

REPORT TO THE BOARD OF APPEALS SPECIAL EXCEPTION REQUEST DOCKET #1315

SUMMARY OF REQUEST:

- Proposed Activities:** Use # 4.06.300 – Telecommunications tower more than 50 feet tall (199' monopole and an approximate 11'-7" x 16'-0" equipment shelter, within a 50' x 50' 8' high chain-link fenced compound).
- Total Area of Site:** 40.76 +/- Acres
- Total Area Disturbed:** Approximately 2,500 Square Feet (50' x 50' compound) as well as a 12' wide gravel access road, which will be utilized to gain access to the site off of Pisgah Marbury Road.
- Location of Site:** The location of the project site, known as "Bicknell" is accessed off of Pisgah Marbury Road in Marbury, Maryland, nearby the Gail Bailey Elementary School. The property is designated as Tax Map 20, Grid 22, Parcel 119, and is located in the Rural Conservation (RC) Zone. (See Aerial, Location, and Zoning Maps).
- Tax ID Information:** 10-000157
- Property Owner:** Mr. William T. Devane & Mrs. Cynthia N. Devane
P.O. Box 323
Marbury, Maryland 20658
- Applicant:** **Verizon Wireless**
c/o Hillorie Morrison – Zoning Specialist
9305 Gerwig Lane, Suite M
Columbia, Maryland 21046
- Zoning:** RC, Rural Conservation
- Meeting Date:** February 25, 2014

SUMMARY OF ISSUES:

The following is a discussion of specific issues identified by Staff for consideration by the Board of Appeals. The minimum standards for Use # 4.06.300 are established within Article XIII §297-212 of the Charles County Zoning Ordinance. The principle issue is whether the proposed use is appropriate for the subject site, the surrounding neighborhood, and consistent with the requirements of the Zoning Ordinance.

NEED FOR SPECIAL EXCEPTION:

According to the current ordinance, the proposal as detailed in the application would require a Special Exception in the RC –Rural Conservation, Zone in accordance with Figure IV-1 Table of Permissible Uses, Use #4.06.300 – Telecommunications tower more than 50 feet tall.

MINIMUM ZONING REQUIREMENTS:

In order to be conforming with the current ordinance, the proposed tower must be located on the property in such a way that it meets all the minimum requirements as found in the RC – Rural Conservation, Zone; standards set forth in Article XXV, §297-415 on Special Exceptions; the applicable minimum standards in Article XIII, §297-212; and, any performance guarantees and conditions imposed by the Board.

DESCRIPTION OF PROPERTY:

The location of the project site, known as "Bicknell" is accessed off of Pisgah Marbury Road in Marbury, Maryland, nearby the Gail Bailey Elementary School. The property is designated as Tax Map 20, Grid 22, Parcel 119, and is located in the Rural Conservation (RC) Zone. The subject property is approximately 40.76 acres. There are two barns existing on-site. No residential dwelling units are located on the subject property. The owners William and Cynthia Devane live on an adjacent parcel. Wireless is proposing to erect the 199' monopole telecommunications tower on the northwestern corner of the property adjacent to Pisgah Marbury Road. The proposed 50' x 50' fenced compound will be made accessible by a proposed 30' wide access and utility easement, including a 12' wide gravel access road, which will access off of Pisgah Marbury Road across from the Gail Bailey Elementary School.

IMPACT ON SURROUNDING USES:

The character of the surrounding neighborhood consists of areas of mature heavily wooded forest cover and numerous residentially developed properties located to the east and west of this property. Additionally the Gail Bailey Elementary School neighbors the property and is located within several hundred feet across Pisgah Marbury Road. (See Aerial Map and Conceptual Site Plan).

The proposed 199' Verizon Wireless monopole tower and associated 11'-7" x 16'-0" equipment shelter will be located within a 50' x 50' (2,500 square foot) fenced-in area, which is proposed to be located in the northwestern corner of the approximately 40.76 acre property and will be accessed via a proposed 30' access and utility easement onto Pisgah Marbury Road.

USE SPECIFIC ANALYSIS:

The Applicant, Verizon Wireless (VZW), is seeking approval of a Telecommunications tower more than 50 feet tall, Use # 4.06.300. The facility will allow VZW to provide reliable voice and data services to its customers who work, travel, and live in the surround area. The telecommunications facility will be comprised of a 199' tall monopole tower with four (4) RAD Centers. The proposed Verizon Wireless (VZW) RAD Center will be located at a height of 195'. At this time twelve (12) antennas are proposed. Additional RAD Center locations for at least three (3) additional future co-location carriers will be provided at 185', 175', and 165' respectively. Verizon's statement that the proposed monopole tower, equipment shelter, and compound will accommodate several co-location carriers in the future has been verified on the provided engineering drawings reviewed by the RCC Consultant, Mr. Gary Whitley.

The telecommunications facility will be located within a fenced-in compound approximately 50' x 50' in size. An 11'-7" x 16'-0" equipment shelter will be located within this compound. The 50' x 50' area will be fenced-in by an 8' tall chain-link fence and a 12'-0" wide access gate. The chain-link fence encircling the compound will have 3 strands of barbed wire at its peak. The facility will be accessed by authorized personnel via a proposed 30' wide access and utility easement, including a 12' wide gravel access road, connecting to Pisgah Marbury Road, as illustrated on the provided Conceptual Site Plan.

PRELIMINARY FINDINGS:

The request for Special Exception #1289 was evaluated based upon the standards set forth in Article XXV Section 297-415 (H) and Use #4.06.300 of the *Charles County Zoning Ordinance*. Findings of the Staff have been annotated in *italics*. This use

- i. Will not be detrimental to or endanger the public health, safety, and general welfare.

Staff Finding: *The proposed use will not be detrimental to or endanger the public health, safety, and general welfare as the proposed tower will be required to be designed in accordance with current building code and engineering standards, and will meet the required setbacks from property lines and dwellings as required under Section 297-212 of the Zoning Ordinance. Per the Applicant, "The use will be operated in accordance with FCC and FAA requirements and will further provide wireless telecommunications services which will enhance the public health, safety and general welfare by providing effective communication services to the area to be served".*

- ii. Is a Permissible Special Exception in the Zone.

