



County of Fairfax, Virginia

MEMORANDUM

DATE: April 25, 2012

TO: Chris B. Caperton, Chief
Facilities Planning Branch, Planning Division, DPZ

FROM: Kevin Guinaw, Chief *K. Guinaw*
Special Projects/Applications Management Branch, Zoning Evaluation Division, DPZ

SUBJECT: Proposed Verizon Wireless Telecommunications Facility, 2232 Application FS-H12-3;
Tax Map 17-3 ((10)) 15; 11955 Democracy Drive

This is in response to a request for a determination as to whether the telecommunications facility proposed by Verizon Wireless at 11955 Democracy Drive would be in substantial conformance with the development plan and proffers accepted by the Board of Supervisors with the approvals of Rezoning RZ 85-C-088, Proffered Condition Amendments PCA 85-C-088, PCA-85-C-088-2 and PCA-85-C-088-7, Development Plan Amendment DPA 85-C-088-5 and PRC 85-C-088. As described in the 2232 application dated February 24, 2012, from Frank W. Stearns, twelve (12) panel antennas (ranging in size from 48"-96" tall x 6.7"-18.5" wide x 4.1"-8" deep) are proposed on the building rooftop to be distributed among three (3) proposed stealth concealment panels (18 feet wide x 10 feet tall) that would enclose the antennas on all four sides. The stealth concealment panels would be set back approximately 5 feet from the building edge and finished to match the existing penthouse glass. In addition, one (1) equipment shelter (11' tall x 21'2" long x 12' wide) is proposed for installation adjacent to the rooftop penthouse and will be finished in a color to match the penthouse. On March 13, 2012, the Reston Town Center Association Design Review Board approved the design of the proposed equipment. A copy of the 2232 application, including illustrations of 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 rezoning development plan and proffers. It is my determination that the proposed telecommunications facility would be in substantial conformance with the above-referenced applications. Please note that this proposal is subject to 2232 review requirements and that the applicant's ability to proceed is dependent upon approval of the pending 2232 by the Fairfax County Planning Commission. This determination has been made in my capacity as the duly authorized agent of the Zoning Administrator. If you have any questions regarding this memorandum, please call Carrie Lee at (703) 324-1290.

KG/CDL/N:\Antennas\11955 Democracy Dr_rooftop\Verizon.doc

Attachments: A/S

cc: Catherine M. Hudgins, Supervisor, Hunter Mill District
Frank de la Fe, Planning Commissioner, Hunter Mill District
Barbara C. Berlin, Director, Zoning Evaluation Division, DPZ
Diane Johnson-Quinn, Deputy Zoning Administrator, Zoning Permit Review, ZAD, DPZ
Ken Williams, Technical Processing, Land Development Services, DPWES
Frank W. Stearns, Donohue & Stearns PLC, 201 Royal Street SE, Suite E, Leesburg, VA 20175
File: RZ 85-C-088, PCA 85-C-088, PCA 85-C-088-2, PCA 85-C-088-7, DPA 85-C-088-5, PRC 85-C-088,
ANT 12 03 037, Imaging, Reading

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





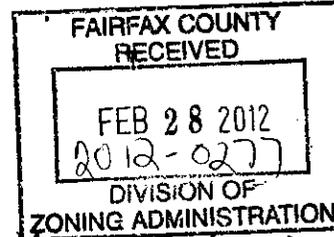
County of Fairfax, Virginia

MEMORANDUM

TO: Lorrie Kirst, Deputy Zoning Administrator, ZAD
Other: _____

DATE: 2-27-12

FROM: Chris Caperton, Chief
Facilities Planning Branch, DPZ



SUBJECT: Request for Review: 2232 Application

RE: Application Number: FS-112-3 Tax Map: TT-3 (10) 15

Attached for your review and comment is a 2232 Review application:

RECEIVED FROM: Verizon Wireless
PROPOSED USE: Rooftop Collocation
LOCATION OF USE: 11955 Democracy Dr
ADDITIONAL COMMENTS: _____

Please send your comments to Chris Caperton by: 3/12/12
Staff Coordinator: Sandi Beaulieu Phone: 703-324-1239 Email: sandi.smith@fairfaxcounty.gov

****ZAD COMMENTS:**

Property is zoned PRC
____ Proposed use is permitted by Zoning Ordinance and meets all zoning requirements.
____ Proposed use does not meet all Zoning requirements as follows:

See attached

Referred to ZED for the following: See attached
ZAD comments prepared by: Brian Parsons Date: 3-1-12

****ZED COMMENTS:**

____ Proposed use is in substantial conformance with all development conditions and/or proffers.
____ Proposed use is not in substantial accord with all development conditions and proffers.

**ZED comments prepared by: _____ Date: _____

RECEIVED
Department of Planning & Zoning
MAR 01 2012
Zoning Evaluation Division

Department of Planning and Zoning
Planning Division
12055 Government Center Parkway, Suite 730
Fairfax, Virginia 22035-5509
Phone 703-324-1380
Fax 703-324-3056
www.fairfaxcounty.gov/dpz/



Kirst, Lorrie

To: Beaulieu, Sandi
Cc: Parsons, Brian S.
Subject: FS-H12-3, Verizon Wireless, 11955 Democracy Drive

RE: FS-H12-3

Verizon Wireless – Rooftop collocation

11955 Democracy Drive

Tax Map: 17-3 ((10)) 15

Zoning District: PRC

The proposed use meets the zoning requirements of Par. 1 of Sect. 2-514 of the Zoning Ordinance. However, page 7 of the application form should be revised to indicate the height of the equipment shelter will be 11 feet not 11 inches.

Refer to ZED: Must be in substantial conformance with the proffered conditions associated with Rezoning RZ 85-C-088 and Proffered Condition Amendments RZ 85-C-088, PCA 85-C-088-1
PCA 85-C-088-2, PCA 85-C-088-7; Development Plan Amendment DPA 85-C-088-5 and PRC 85-C-088.

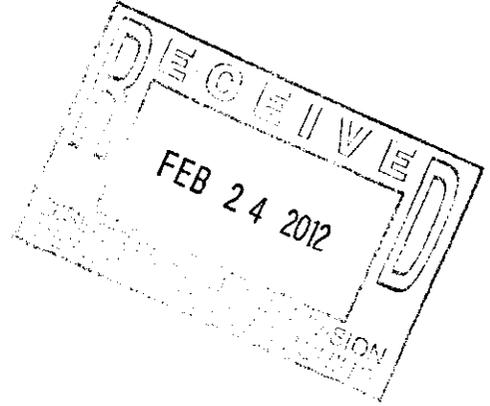
Submitted by: Brian Parsons 3/1/12



DONOHUE & STEARNS, PLC

February 23, 2012

Mr. Chris Caperton
Planning Division
Fairfax County Department of Planning and Zoning
12055 Government Center Parkway, Suite 730
Fairfax, Virginia 22035



Dear Chris:

Attached is a 2232 Review application with related documentation and plans for a telecommunications facility to be located on an existing building at 11955 Democracy Drive in Reston. The facility will consist of 12 panel antennas located behind screen walls and a related equipment shelter on the building's rooftop.

If you have any questions or require additional information, please let me know.

Sincerely,

David B. Marshall

COUNTY OF FAIRFAX, VIRGINIA
APPLICATION FOR DETERMINATION
PURSUANT TO
SECTION 15.2-2232 OF THE CODE OF VIRGINIA

Application Number: F9-H12-3
(assigned by staff)

The application contains 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.

(Please Type or Print All Requested Information)

PART I: APPLICATION SUMMARY

ADDRESS OF PROPOSED USE

Street Address 11955 Democracy Drive

City/Town Reston Zip Code 20190

APPLICANT(S)

Name of Applicant Cellco Partnership d/b/a Verizon Wireless

Street Address 9000 Junction Drive

City/Town Annapolis Junction State MD Zip Code 20701

Telephone Number: Work () N/A Fax () N/A

E-mail Address N/A

Name of Applicant's Agent/Contact (if applicable) Frank W. Stearns

Agent's Street Address 201 Royal Street SE, Suite E

City/Town Leesburg State VA Zip Code 20175

Telephone: Work (703) 726-2547 Fax (703) 737-3793

PROPOSED USE

Street Address 11955 Democracy Drive, Reston, VA 20190

Fairfax Co. Tax Map and Parcel Number(s) 0173 10 0015

Brief Description of Proposed Use _____

Locate 12 panel antennas behind screen walls and one equipment shelter on a existing building rooftop in the Reston Town Center area.

Total Area of Subject Parcel(s) 9.34 acres or 101,973 sq. ft. (acres or square feet)

Portion of Site Occupied by Proposed Use 855 sq. ft. (acres or square feet)

Fairfax County Supervisor District Hunter Mill

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

Zoning of Subject Property PRC

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

PCA 85-C-088-7

DPA 85-C-089-5

PRC 85-C-088

RZ 85-C-088

PROPERTY OWNER(S) OF RECORD

Owner South Market Garage LLC

Street Address 2200 Pennsylvania Ave. NW Suite 200 W

City/Town Washington State DC Zip Code 20037

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 Frank W. Stearns

Signature of Applicant or Agent *Frank W. Stearns*

Date February 21, 2012

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.

