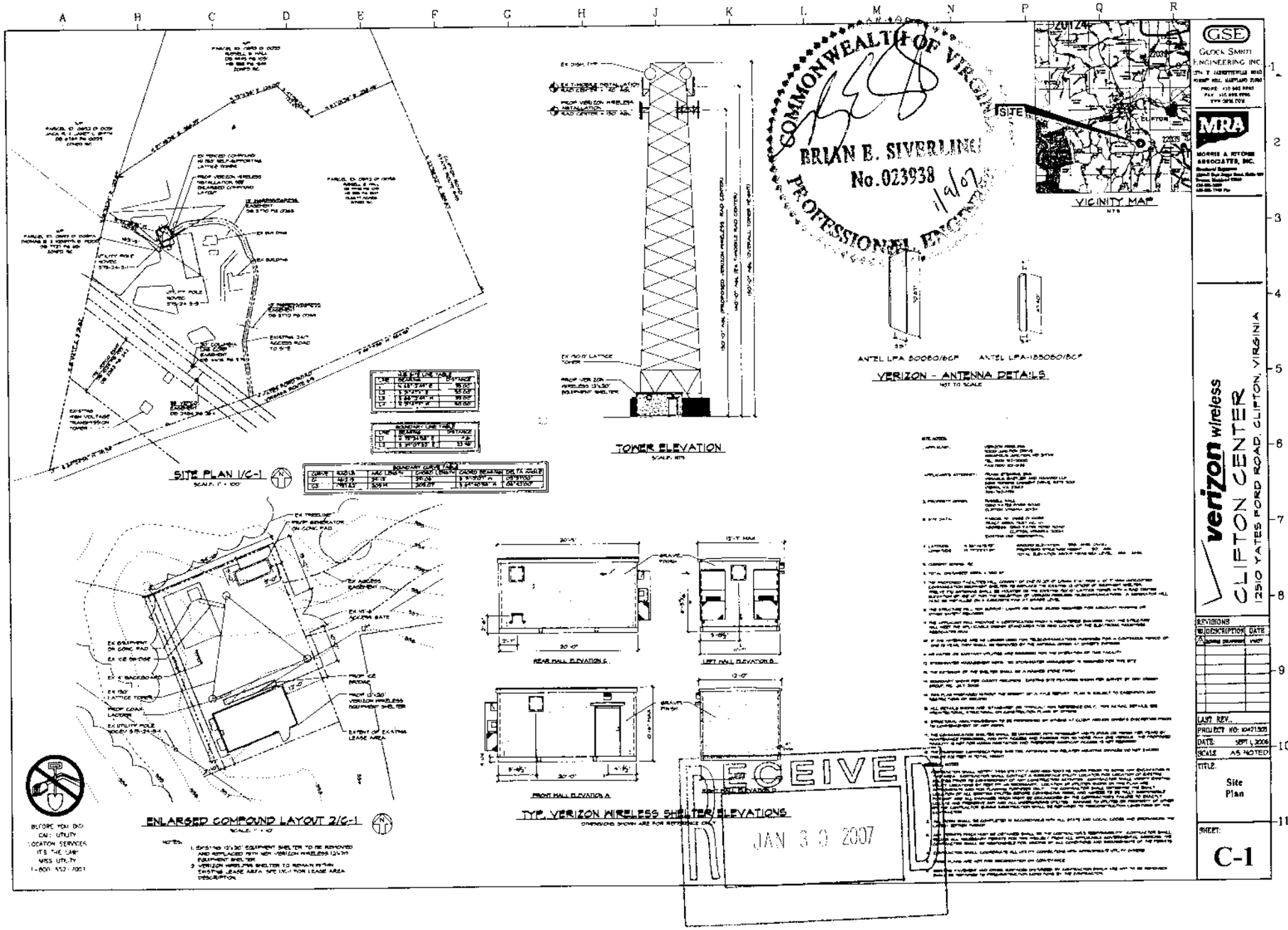
Photographs

East

Looking North

West

South



SITE PLAN 1/C-1
TOWER ELEVATION
VERIZON - ANTENNA DETAILS
ANTEL LPA 80080/6CF
ANTEL LPA-185080/8CF
VICINITY MAP
ENLARGED COMPOUND LAYOUT 2/C-1
TYP. VERIZON WIRELESS SHELTER ELEVATIONS
REAR WALL ELEVATION C
LEFT WALL ELEVATION B
FRONT WALL ELEVATION A
RECEIVED
JAN 30 2007
GSE
GLOCK SMITH ENGINEERING INC.
MRA
MORRIS & RITCHIE ASSOCIATES, INC.
verizon wireless
CLIFTON CENTER
12510 YATES FORD ROAD, CLIFTON, VIRGINIA
REVISIONS
DESCRIPTION
DATE
LAST REV.
PROJECT NO: 10471305
DATE: SEPT 1, 2006
SCALE: AS NOTED
TITLE:
Site Plan
SHEET:
C-1