The subject property is Zoned RC, Rural Conservation, and the requested use of a telecommunications tower more than 50 feet tall (Use # 4.06.300) is permitted by Special Exception in the RC, Rural Conservation, Zone.

- iii. Will not be detrimental to the use, peaceful enjoyment, economic value or

development of surrounding properties or the general neighborhood.

Staff Finding: *The proposed tower will not be detrimental to the use, peaceful enjoyment, economic value or development of surrounding properties or the general neighborhood. Little to no impact is envisioned to be imposed upon the residencies / properties neighboring the proposed tower. Per the Applicant, "The facility is to be located on a very large property, which is screened by significant woods on several sides and is remote from adjoining properties and development. The use is passive and will be located on a very small portion of the property. The site will be visited approximately four (4) times per year by VZW technicians driving a small SUV type vehicle, in the nature of a "Chevy Blazer".*

- iv. Complies with the Standards and Requirements set forth in Article XIII.

Staff Finding: *The proposed use complies with the Standards and Requirements set forth in Article XIII for this use.*

- v. Will cause no objectionable impact from traffic, noise, type of physical activity, fumes, odors, dust or glare.

Staff Finding: *The proposed use will not cause an impact on traffic nor cause objectionable noise, type of physical activity, fumes, odors, dust or glare. Once construction is complete the site will un-manned except for a routine service/inspection visit by authorized personnel, in a non-commercial vehicle, approximately four (4) times per year. Per the Applicant, "There will be very little traffic to the site, and virtually no noise from the proposed use. The site is large and buffered by woods, and the facility will be far removed from other properties. The telecommunications equipment, generator, and the air conditioning unit will be located within and enclosed by the equipment shelter. A back-up generator will also be located at the facility, designed for use in case of failure of the generator located within the equipment shed. The only lighting provided will be that required by the FCC/FAA".*

- vi. Will provide adequate utilities, water, sewer or septic systems, access roads, storm drainage, and/or necessary public facilities and improvements. If a request requires an Adequate Public Facilities Review by the Charles County Planning Commission, such review shall be made a condition of the granting of the Special Exception by the Board.

Staff Finding: *The 50' x 50' facility compound will be accessed via a proposed 30' wide access and utility easement, including a 12' wide gravel access road, on-site. Per the Applicant, "Electricity is already provided to the site. The site will not be manned, and no water, sewer, or septic systems are necessary. Access is denoted on the site and APF review by the Planning Commission is not required".*

- vii. Will provide adequate ingress and egress and be so designed as to minimize traffic congestion on the public streets.

Staff Finding: *The proposed telecommunications cell tower site will be required to possess adequate ingress and egress on-site. Ingress and egress to the 50' x 50' facility compound will occur via the proposed 30' wide access and utility easement, which includes a 12' wide gravel access road, illustrated on the Conceptual Site Plan.*

Adequate ingress and egress to the site was reviewed by County staff members for compliance with Transportation related requirements pertaining to the access point onto Pisgah Marbury Road. At time of future Site Development Plan review applicable requirements associated with safe ingress and egress onto Pisgah Marybury Road will be confirmed prior to approval.

- viii. Is in accordance with the objectives of the Charles County Comprehensive Plan.

Staff Finding: *Community Planning Staff members reviewed the proposed use for compliance with the Comprehensive Plan's goals and objectives and found no non-conforming issues in which to comment on. The proposal complies with the Comprehensive Plan.*

- ix. Conforms to the Applicable Regulations of the zone in which it is located and to the Special Requirements established for the specific use.

Staff Finding: *The proposal conforms to the applicable regulations of the RC, Rural Conservation Zone and other special requirements established for the specific use.*

The request for Special Exception #1315 was evaluated based upon the standards set forth in Article XIII Section 297-212 and Use #4.06.300 of the *Charles County Zoning Ordinance*. Findings of the Staff have been annotated in *italics*. This use

- A. All structures shall be located at least 200 feet from an existing dwelling or residential zone.

Staff Finding: *Compliance with this requirement is verified on the Conceptual Site Plan. No existing dwellings or residential zones are located less than 200' feet from the structure. One location states that there is a 200 +/- separation between the structure and the adjacent residential zone. Confirmation of this distance will be verified at time of future Site Development Plan review and approval. Per the Applicant, "As shown on the site plan, the proposal meets this standard".*

- B. A minimum ten-foot landscape strip will be around all property lines exterior to any fence or wall.

Staff Finding: *The minimum ten-foot landscaping strip will be provided around the 50' x 50' fenced compound, as illustrated on Sheet C-2 of the Conceptual Site Plan. The Applicant is proposing that the landscaping strip be composed of Red Cedar trees. Eastern Red Cedars are an evergreen conifer and their inclusion would satisfy this provision. Per the Applicant, "As shown on the site plan, the proposal meets this standard".*

- C. Any proposed tower will have a setback of one foot from all property lines for every foot of height of the tower. Any broadcasting tower lawfully existing prior to the effective date of this chapter shall be exempt from the setback limitations imposed by this subsection and may be continued, structurally altered, reconstructed or enlarged, provided that no structural change, repair, addition, alteration or reconstruction shall result in increasing the height of such tower above the then-existing structurally designed height.

Staff Finding: *Per the Applicant's submitted Conceptual Site Plan this setback requirements have been satisfied. The proposed tower height is 199'. The closest adjacent property line, identified as the Virginia L. Price property on Sheet C-1, is 200' +/- from the base of the proposed tower location. Confirmation of this distance will be verified at time of future Site Development Plan review and approval. Other surrounding property lines are well in excess of the required 199' setback. Per the Applicant, "As shown on the site plan, the proposal meets this standard".*

- D. The application submitted by the applicant to the Board of Appeals shall include the following:

- (1) A system design plan that shall include, at a minimum, radio frequency parameters, tower height, number and location of antennas on the tower, radio frequency output, effective radiated power and azimuth antenna type.