Submit completed application to:

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

<p>FOR STAFF USE ONLY</p> <p>Date application received: <u>2/24/12</u></p> <p>By: <u>COMB</u></p> <p>Additional information requested to complete application:</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>Date application accepted: <u> / / </u></p> <p>By: _____</p>

Statement of Justification

Applicants: Verizon Wireless
Site Name: Reston Town Center
Property Address: 11955 Democracy Drive, Reston
District: Hunter Mill
Parcel ID No: 017-3 10 15
Zoning Classification: PRC
Property Owner: South Market Garage, LLC

DESCRIPTION OF PROPOSED USE

Verizon Wireless proposes to construct a telecommunications facility on the rooftop of an existing office building located in the Reston Town Center at 11955 Democracy Drive. The facility will consist of 12 panel antennas located behind three screen walls and one equipment shelter. The height of the main roof parapet of the building is 194 feet above ground level.

The 12 antennas will be located in three sectors, each sector having a total of four antennas. One sector will have two antennas measuring 72 inches tall by 14.6 inches wide and two antennas measuring 69.1 inches tall by 6.7 inches wide. Two other sectors will have two antenna measuring 96 inches tall by 18.5 inches wide and two antennas measuring 48 inches tall by 10 inches wide. Each of the three antenna sectors will be located behind a 10 feet tall screen wall that is constructed of 2-inch thick "stealthskin" concealment panels that are dark gray in color to match the penthouse glass with a light gray band at the top of the panel to match the building parapet. The screen wall is set back 5 feet from the building edge. The RAD center of the antennas is between 200 and 202 feet above ground level. The equipment shelter will be located immediately in front of the existing penthouse structure and will measure 21 feet 2 inches long, 12 feet wide and 11 feet tall. It will be located on a steel frame 2 feet 6 inches above the roof surface for a total overall height of 13 feet 6 inches. The shelter is gray in color to match the taller penthouse wall behind it.

The subject property totals approximately 9.34 acres (101,973 square feet), is planned RPC and zoned PRC. The telecommunications facility will occupy approximately 855 square feet of the rooftop area. Adjoining properties surrounding the property are also zoned PRC.

South Market Garage LLC owns the property. Verizon Wireless will enter into a lease agreement with the owner to install and operate a wireless telecommunications facility on the rooftop.

The proposed telecommunications use will not change the current hours of operation on the property. It will operate 24 hours per day, 365 days per year, will be unmanned, and will have four or fewer visits per year by maintenance personnel. There are on-site patrons associated with the use and as such, the proposed use will have no impacts on traffic or parking.

REQUIREMENT FOR THE PROPOSED USE

The proposed site will enhance coverage including in-building penetration to residential, commercial and office uses to the east of the Reston Parkway, to the north of Bluemont Way, to the south of Bowman Towne Drive and to the west of the Fairfax County Parkway (Route 7100). The site will allow faster data speed for 3G and 4G wireless devices and increase data and voice capacity in the general area. Attached are propagation maps showing the improvement of Verizon Wireless' service in this area of Fairfax County from the construction of the proposed site.

ANTICIPATED IMPACTS ON ADJOINING PROPERTIES AND ON- AND OFF SITE ENVIRONMENTAL FEATURES

The proposed telecommunications facility is a passive use and will not have employees or personnel on site or any impacts on traffic. The facility will not interfere with radio, television or telephone reception and the radio frequency emissions will comply with all applicable EPA and FCC emission requirements. In addition, it will not generate noise, dust, odors, light or vibrations nor expose any radiation on adjoining properties.

The proposed use will minimize any adverse visual impact on the surrounding area by being located on a building rooftop and all antennas screened by a screen wall that blends with current building and the penthouse structures on the roof. The equipment shelter will be placed immediately in front of and match the existing building penthouse, and will not be visible from the ground.

There are no changes to the existing building, its use or requirements, except as are needed for the telecommunications facility as shown on the engineering drawings and photo-simulations.

ALTERNATIVE SITES CONSIDERED FOR THE PROPOSAL

Collocation on a building rooftop was considered the preferred option for addressing coverage and capacity needs in this area of Fairfax County. The applicant evaluated five other buildings in the Reston Town Center area for the telecommunications facility. These include buildings at 1861 Explorer Street; 1800 Presidents Street; Two Fountain Square; 12061 Bluemont Way; and the Accenture Building.

Fairfax County's Comprehensive Plan provides guidance to collocate on existing building rooftops when such installations blend with the structure. The height and location of the selected building at 11955 Democracy Road provides the opportunity to mitigate the visual presence of the telecommunications facility while meeting the coverage objectives of Verizon Wireless. The property is zoned PRC and planned RPC and the installation will not impact residential areas.

COMPLIANCE WITH THE FAIRFAX COUNTY COMPREHENSIVE PLAN

The proposed telecommunications facility is consistent with the policies and objectives found in the Mobile and Land Based Telecommunications section of the Public Facilities element of the Fairfax County Comprehensive Plan, as detailed in the following:

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.

RESPONSE: The Applicant is proposing a building rooftop location for the telecommunications facility's antennas and equipment shelter. As shown in the photo-simulations, the antennas will be placed behind screen walls of a color and design that match the existing building and the shelter will be placed directly in front of and designed to match the existing building penthouse. As such the facility will be inconspicuous and blend with the existing structure.

FEATURE SHOWN GUIDELINES

Objective 44: With Planning Commission approval, consider mobile and land-based telecommunication facilities to be located on existing or replacement structures a "feature shown" of the Comprehensive Plan to be processed without a public hearing when placed in conformance with the following policies:

Policy a: Locate telecommunication facilities on existing buildings and structures at the following properties:

- publicly owned property (as defined under Sect. 2-514 of the Zoning Ordinance);
- commercial and industrial zoned property and in the commercial areas of PDH, PDC, PRM and PRC zoning districts;
- residential properties zoned for and developed with multiple family dwellings 35 feet or greater in height;

RESPONSE: The proposed facility will be located on an existing building in the commercial area of property zoned PRC.

Policy c: In determining that proposed telecommunication facilities are a feature shown of the Comprehensive Plan, ensure that the following general factors are met:

- the proposed installation has no material adverse impact on the visual quality or character of the general area in which it is to be placed including any surrounding residential properties;
- the proposed installation is located and designed to blend with the structure on which it is placed such as flush-mounting antennas or screening the antennas and equipment as appropriate to the site;
- the proposed installation, when in a grouping of other similar structures, is consistent with the pattern of those surrounding structures;
- related equipment cabinets or shelters located on the ground or on a rooftop should be appropriately screened or placed to obscure their visibility from surrounding properties;
- building rooftop antennas should be either flush mounted to surface walls, screened or placed to not be visible from the surrounding area.
- access to the proposed installation for purposes of maintenance has no material adverse impact on adjoining properties.

RESPONSE: The proposed facility will have no adverse impact on the visual quality or character of the general area and will not impact residential properties; will be located and designed to blend with an existing building structure by appropriately screening the antennas and equipment to not be visible from the surrounding Reston Town Center area; and maintenance access to the proposed rooftop facility will not impact any adjoining properties.

CONCLUSION

In light of the foregoing, the Applicant respectfully submits that this application is in compliance with the Fairfax County Comprehensive Plan and Zoning Ordinance. Granting the Applicants' request will be appropriate and in the interest of the citizens of Fairfax County.

Donohue & Stearns, PLC

PART III: TELECOMMUNICATION PROPOSAL DETAILS

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 attached specs for each type of antenna; 12 total, 4 types

Number and Type: _____

Dimensions: height _____ width _____ depth _____ diameter _____

Location / Placement: _____

Wattage: _____

Material and Color: _____

Material and Color of the Antenna Mounting: _____

Height Above Ground: _____

2. EQUIPMENT

Number and Type of Cabinets or Structures: One Shelter

Cabinet / Structure Dimensions: height 11' 0" width 21' 2" depth 12'

Height of equipment platforms, if any: 2' 6" (total height of structure 13' 6")

Material and Color: metal, light gray to match penthouse

Location: Building rooftop adjacent to existing penthouse

Method of Screening: Color to blend with existing penthouse in background

3. STRUCTURE ON WHICH ANTENNAS WILL BE MOUNTED

Maximum Height: 194' AGL Main Roof; 210' AGL top of penthouse

Material: Concrete and steel garage and glass structure

Color: blue-gray and tan

If structure is within a utility right-of-way, state right-of-way width:

N/A

Attachment for Project Details

1. Antenna #1

Number and Type: Two (2) CSS X7C - FRO 660

Dimensions: height: 72" width: 14.6" depth: 8.0" diameter N/A

Location/Placement: Rooftop inside screened antenna frame

Wattage: 500 or less

Material and Color: Fiberglass; gray and white

Material and Color of the Antenna Mounting: Stainless Steel; Silver

Height Above Ground: 200' - 202' RAD Center above ground level

1. Antenna #2

Number and Type: Two (2) CSS AXP19-60

Dimensions: height: 69.1" width: 6.7" depth: 4.1" diameter N/A

Location/Placement: Rooftop inside screened antenna frame

Wattage: 500 or less

Material and Color: Fiberglass; gray and white

Material and Color of the Antenna Mounting: Stainless Steel; Silver

Height Above Ground: 200' - 202' RAD Center above ground level

1. Antenna #3

Number and Type: Four (4) CSS X7C - FRO-840

Dimensions: height: 96.0" width: 18.5" depth: 8.9" diameter N/A

Location/Placement: Rooftop inside screened antenna frame

Wattage: 500 or less

Material and Color: Fiberglass; gray and white

Material and Color of the Antenna Mounting: Stainless Steel; Silver

Height Above Ground: 200' - 202' RAD Center above ground level

1. Antenna #4

Number and Type: Four (4) CSS AXP19-45

Dimensions: height: 48" width: 10.0" depth: 4.1" diameter N/A

Location/Placement: Rooftop inside screened antenna frame

Wattage: 500 or less

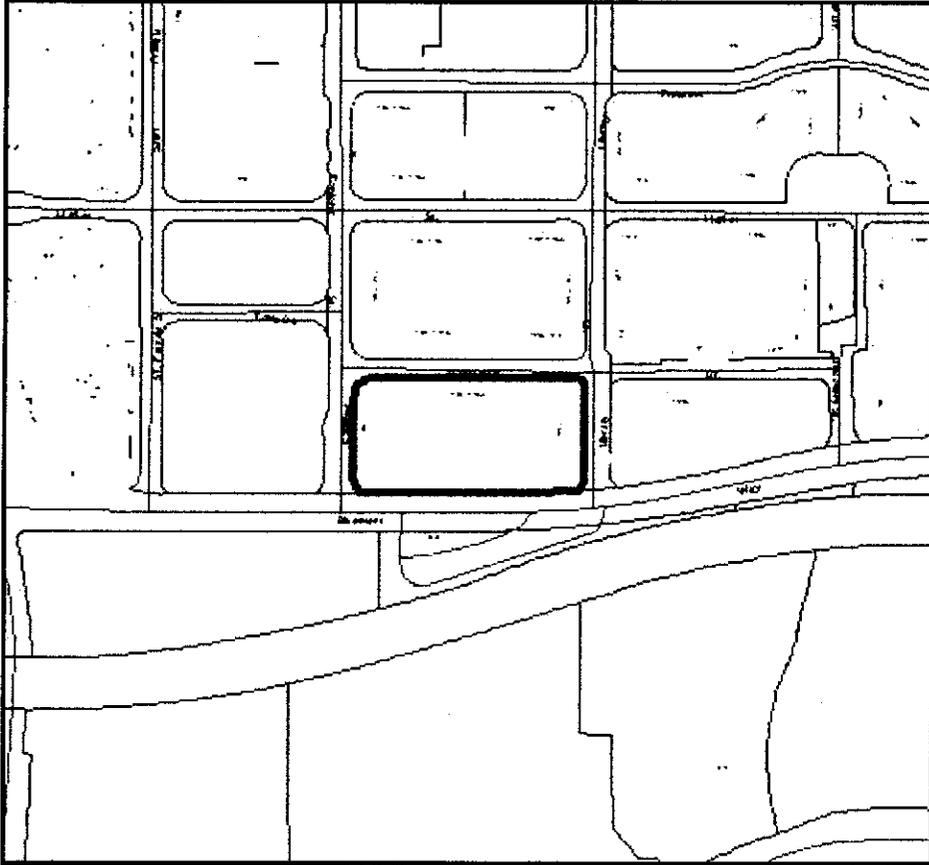
Material and Color: Fiberglass; gray and white

Material and Color of the Antenna Mounting: Stainless Steel; Silver

Height Above Ground: 200' - 202' RAD Center above ground level

MAP #: 0173 10 0015
SOUTH OF MARKET GARAGE LLC

11955 DEMOCRACY DR



Aerial Imagery © 2007 Commonwealth of Virginia

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

11955 DEMOCRACY DRIVE, RESTON





AXP19-45

45° Azimuth Beam, 48.0 inches

Directing our energies for you.

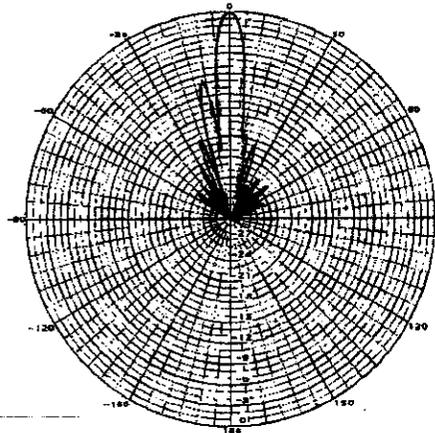
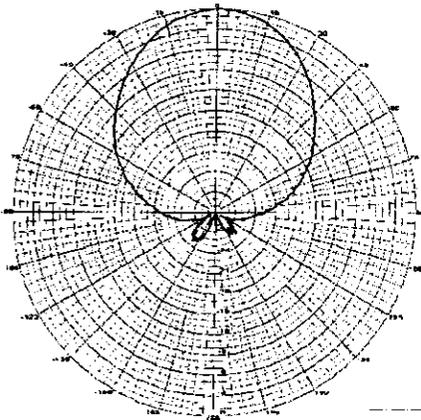
1710-2170 MHz Xpol

Electrical Specifications

Frequency	1710-2170 MHz
Polarization	Slant +/- 45
Gain @ 1710 MHz	18.4 dBi
Gain @ 1920 MHz	18.7 dBi
Gain @ 2170 MHz	19.0 dBi
Horizontal Beam (3dB Points)	45°
Vertical Beam (3dB Points)	7°
Elect. Downtilt Range, 2° Increments	0-6°
VSWR / Return Loss	<1.40:1 / 15.6 dB
VSWR Opt "i" / Return Loss	<1.50:1 / 14.0 dB
Front-to-Back at Horizon	>30 dB
Upper Side Lobe Suppression	<-18 dB
Impedance	50 Ohms
Power Input Per Connector	250 CW at 1900 MHz
Isolation	< -28 dB
Intermodulation (2x20W)	typ -150 dBc

Mechanical Specifications

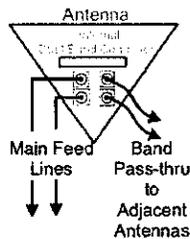
Input Connector (female)	Back 7/16 DIN (silver finish) or w/bot. opt.
Antenna Dimensions (LxWxD)	48.0 x 10.0 x 4.1 in. (1219 x 254 x 104mm)
*Antenna Weight	10 lbs
Bracket Weight	13.2 lbs
Lightning Protection	Direct Ground
RF Distribution	Printed Microstrip Substrate
Radome	Ultra High-Strength Luran
Weatherability	UV Stabilized, ASTM D1925
Radome Water Absorption	ASTM D570, 0.45%
Environmental	MIL-STD-810E
Wind Survival	150 mph
Front Wind Load @ 100MPH	63.5 lbf
Equivalent Flat Plate @ 100MPH	1.35 sq-ft. (c=2)
Mounting Brackets	Fits 3.5 Inch Max. O.D. Pipe
Mechanical Downtilt Range	0-12°
Clamps/Bolts	Hot Dip Galvanized Steel/Stainless Steel



FCS & AWS

Available with Opt "i"

- The Opt "i" antenna option provides integrated Diplexers that reduce mainline cables and eliminate separate external devices. Add 1" to the antenna depth for Opt "i".



Recommended Connector Coupling Torque:
7/16 DIN: 220-265 lbf-in (25-30 N-m)

Ordering Information & Options

AXP19-45-x	"-x" is a placeholder for the built-in fixed electrical downtilt in degrees, set to 0, 2, 4 or 6
AXP19-45-xi	to add the Opt "i" option for integrated diplexers, add "i" to model number
AXP19-45-xi-bot	for bottom mounted connectors, add "-bot" (otherwise antenna comes standard with back mounted connectors)
AXP19-45-xi-bot-#	add a "-j#" to add a 1/2" RF cable, where "#" is the cable length, "j2" is 2 meters, "j4" is 4 meters, "j6" is 6 meters...

*Antenna Weight may vary slightly with options such as back or bottom connector and integrated diplexers.



AXP19-60

60° Azimuth Beam, 69.1 inches

Directing our energies for you.

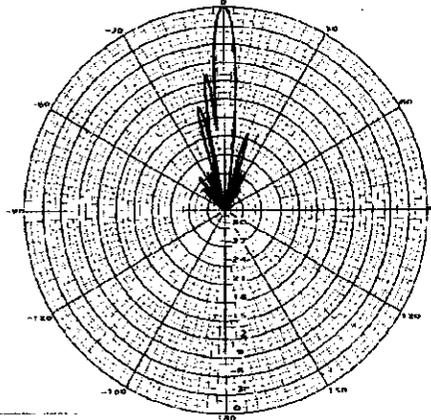
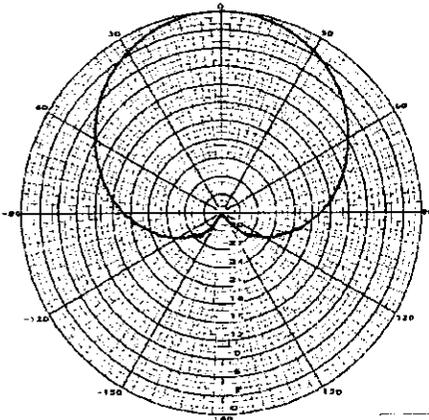
1710-2170 MHz Xpol

Electrical Specifications

Frequency	1710-2170 MHz
Polarization	Slant +/- 45
Gain @ 1710 MHz	19.0 dBi
Gain @ 1920 MHz	19.3 dBi
Gain @ 2170 MHz	19.6 dBi
Horizontal Beam (3dB Points)	60°
Vertical Beam (3dB Points)	5°
Elect. Downtilt Range, 2° Increments	0-6°
VSWR / Return Loss	<1.40:1 / 15.6 dB
VSWR Opt "i" / Return Loss	<1.50:1 / 14.0 dB
Front-to-Back at Horizon	>30 dB
Upper Side Lobe Suppression	<-18 dB
Impedance	50 Ohms
Power Input Per Connector	250 CW at 1900 MHz
Isolation	< -28 dB
Intermodulation (2x20W)	typ -150 dBc