Staff Finding: *This information has been provided within the Applicant's submittal materials. Per the Applicant, "The proposed 199' monopole will have Verizon Wireless antennas installed at an elevation of 195'. Twelve (12) antennas are proposed. There is room on the monopole and in the equipment compound for an additional three (3) wireless carriers".*

- (2) Coverage map of the area to be served by the proposed tower.

Staff Finding: *The requested "Before" and "After" coverage (propagation) maps have been provided within the Applicant's submittal materials. These "Before" and "After" coverage maps are included within the Staff Report materials for your reference.*

- (3) Coverage map showing coverage available under existing towers, towers proposed to be constructed for the county's public communication system and other appropriate structures.

Staff Finding: *The requested coverage maps have been provided within the Applicant's submittal materials. Per the Applicant, "A designation of the*

Search Area has been provided. There are no other existing towers or other appropriate structures in the area”.

- (4) An evaluation of the tower's relationship to other antenna sites, existing buildings taller than 50 feet and communications towers and water tanks within ½ mile of a proposed tower which is less than 150 feet tall and within one mile of a proposed tower which is greater than 150 feet tall.

Staff Finding:

Per the Applicant, “The FCC data base was consulted and a physical examination was undertaken. No such antenna sites, buildings taller than 50 feet or water tanks are located within the Search Area for the facility”.

Per the RCC Consultant, Mr. Gary M. Whitley, “Verizon has sufficiently searched the general area for potential alternative candidate towers or other structures that may already exist and have been unsuccessful in their search. RCC is in agreement with the results of their alternative site search”.

E. Co-location.

- (1) The applicant for a new communications tower shall demonstrate to the Board of Appeals that co-location on existing towers or other appropriate structures is not feasible. Feasibility shall be demonstrated by an analysis and explanation prepared by the applicant which identifies all reasonable, technically feasible, alternative locations and/or facilities which would provide the proposed communication service and a structural analysis indicating that no existing or proposed tower can be structurally modified to accommodate the applicant's use.

Staff Finding: *Per the Applicant, “The FCC data base was consulted and a physical examination was undertaken. No such antenna sites, buildings taller than 50 feet or water tanks are located within the Search Area for the facility”.*

Per the RCC Consultant, Mr. Gary M. Whitley, “Verizon has sufficiently searched the general area for potential alternative candidate towers or other structures that may already exist and have been unsuccessful in their search. RCC is in agreement with the results of their alternative site search”.

- (2) The intention of the alternatives analysis is to present alternative strategies which would minimize the number, size and adverse environmental and public safety impacts of facilities necessary to provide the needed services to the county. The analysis shall address the potential for co-location at an existing or a new site and the potential to locate facilities as close as possible to the intended service area. It shall also explain the rationale for selection of the proposed site in view of the relative merits of any of the feasible alternatives. Physical constraints and economic feasibility may be considered. Approval of the project is subject to the board making a finding

that the proposed site results in fewer or less severe environmental impacts than any feasible alternative site.

Staff Finding: *Verizon Wireless seeks to find co-location opportunities, where available and viable, in accordance with County policy, in order to avoid the proliferation of towers.*

Per the Applicant, "The FCC data base was consulted and a physical examination was undertaken. No such antenna sites, buildings taller than 50 feet or water tanks are located within the Search Area for the facility".

Per the RCC Consultant, Mr. Gary M. Whitley, "Verizon has sufficiently searched the general area for potential alternative candidate towers or other structures that may already exist and have been unsuccessful in their search. RCC is in agreement with the results of their alternative site search".

The proposed tower satisfies this requirement as it is designed to accommodate future co-location opportunities. Per the RCC Consultant, Mr. Gary M. Whitley, "Verizon has provided engineering drawings that demonstrate the structure will be designed to accommodate co-location of at least four additional carriers in the future. Verizon has not provided a Structural Analysis report to verify the future co-location design. Ultimately the Applicant will require a complete structural analysis with PE seal in order to obtain a building permit. The engineering drawings indicate that the fenced compound facility will be constructed with sufficient space to accommodate additional carrier structures for future co-locations. The proposed compound can effectively support four carriers within the land lease".

There is a discrepancy between Verizon's testimony and the RCC's findings. Verizon states that the monopole tower and equipment compound can accommodate an additional three (3) co-locations while the RCC Consultant, Gary Whitley, stated in his findings that the monopole tower and equipment compound are designed to accommodate co-location of at least four (4) additional carriers in the future. Staff recommends that Verizon Wireless clarify this discrepancy for the Board of Appeals members during the February 25, 2014 meeting.

(3) Co-location is not deemed possible if the Board finds that:

- (a) Planned equipment would exceed the structural capacity of existing and approved towers or towers proposed to be constructed for the county's public communications system considering existing and planned use of those towers, and such towers cannot be structurally modified or reinforced to accommodate planned or equivalent equipment at a reasonable cost;
- (b) Planned equipment will cause interference with other existing or planned equipment for the tower, and the interference cannot be prevented at a reasonable cost;

- (c) Existing, approved towers, or towers proposed to be constructed for the county's public communications system do not have space on which planned equipment can be placed so as to function effectively; or
- (d) Existing, approved towers, towers proposed to be constructed for the county's public communications system will not provide effective signal coverage sought by the applicant.

Staff Finding: *There are no existing or proposed towers, or existing structures from which the desired coverage can be provided.*

Per the Applicant, "The FCC data base was consulted and a physical examination was undertaken. No such antenna sites, buildings taller than 50 feet or water tanks are located within the Search Area for the facility.

Per the RCC Consultant, Mr. Gary M. Whitley, "Verizon has sufficiently searched the general area for potential alternative candidate towers or other structures that may already exist and have been unsuccessful in their search. RCC is in agreement with the results of their alternative site search".

- F. The tower shall be constructed so as to provide adequate capacity for future co-location of other commercial and/or government-operated antennas, unless the applicant demonstrates why such design is not economically or physically feasible. The system design plan shall delineate an area near the base of the tower to be used for the placement of additional equipment buildings for other users.