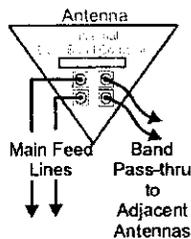
Mechanical Specifications

Input Connector (female)	Back 7/16 DIN (silver finish) or w/bot. opt.
Antenna Dimensions (LxWxD)	69.1 x 6.7 x 4.1 in. (1755 x 170 x 104mm)
Antenna Dimensions with Opt-"i"	69.1 x 6.7 x 4.5 in. (1755 x 170 x 114mm)
*Antenna Weight	15.0 lbs
Bracket Weight	13.2 lbs
Lightning Protection	Direct Ground
RF Distribution	Printed Microstrip Substrate
Radome	Ultra High-Strength Luran
Weatherability	UV Stabilized, ASTM D1925
Radome Water Absorption	ASTM D570, 0.45%
Environmental	MIL-STD-810E
Wind Survival	150 mph
Front Wind Load @ 100MPH	105 lbf
Equivalent Flat Plate @ 100MPH	2.13 sq-ft. (c=2)
Mounting Brackets	Fits 3.5 Inch Max. O.D. Pipe
Mechanical Downtilt Range	0-12°
Clamps/Bolts	Hot Dip Galvanized Steel/Stainless Steel



Available with Opt "i" and back mounted connectors only, bottom mounted connectors are not available on the Opt "i"

- The Opt "i" antenna option provides Integrated Diplexers that reduce mainline cables and eliminate separate external devices. Add .4" to the antenna depth for Opt "i".



PCS & AMS

Recommended Connector Coupling Torque
7/16 DIN: 220-265 lbf-in (25-30 N-m)

Ordering Information & Options

AXP19-60-x	"-x" is a placeholder for the built-in fixed electrical downtilt in degrees, set to 0, 2, 4 or 6
AXP19-60-xi	to add the Opt "i" option for integrated diplexers, add "i" to model number
AXP19-60-x-bot	for bottom mounted connectors, add "-bot" (otherwise antenna comes standard with back mounted connectors)
AXP19-60-x-bot-#	add a "-#" to add a 1/2" RF cable, where "#" is the cable length, "j2" is 2 meters, "j4" is 4 meters, "j6" is 6 meters...

*Antenna Weight may vary slightly with options such as back or bottom connector and integrated diplexers.



X7C-FRO-660

58° Azimuth Beam, 72.0 inches

Directing our energies for you.

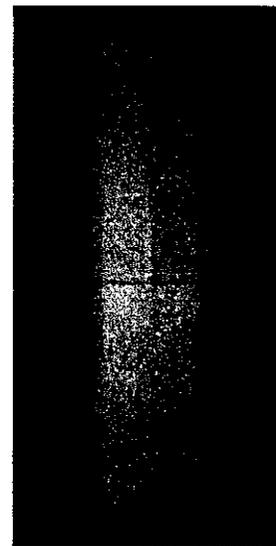
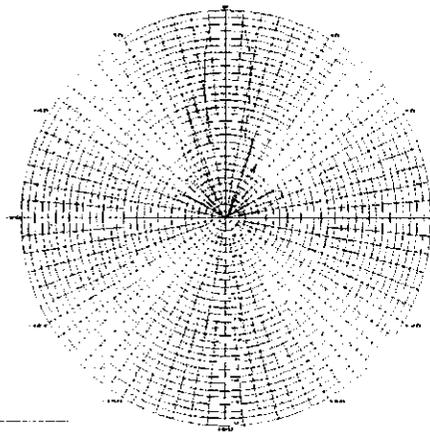
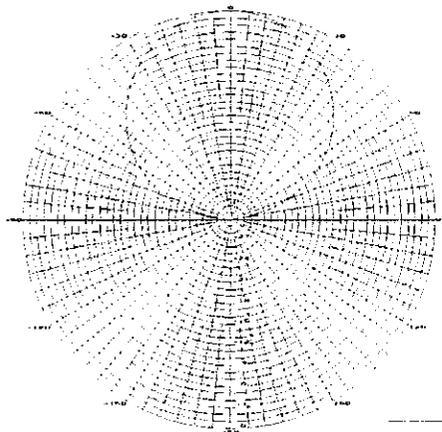
698-896 MHz Xpol

Electrical Specifications

Frequency	698-896 MHz
Polarization	Slant +/- 45
Gain @ 698 MHz	16.1 dBi
Gain @ 782 MHz	16.6 dBi
Gain @ 896 MHz	17.2 dBi
Horizontal Beam (3dB Points)	58°
Vertical Beam (3dB Points)	11°
Elect. Downtilt Range, 2° Increments	0-10°
VSWR / Return Loss	≤1.35:1 / 16.5 dB
VSWR with Opt "i" / Return Loss	<1.50:1 / 14.0 dB
Front-to-Back at Horizon	>30 dB
Upper Side Lobe Suppression	<-18 dB
Impedance	50 Ohms
Power Input Per Connector	500 CW at 800 MHz
Isolation	< -27 dB
Intermodulation (2x20W)	<-150 dBc

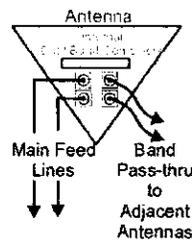
Mechanical Specifications

Input Connector (female)	Back 7/16 DIN (silver finish) or w/bot. opt.
Antenna Dimensions (LxWxD)	72.0 x 14.6 x 8.0 in. (1829 x 371 x 203mm)
*Antenna Weight	32.2 lbs
Bracket Weight	13.2 lbs
Lightning Protection	Direct Ground
RF Distribution	Printed Microstrip Substrate
Radome	Ultra High-Strength Luran
Weatherability	UV Stabilized, ASTM D1925
Radome Water Absorption	ASTM D570, 0.45%
Environmental	MIL-STD-810E
Wind Survival	150 mph
Front Wind Load @ 100MPH	208 lbf
Equivalent Flat Plate @ 100MPH	4.23 sq-ft. (c=2)
Mounting Brackets	Fits 3.5 Inch Max. O.D. Pipe
Mechanical Downtilt Range	0-12°
Clamps/Bolts	Hot Dip Galvanized Steel/Stainless Steel



Available with Opt "i"

- The Opt "i" antenna option provides Integrated Diplexers that reduce mainline cables and eliminate separate external devices.



Return Loss at pass-thru port into 50Ω load ≥17.7 dB

Recommended Connector Coupling Torque
7/16 DIN: 220-265 lbf-in (25-30 N-m)

Ordering Information & Options

- X7C-FRO-660-x "-x" is a placeholder for the built-in fixed electrical downtilt in degrees, set to 0, 2, 4, 6, 8 or 10
- X7C-FRO-660-xi to add the Opt "i" option for integrated diplexers, add "i" to model number
- X7C-FRO-660-xi-bot for bottom mounted connectors, add "-bot" (otherwise antenna comes standard with back mounted connectors)
- X7C-FRO-660-xi-bot-j# add a "-j#" to add a 1/2" RF cable, where "#" is the cable length, "j2" is 2 meters, "j4" is 4 meters, "j6" is 6 meters...

*Antenna Weight may vary slightly with options such as back or bottom connector and integrated diplexers.



X7C-FRO-840

40° Azimuth Beam, 96.0 inches

Directing our energies for you.

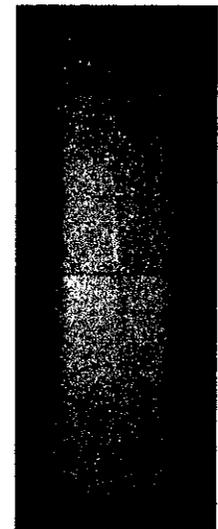
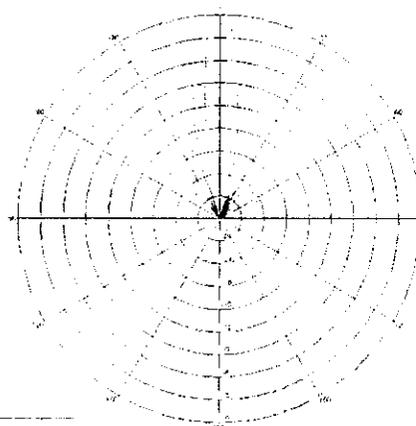
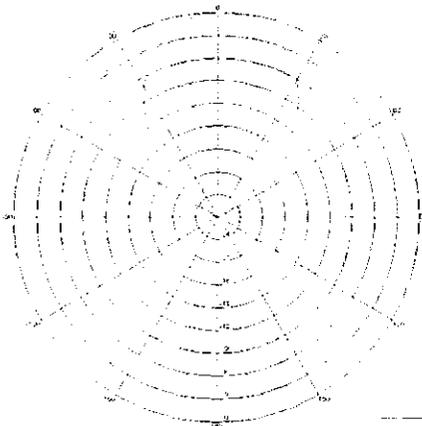
698-896 MHz Xpol

Electrical Specifications

Frequency	698-896 MHz
Polarization	Slant +/- 45
Gain @ 698 MHz	18.4 dBi
Gain @ 782 MHz	18.9 dBi
Gain @ 896 MHz	19.5 dBi
Horizontal Beam (3dB Points)	40°
Vertical Beam (3dB Points)	8°
Elect. Downtilt Range, 2° Increments	0-10°
VSWR / Return Loss	<1.45:1 / 14.7 dB
VSWR Opt "i" / Return Loss	<1.50:1 / 14.0 dB
Front-to-Back at Horizon	>30 dB
Upper Side Lobe Suppression	<-18 dB
Impedance	50 Ohms
Power Input Per Connector	500 CW at 800 MHz
Isolation	<-28 dB
Intermodulation (2x20W)	<-150 dBc

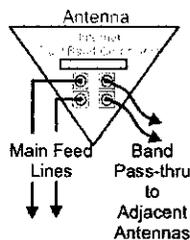
Mechanical Specifications

Input Connector (female)	Back 7/16 DIN (silver finish) or w/bot. opt.
Antenna Dimensions (LxWxD)	96.0 x 18.5 x 8.9 in. (2438 x 470 x 226mm)
*Antenna Weight	57.2 lbs
Bracket Weight	18.2 lbs
Lightning Protection	Direct Ground
RF Distribution	Printed Microstrip Substrate
Radome	Ultra High-Strength Luran
Weatherability	UV Stabilized, ASTM D1925
Radome Water Absorption	ASTM D570, 0.45%
Environmental	MIL-STD-810E
Wind Survival	135 mph
Front Wind Load @ 100MPH	312 lbf
Equivalent Flat Plate @ 100MPH	6.36 sq-ft. (c=2)
Mounting Brackets	Fits 3.5 inch Max. O.D. Pipe
Mechanical Downtilt Range	0-6°
Clamps/Bolts	Hot Dip Galvanized Steel/Stainless Steel



Available with Opt "i"

- The Opt "i" antenna option provides Integrated Dipolexers that reduce mainline cables and eliminate separate external devices.



Return Loss at pass-thru port into 50Ω load ≥17.7 dB

Recommended Connector Coupling Torque
7/16 DIN: 220-265 lbf-in (25-30 N-m)

Ordering Information & Options

X7C-FRO-840-x	"-x" is a placeholder for the built-in fixed electrical downtilt in degrees, set to 0, 2, 4, 6, 8 or 10
X7C-FRO-840-xi	to add the Opt "i" option for integrated dipolexers, add "i" to model number
X7C-FRO-840-xi-bot	for bottom mounted connectors, add "-bot" (otherwise antenna comes standard with back mounted connectors)
X7C-FRO-840-xi-bot-#	add a "-#" to add a 1/2" RF cable, where "#" is the cable length, "j2" is 2 meters, "j4" is 4 meters, "j6" is 6 meters...

*Antenna Weight may vary slightly with options such as back or bottom connector and integrated dipolexers.

Cell cluster without Reston Town Center PCS Voice



Cell cluster with Reston Town Center PCS Voice



PRODUCT INFORMATION SHEET

SCREENING WALL DETAILS

DESCRIPTION Through testing and the experience of thousands of concealment sites constructed, STEALTH® Concealment Solutions, Inc. has determined that the type and placement of materials used for screening antennas play a vital role in their performance. All STEALTH® concealment panels allow for superior antenna signal transmission compared to fiberglass without the durability problems of fiberblowing or cracking over time. STEALTH® panels are engineered and manufactured to become part of the existing structure and withstand extreme weather conditions while maintaining their original appearance.

APPLICATIONS STEALTH® SSV panels can be used to manufacture a variety of rooftop and tower type concealment products including screenwalls, wall replacements, side mounted boxes, clock towers, and bell towers. The panel can be factory textured to match most existing architectural appearances, such as brick, stucco, aggregate, split face block, as well as custom applications.

RECOMMENDED FREQUENCIES STEALTH® generally recommends SSV panels for frequencies up to 7GHz. However, they perform well for certain application types. STEALTH® has insertion loss lab testing for the SSV panels up to 100 GHz at multiple incidence angles and textures. Test results for specific applications are available upon request.

SIZES AVAILABLE STEALTH® SSV panels are available in 4' x 8', 4' x 10', 4' x 12', 5' x 8' and 5' x 10' standard sizes. Custom sizes are available upon request. Nominal panel thickness is 2.1875". Panel weight is 1.4 lb/sf for a smooth/painted texture.

PHYSICAL PROPERTIES STEALTH® SSV panels are manufactured with a sandwich panel geometry. ABS plastic skins are laminated to a extruded polystyrene core using an ICBO approved adhesive. Physical performance properties of the skins and core are listed to the right.

FABRICATION/INSTALLATION STEALTH® SSV panels can be fabricated into various sizes and bent into corner panels and other shapes including radius applications. Due to the critical design aspects of many of its applications, STEALTH® recommends that qualified designers or consultants design a total concealment system to support the panels.

AVAILABILITY STEALTH® maintains inventory of SSV panels and has custom manufacturing capability in its facilities in California and South Carolina. Please contact us at (843) 207-8000 for sales information.

TECHNICAL SERVICES STEALTH® can provide technical information and support to address questions when using SSV panels. Technical personnel are available via telephone at (843) 207-8000.

PHYSICAL PERFORMANCE PROPERTIES OF ABS SKINS			
PROPERTY	UNITS	TEST METHOD	RESULT
Specific Gravity	-	ASTM D-792	1.03
Water absorption (Saturated at 23C)	%	ASTM D-570	1.03
Rockwell Hardness	-	ASTM D-785	95
Tensile Modulus (73F)	psi	ASTM D-638	290,000
Tensile Strength, Yield (73F)	psi	ASTM D-638	6240
Tensile Strength Break (73F)	psi	ASTM D-638	4790
Elongation, Yield (73F)	%	ASTM D-638	3.5
Flexural Modulus (73F)	psi	ASTM D-790	297,000
Flexural Strength (73F)	psi	ASTM D-790	9570
Flammability Rating	-	UL94	HB

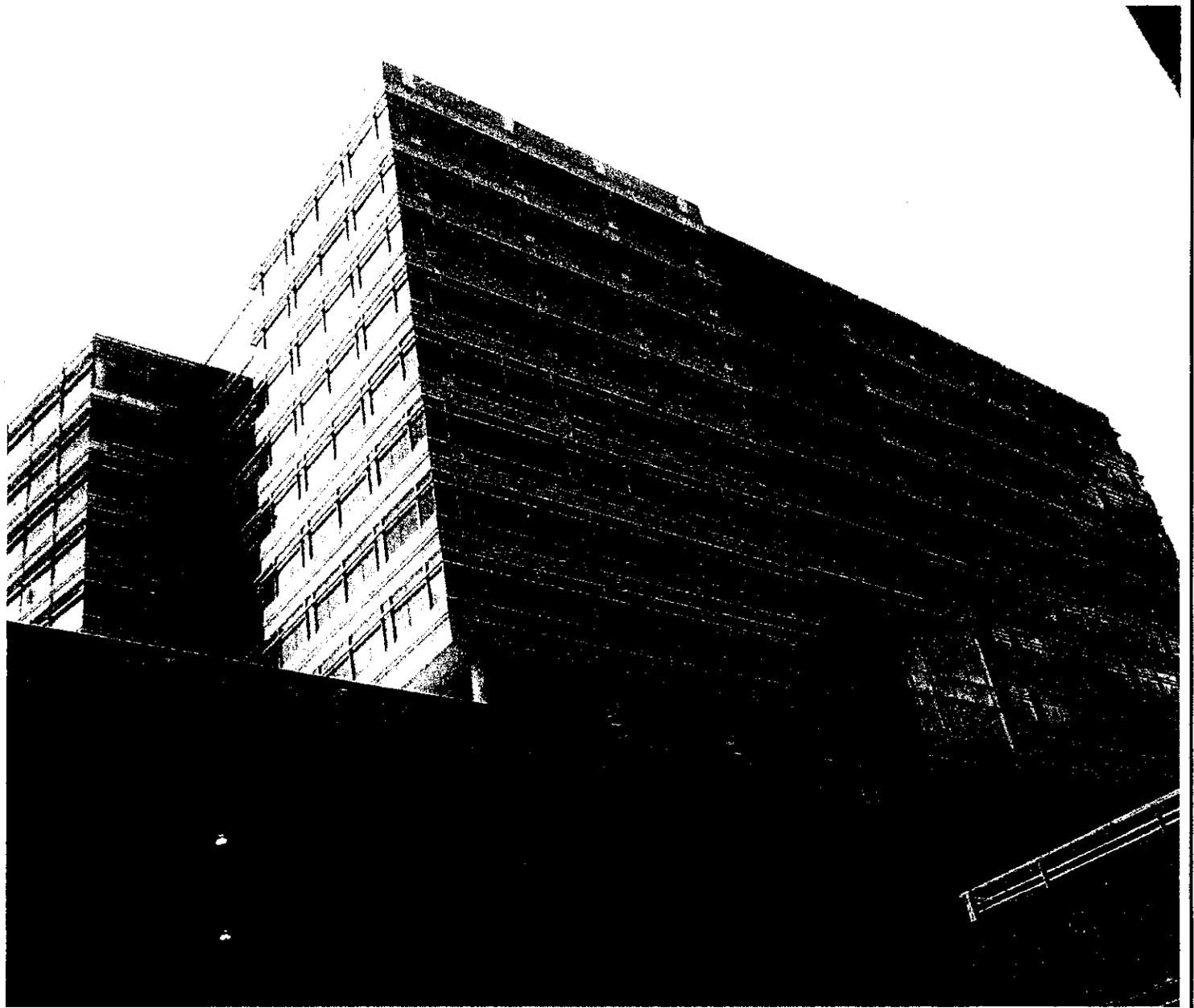
PHYSICAL PERFORMANCE PROPERTIES OF EXTRUDED POLYSTYRENE CORE			
PROPERTY	UNITS	TEST METHOD	RESULT
Density	lb/ft ³	ASTM D 1622	1.5
Compressive Strength	lb/in ²	ASTM D1621	20
Tensile Strength	lb/in ²	ASTM D1623	50
Shear Strength	lb/in ²	ASTM C273	25
Shear Modulus	lb/in ²	ASTM C273	330
Flexural Strength	lb/in ²	ASTM C203	50
Flexural Modulus	lb/in ²	ASTM C203	1600
Water Absorption	% by vol.	ASTM C272	.5
R-Value per Inch	F·ft ² -h/Btu	ASTM C518	5.0
Surface Burning Characteristics (Flame Spread/Smoke Developed)	-	ASTM E84	15/165