Staff Finding: *The proposed monopole tower satisfies this requirement as it is designed to accommodate future co-location opportunities for other carriers. In total Verizon Wireless intends to provide twelve (12) antennas, at the 195' level, specifically for Verizon Wireless telecommunications. The monopole tower however will also accommodate at least three (3) additional antenna locations at heights of 185', 175', and 165'.*

Per the RCC Consultant, Mr. Gary M. Whitley, "Verizon has provided engineering drawings that demonstrate the structure will be designed to accommodate co-location of at least four additional carriers in the future. Verizon has not provided a Structural Analysis report to verify the future co-location design. Ultimately the Applicant will require a complete structural analysis with PE seal in order to obtain a building permit. The engineering drawings indicate that the fenced compound facility will be constructed with sufficient space to accommodate additional carrier structures for future co-locations. The proposed compound can effectively support four carriers within the land lease".

There is a discrepancy between Verizon's testimony and the RCC's findings. Verizon states that the monopole tower and equipment compound can accommodate an additional three (3) co-locations while the RCC Consultant, Gary Whitley, stated in his findings that the monopole tower and equipment compound are designed to accommodate co-location of at least four (4) additional carriers in the future. Staff recommends that Verizon Wireless clarify this discrepancy for the Board of Appeals members during the February 25, 2014 meeting.

- G. The applicant shall submit a master plan for its proposed communications network for the entire county. The Department of Planning and Growth Management shall adopt a policy outlining the submittal requirements for such a master plan.

Staff Finding: *Verizon Wireless agrees to comply with County requirements regarding a Master Plan.*

- H. The applicant shall demonstrate that the proposed tower will not interfere with existing lines of communication used for public safety purposes.

Staff Finding: *Verizon Wireless submitted a September 25, 2013, dated letter from Mr. Paul Dugan, P.E., with Millennium Engineering, P.C. for review and approval by the RCC Consultant. Mr. Dugan provided the following summary, "The proposed communications facility will not cause any disruptive interference with any transmitter or receiver that will co-exist at, on or near the same communications structure. Any interference to the Charles County public safety communications systems as a result of the proposed Verizon Wireless antenna system will be resolved at the sole expense of Verizon Wireless". Per the Applicant, "The tower is not in proximity to any such lines of communication".*

Per the RCC Consultant, Mr. Gary M. Whitley, "Verizon has included a statement that the proposed tower is not in proximity to any such lines of communication. Although it is unlikely that the proposed Verizon system will cause interference with public safety communications, RCC recommends that the County obtain a statement from Verizon that any interference to Public Safety communications systems, as a result of the proposed tower or antenna systems attached to the tower, will be resolved at the sole expense of Verizon".

The RCC has reviewed the Microwave paths utilized by the County for inter-connections of the 800 MHZ radio sites, and has determined that the proposed tower will not physically block these paths".

Within correspondence dated October 25, 2013, Mr. Whitley with the RCC stated, "The RFI and EMF letters provided by Millennium Engineering are acceptable".

Correspondence received from Millennium Engineering, P.C. is included within the Staff Report materials for your reference.

- I. No signals, lights or illumination shall be permitted on the tower unless required by the Federal Communications Commission (FCC), the Federal Aviation Administration (FAA) or the County.

Staff Finding: *Per notifications received from Federal Airways & Airspace (FAA), provided by Candice Koenig, the tower height of 199' is approved. For your reference copies of these notifications are included within your Staff Report materials.*

Per the RCC Consultant, Gary Whitley, "According to the FAA web site "Search Criteria Tool", the proposed Verizon site is proximity to a navigation facility.

Therefore, Verizon must file a notification with the FAA and obtain a letter of determination of non-obstruction.

Verizon provided a document from Federal Airways & Airspace stating that FAA Notice is not required.

Given that we have conflicting documents, my recommendation is that Verizon provide correspondence from the FAA stating that the proposed site does not exceed the obstruction standards, and would not be a hazard to air navigation. (i.e. Determination of No Hazard to Air Navigation)”.

- J. No commercial advertising or other signage shall be permitted on the tower.

Staff Finding: *Verizon Wireless agrees to comply with this requirement. Only appropriate danger / warning signage, required by law, are permissible.*

- K. The applicant shall demonstrate that a tower shall not unreasonably interfere with the view of, or from, sites of significant public interest such as a public park, a state-designated scenic road, a structure on the historic sites surveyor or an historic district.

Staff Finding: *Within the Applicant's submittal documents they have provided Before-and-After Photo-simulations of the proposed site from surrounding locations to illustrate the proposed 199' monopole tower's visibility once erected from several properties surrounding the site, including Gail Bailey Elementary School. These Photo-simulations are included within the Staff Report materials.*

Per the Applicant, "The property is large and site remote and screened by trees. NEPA / SHPO evaluations and photo-simulations have been provided. No unreasonable interferences is occasioned". On December 18, 2013, a submission was made by Mr. Steven P. Resnick which details their findings related to "Historic Preservation". This submission included findings from Ms. Maureen McDougall, Architectural Historian, regarding the nearby Hetty and Tom Wright House and Marbury Historic District. Ms. McDougall found that the 199' monopole will have no adverse effect on either site. A copy of this December 18, 2013 letter is included within the Staff Report materials.

Per the findings of the Maryland Historical Trust, dated 7/31/13, no historic properties are in the area of potential effects.

Charles County Community Planning staff members reviewed the proposed tower location and have the following findings to offer in regards to Historic Preservation:

- Per Item K of 4.06.300 of the Charles County Zoning Ordinance for towers more than 50 feet tall, applicants shall demonstrate that a tower shall not unreasonably interfere with the view of, or from, sites of significant public interest such as a public park, a state-designated scenic road, a structure on the historic sites survey or an historic district.

- The recent balloon test conducted by Verizon Wireless demonstrated that the tower will be visible from the Hetty and Tom Wright House (CH-763), a cultural resource of concern for Charles County.
- The Hetty and Tom Wright House was constructed around 1906 and is an excellent example of vernacular Queen Anne architecture in Charles County. The interior is exceptionally well-preserved featuring original woodwork and finish throughout.
- The site is considered significant for its association with the development of the village of Marbury. Marbury was located along the road to the County seat of La Plata and was established as a result of the opening of the Naval Proving Ground in Indian Head. Indian Head was a major employer in Charles County which had been economically depressed since the end of the Civil War. Although not architecturally sophisticated, the Hetty and Tom Wright House is a well-preserved example of a significant period in Charles County's development. Access to the Indian Head Proving Ground from Marbury was through a footbridge constructed across Mattawoman Creek to allow workers to cross.
- CH-763 was recommended as a National Register eligible site in the Phase VI Final Survey Report of the Charles County Historic Sites Survey completed by Planning and Growth Management in September 2007.
- While the tower will be visible from the Hetty and Tom Wright House, the impact is low, and does not warrant any further mitigation.

L. All obsolete or unused facilities shall be removed within 12 months of cessation of operations without cost to the county.

Staff Finding: *The abandonment of towers, as induced by obsolescence, results in potential adverse effects to the public. They are unsafe to the public, due to cessation of maintenance and surveillance, and contribute to adverse visual impact, thereby resulting in incompatibility with surrounding communities and landscapes. Verizon Wireless agrees to comply with this requirement.*

M. No tower or fixture attached thereto shall be taller than 300 feet above existing grade.

Staff Finding: *Verizon Wireless agrees to comply with this requirement. The proposed tower will possess a height of 199'.*

ENVIRONMENTAL IMPACTS:

Staff Finding: *The Applicant, Verizon Wireless, was required to submit a National Environmental Policy Act (NEPA) Study in order to demonstrate that the proposed 199' tower and associated co-located wireless communications systems will have no proposed negative impacts upon the environment. In response to this requirement,*

the Applicant submitted detailed documentation from Nicole Jordan with the TRILEAF Corporation, dated October 9, 2013, which determined that no negative impacts upon the environment were directly identified to be caused by the proposed 199' telecommunications tower site. NEPA Topics included potential impacts on wilderness areas, wilderness preserves, protected areas, archaeological and historical resources, Indian religious sites, floodplains, and surface features. The RCC Consultant, Gary Whitley, did not have any questions or concerns on the NEPA Study.

A copy of the full NEPA findings, provided by TRILEAF Corporation are included with the Staff Report materials for your reference.

STAFF RECOMMENDATIONS:

Planning Staff recommends that Docket #1315 be approved with the following **Conditions of Approval**, for the purpose of adequately and completely addressing the requirements of the *Zoning Ordinance*:

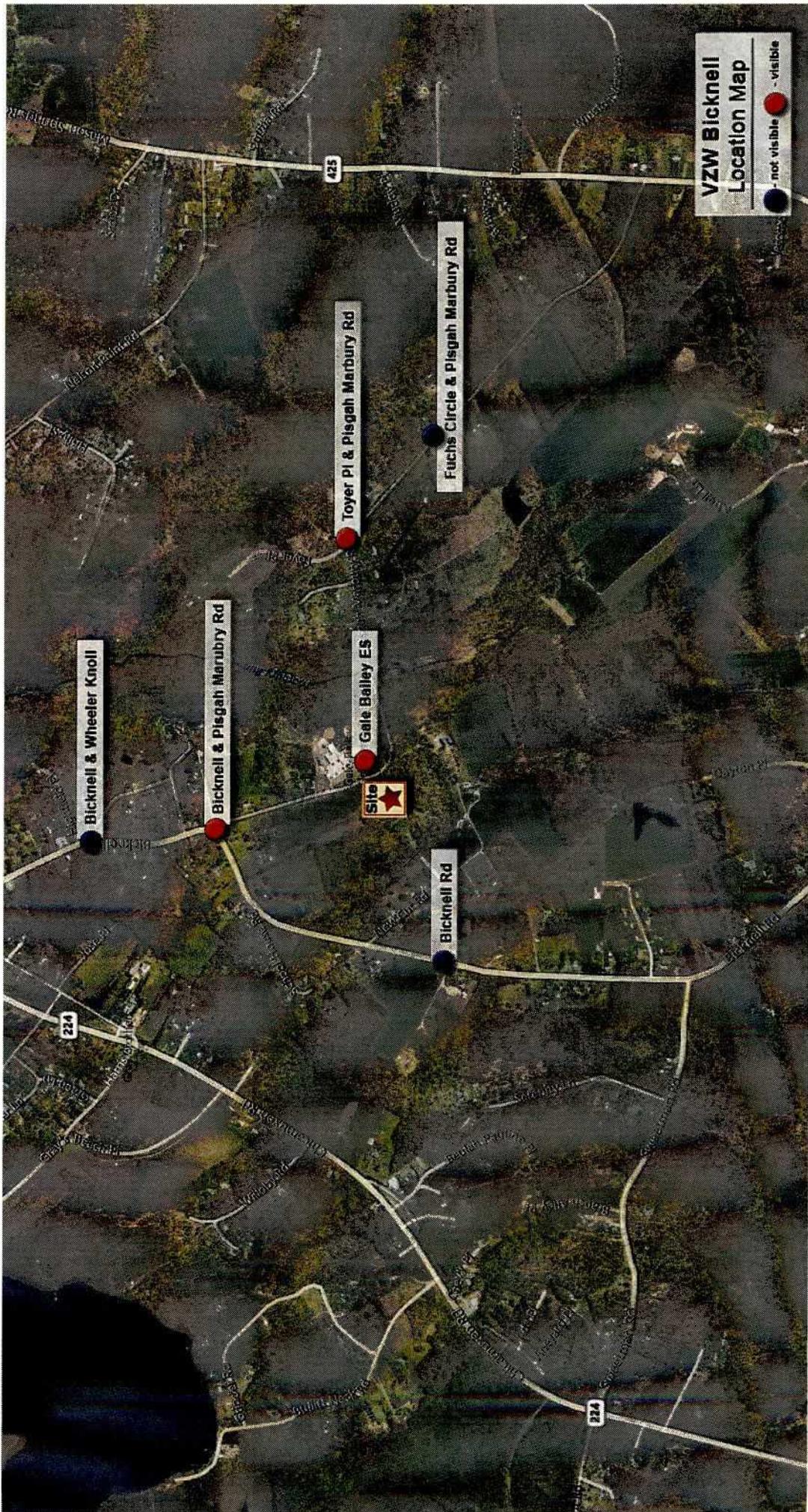
- 1) The Applicant will provide a structural analysis with the final building permit application to confirm that the proposed structure is capable of supporting the proposed and speculative antenna loads. RCC will review the design at that time, prior to issuance of the building permit.
- 2) Verizon Wireless will provide a statement, at time of Site Development Plan, which states that any interference to Public Safety communications systems, as a result of the tower or antenna system, will be resolved at the sole expense of Verizon Wireless.
- 3) At time of Site Development Plan, Verizon Wireless is required to provide correspondence from the FAA stating that the proposed site does not exceed the obstruction standards, and would not be a hazard to air navigation. (i.e. Determination of No Hazard to Air Navigation).
- 4) The approved tower, antennas and ground support equipment, or future installation of any additional ground equipment and/or antennas, shall require the approval by the Department of Planning and Growth Management of a Site Development Plan and Building Permit, consistent with the requirements of the *Charles County Zoning Ordinance* and other applicable County regulations, and demonstrating continued conformance with the approved Special Exception.
- 5) Any future changes in height to the tower shall require approval, by the Board of Appeals, of a Modification to this Special Exception.
- 6) The approval and continued effect of this Special Exception is contingent upon compliance with all applicable County, State, and Federal regulations, including, but not limited to, the following local regulations: Charles County Zoning Ordinance, Grading and Sediment Control Ordinance, Road Ordinance, Storm Water Management Ordinance, Forest Conservation Ordinance, and Floodplain Ordinance