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STEALTH®
FIRST IN CONCEALMENT

STEALTH Concealment Solutions, Inc.
6549 Fain Boulevard, North Charleston, South Carolina 29406
toll-free 800.755.0689 www.stealthsite.com

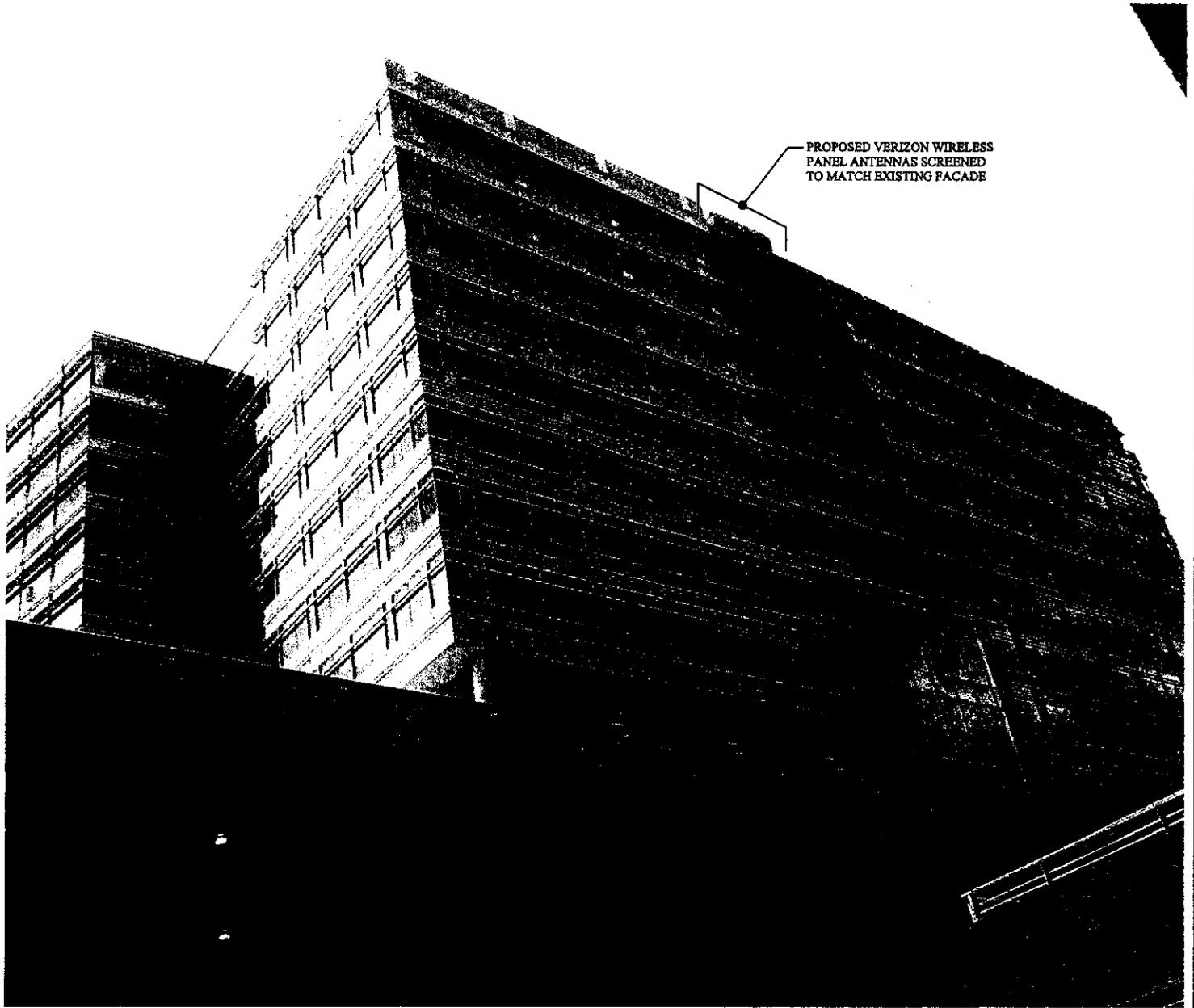


**MORRIS & RITCHIE
ASSOCIATES, INC.**
1220-C East Joppa Road, Suite 505
Towson, Maryland 21286
410-821-1690
410-821-1748 Fax

Reston Town Center
Existing North East Elevation

16 November, 2011





PROPOSED VERIZON WIRELESS
PANEL ANTENNAS SCREENED
TO MATCH EXISTING FACADE



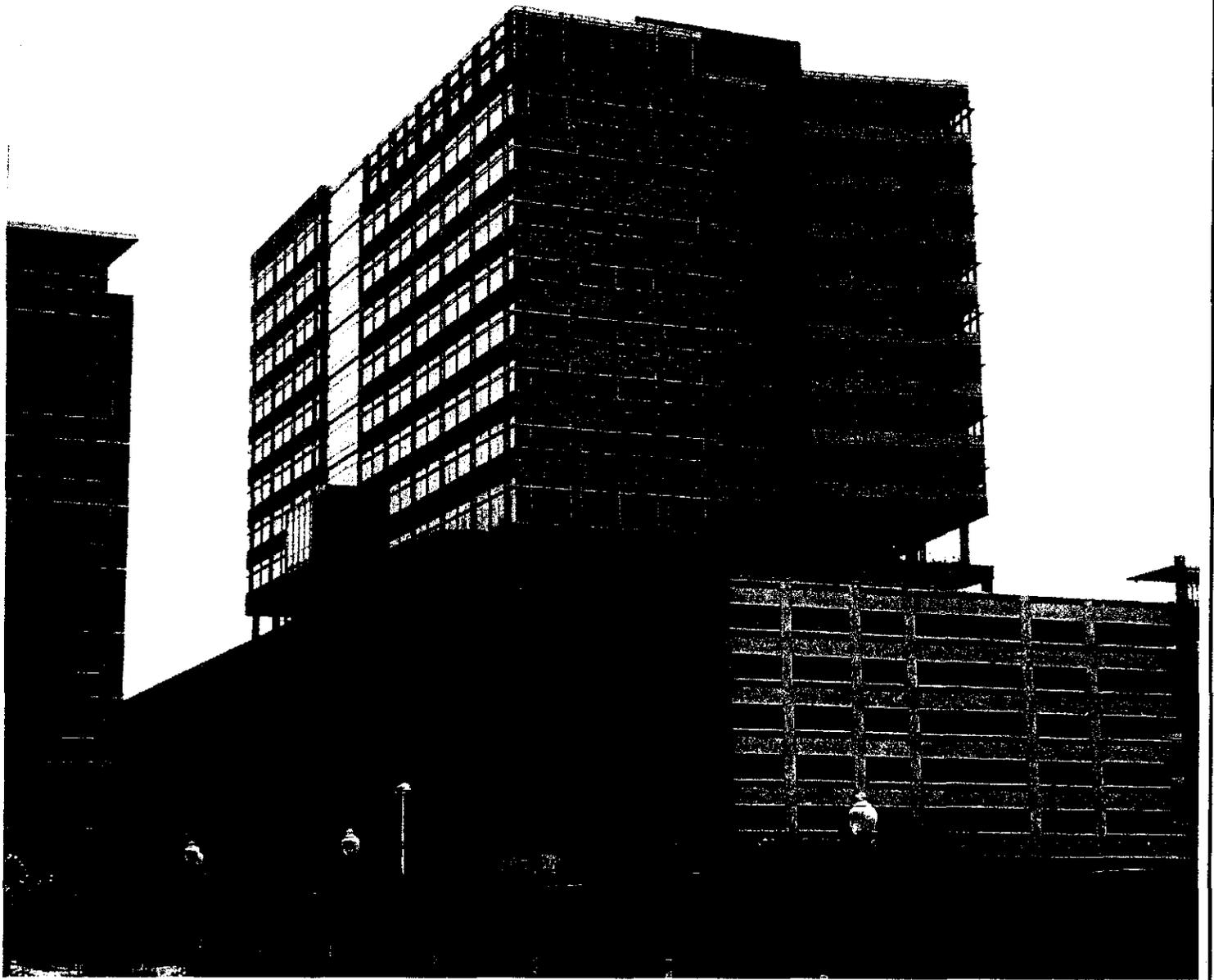
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Reston Town Center

Proposed North East Elevation



16 November, 2011



**MORRIS & RITCHIE
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1228-C East Joppa Road, Suite 505
Towson, Maryland 21286
410-821-1698
410-821-1748 Fax