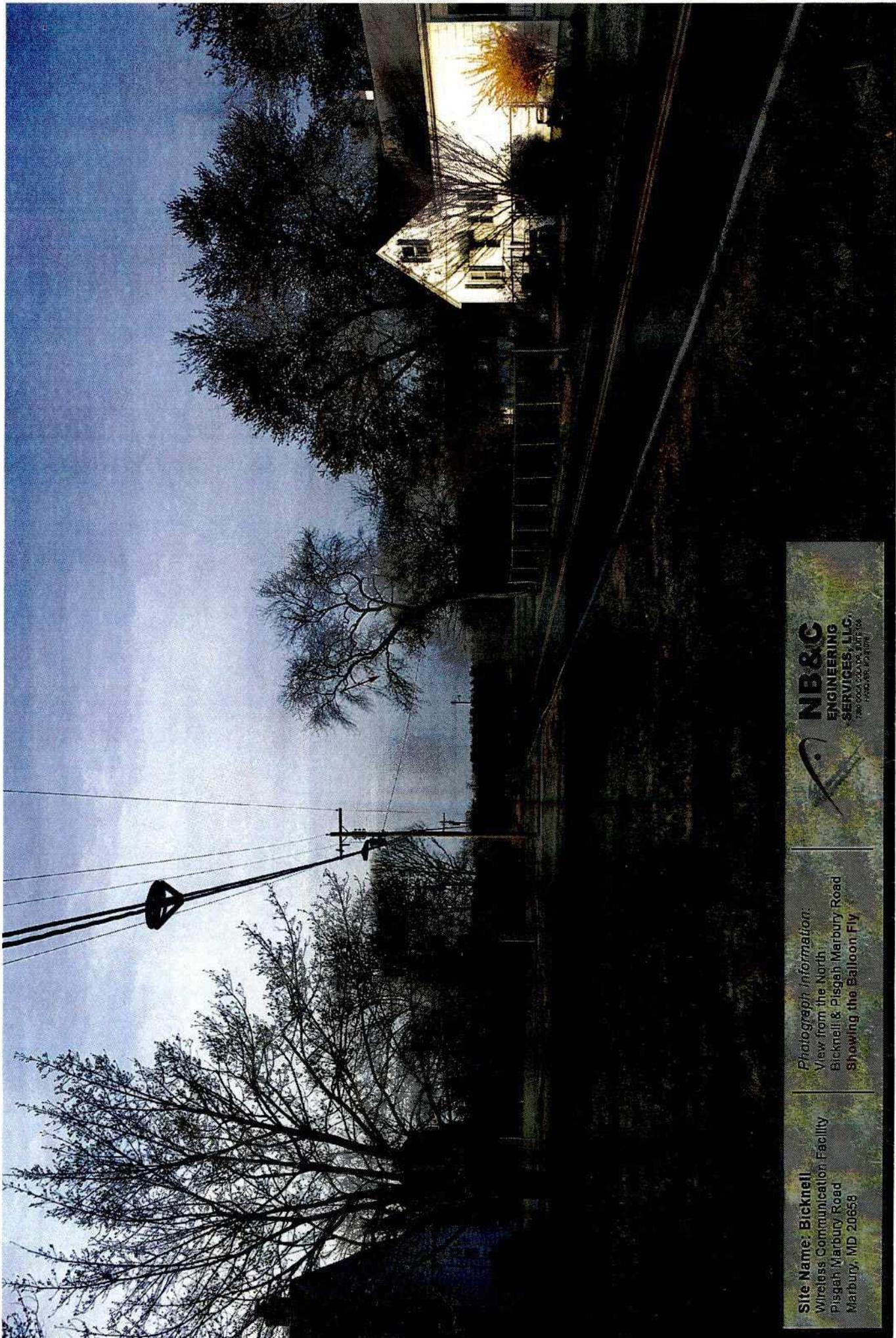
Prepared By: Kirby R. Blass

Kirby R. Blass, Planner II

Date: February 10, 2014

Attachments & Exhibits



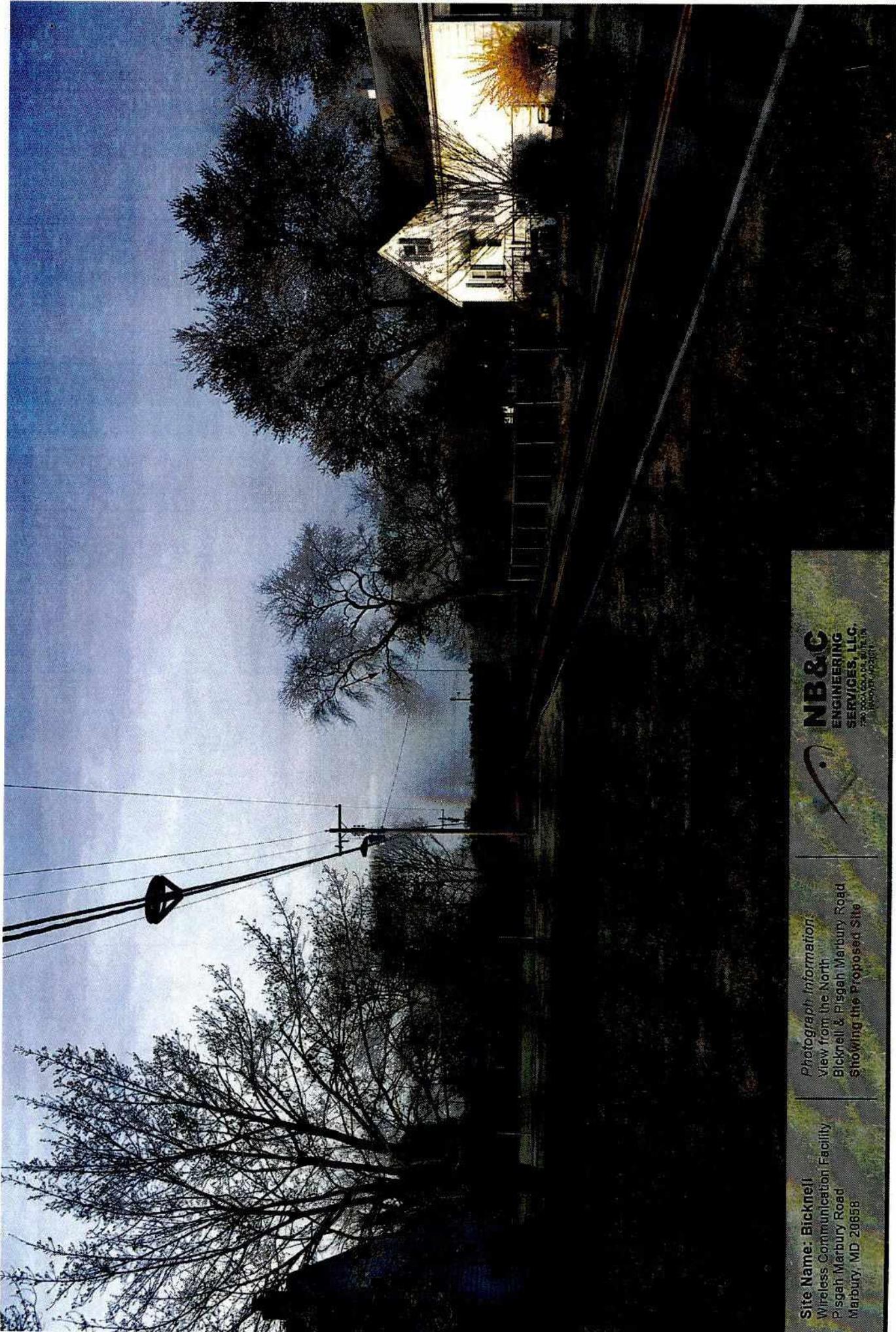


Site Name: Bicknell
Wireless Communication Facility
Pisgah Marbury Road
Marbury, MD 20858

Photograph Information:
View from the North
Bicknell & Pisgah Marbury Road
Showing the Balloon Fly