Reston Town Center
Existing North West Elevation

16 November, 2011





PROPOSED VERIZON WIRELESS
PANEL ANTENNAS SCREENED
TO MATCH EXISTING FACADE

PROPOSED VERIZON WIRELESS
PANEL ANTENNAS SCREENED
TO MATCH EXISTING FACADE

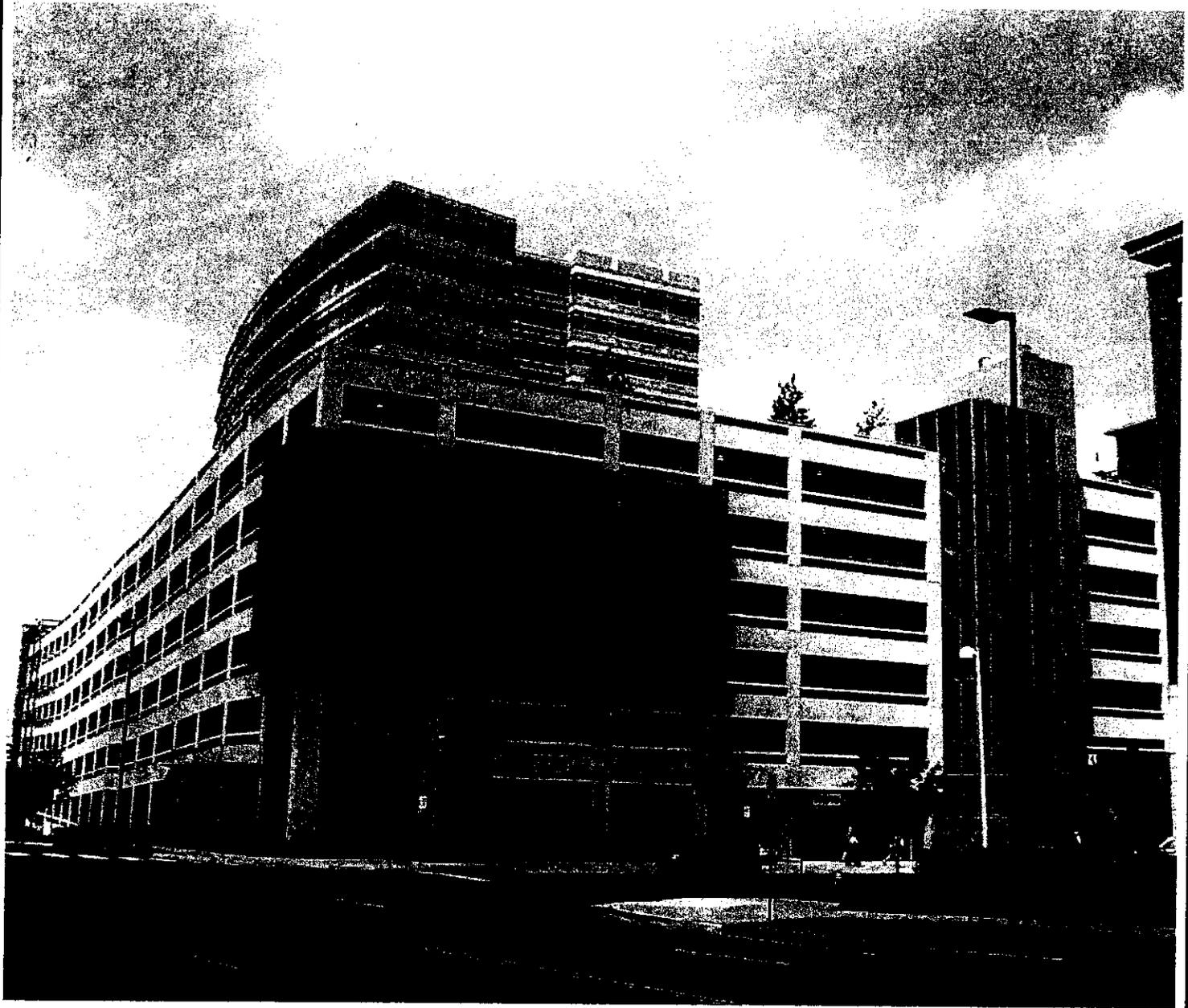
Reston Town Center Proposed North West Elevation



**MORRIS & RITCHIE
ASSOCIATES, INC.**
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Towson, Maryland 21286
410-821-1690
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16 November, 2011



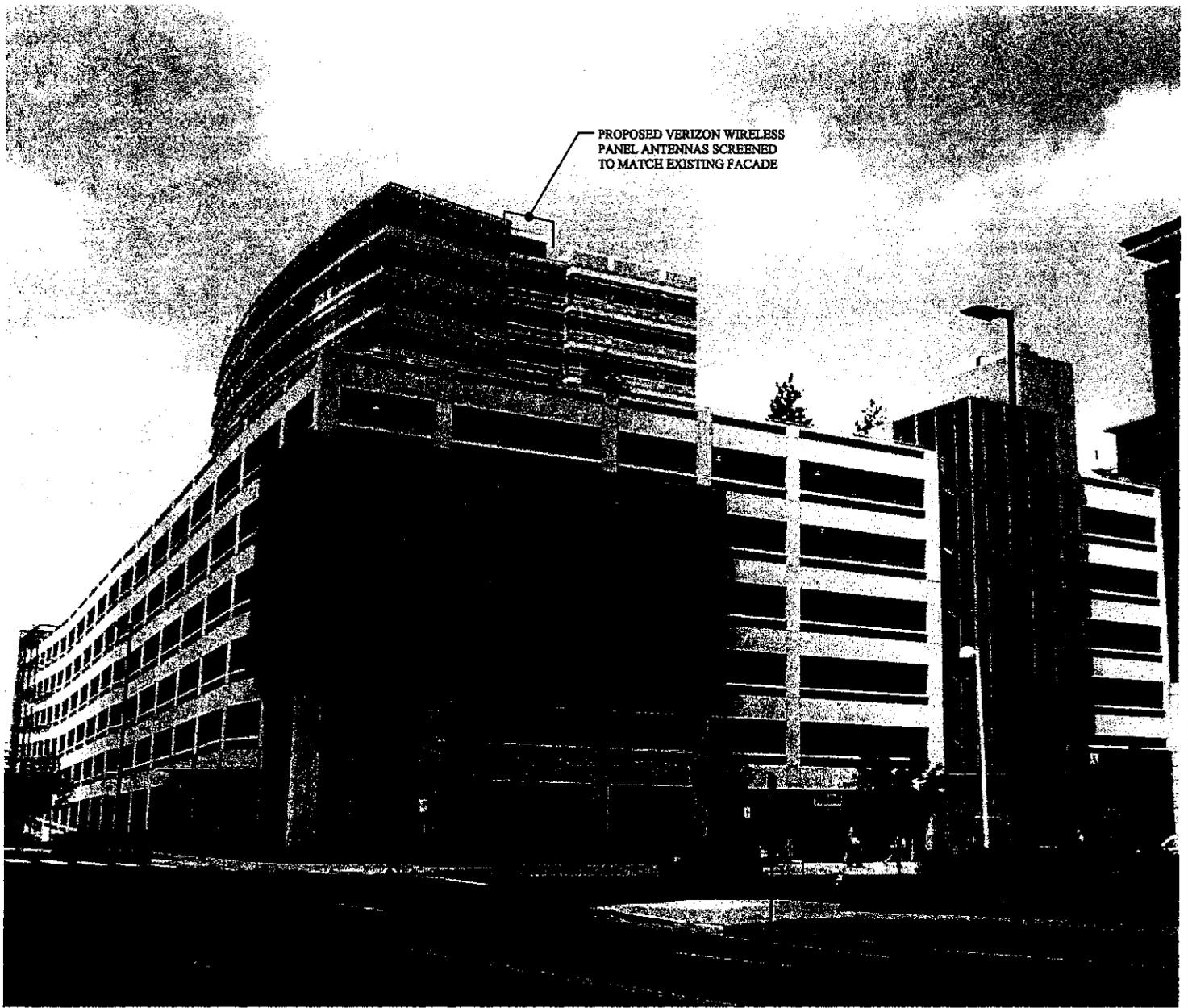
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Reston Town Center

Existing East Elevation



16 November, 2011



PROPOSED VERIZON WIRELESS
PANEL ANTENNAS SCREENED
TO MATCH EXISTING FACADE

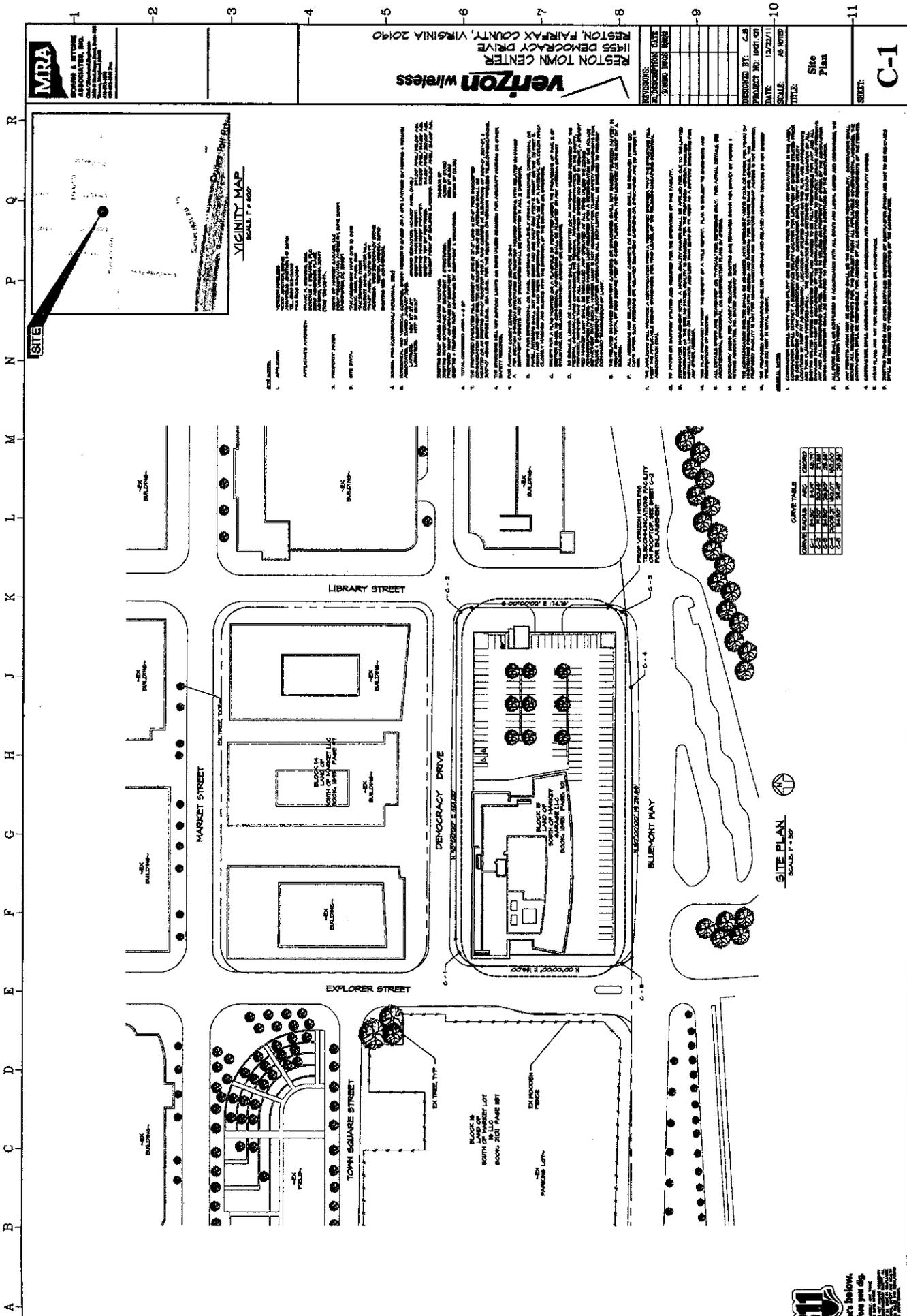


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Reston Town Center Proposed East Elevation



16 November, 2011



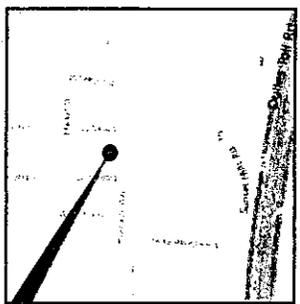
MIRANDA A. RYAN
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 RESTON, VA 20190
 TEL: 703.441.1111
 FAX: 703.441.1112
 WWW.MIRAVIRAL.COM

verizon wireless
 RESTON TOWN CENTER
 1155 DEMOCRACY DRIVE
 RESTON, FAIRFAX COUNTY, VIRGINIA 20190

DESIGNED BY: MIRA
 PROJECT NO.: 1001-01
 DATE: 12/27/11
 SCALE: AS SHOWN
 TITLE: Site Plan

PROJECT NO.: 1001-01
 DATE: 12/27/11
 SCALE: AS SHOWN
 TITLE: Site Plan

SHEET: C-1



- NOTES:**
1. ALL UTILITIES SHOWN ARE BASED ON RECORD DRAWINGS AND FIELD SURVEY DATA. THE CLIENT SHALL VERIFY THE LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO CONSTRUCTION.
 2. THE CLIENT SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE LOCAL GOVERNMENT AND UTILITIES COMPANIES.
 3. THE CLIENT SHALL MAINTAIN ACCESS TO ALL ADJACENT PROPERTIES AT ALL TIMES.
 4. THE CLIENT SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING TREES AND LANDSCAPE FEATURES.
 5. THE CLIENT SHALL MAINTAIN THE EXISTING CURBS AND SIDEWALKS.
 6. THE CLIENT SHALL BE RESPONSIBLE FOR THE INSTALLATION AND MAINTENANCE OF ALL SIGNAGE.
 7. THE CLIENT SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING UTILITIES.
 8. THE CLIENT SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING TREES AND LANDSCAPE FEATURES.
 9. THE CLIENT SHALL MAINTAIN ACCESS TO ALL ADJACENT PROPERTIES AT ALL TIMES.
 10. THE CLIENT SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE LOCAL GOVERNMENT AND UTILITIES COMPANIES.

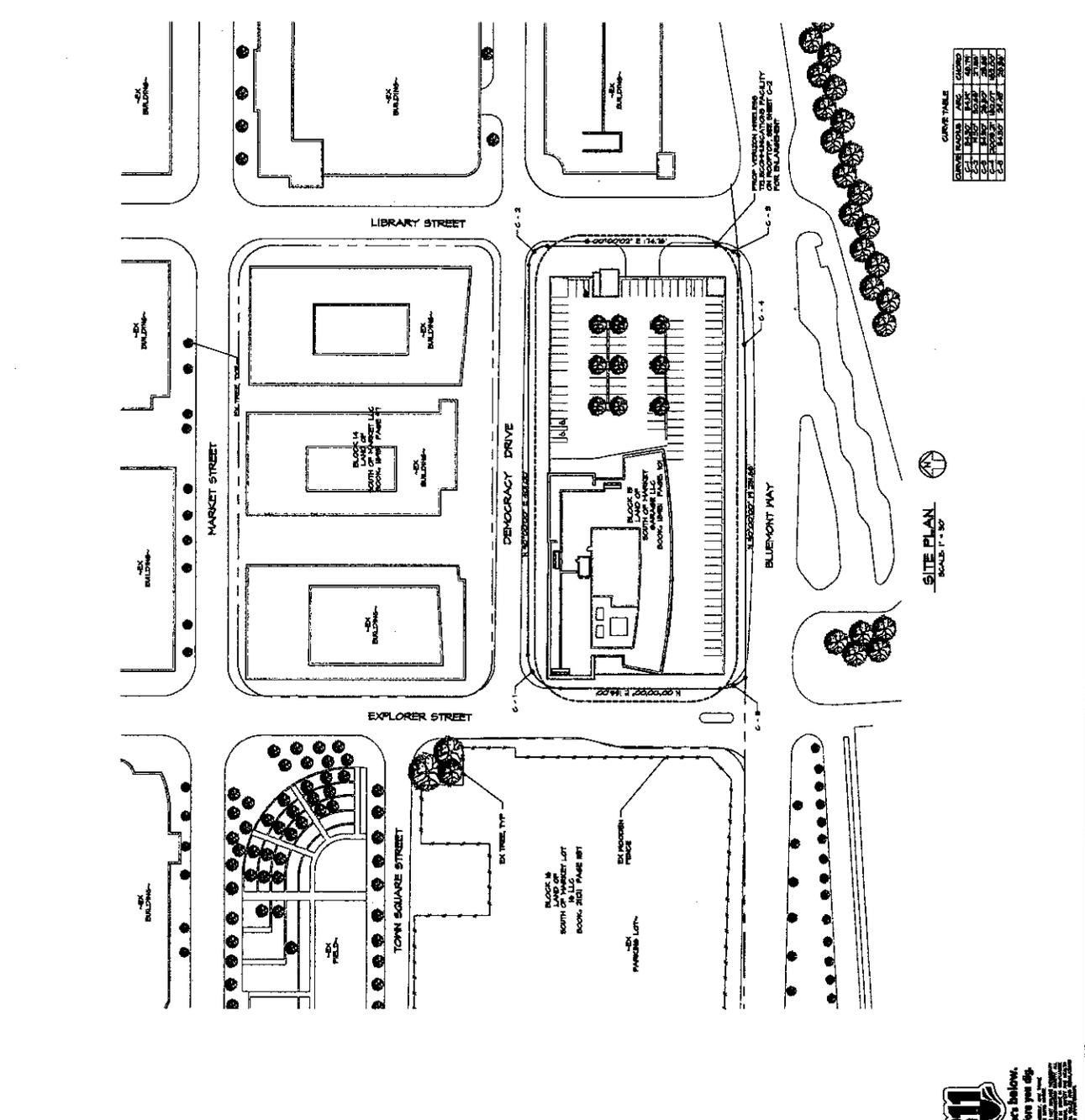
GENERAL NOTES:

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CURVE TABLE

CHORD BEARS AND CURVE DATA	CHORD BEARS				
100.00	100.00	100.00	100.00	100.00	100.00
100.00	100.00	100.00	100.00	100.00	100.00
100.00	100.00	100.00	100.00	100.00	100.00
100.00	100.00	100.00	100.00	100.00	100.00
100.00	100.00	100.00	100.00	100.00	100.00
100.00	100.00	100.00	100.00	100.00	100.00

NOTE: THE CLIENT SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE LOCAL GOVERNMENT AND UTILITIES COMPANIES.



Know what's below.
 Call before you dig.
 811

811
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 Call before you dig.
 811