NB&C
ENGINEERING
SERVICES, LLC
2800 ROCK SPRING BLVD, SUITE 100
FREDERICK, MD 21704

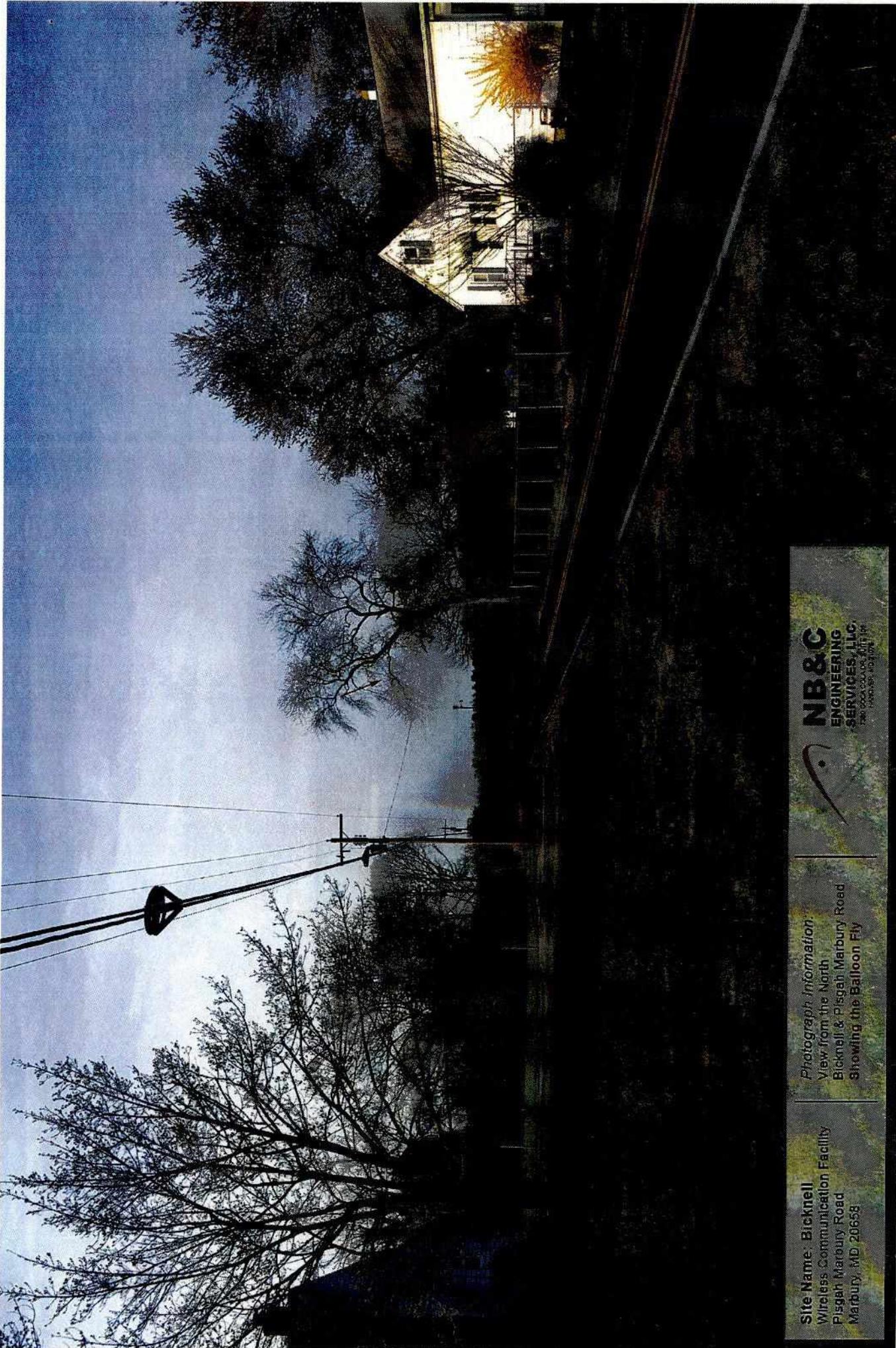


Site Name: Bicknell
Wireless Communication Facility
Pisgah Marbury Road
Marbury, MD 20858

Photograph Information:
View from the North
Bicknell & Pisgah Marbury Road
Showing the Proposed Site



NB&C
ENGINEERING
SERVICES, LLC
2200 ROCKY HILL BLVD.
FRODOVER, MD 20711

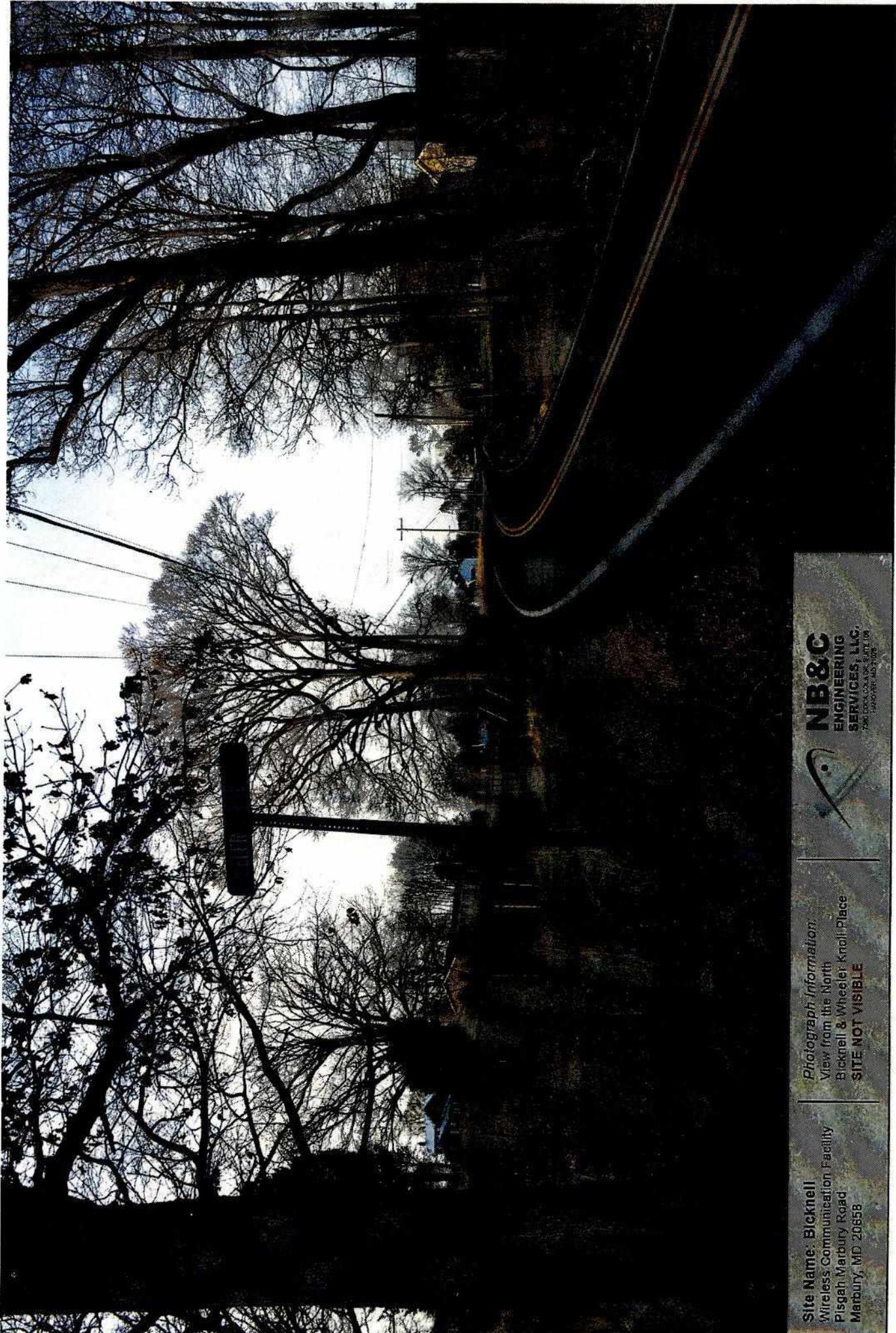


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Wireless Communication Facility
Pisgah Marbury Road
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Photograph Information:
View from the North
Bicknell & Pisgah Marbury Road
Showing the Balloon Fly



NB&C
ENGINEERING
SERVICES, LLC.
12400 ROCK CREEK ROAD, SUITE 100
FARMERSVILLE, MD 21048



Site Name: Bicknell
Wireless Communication Facility
Pisgah Marbury Road
Marbury, MD 20658

Photograph Information:
View from the North
Bicknell & Wheeler Knoll Place
SITE NOT VISIBLE



NB&C
ENGINEERING
SERVICES, LLC.
7860 DOCKERS LANE, SUITE 100
LARGO, MD 20778

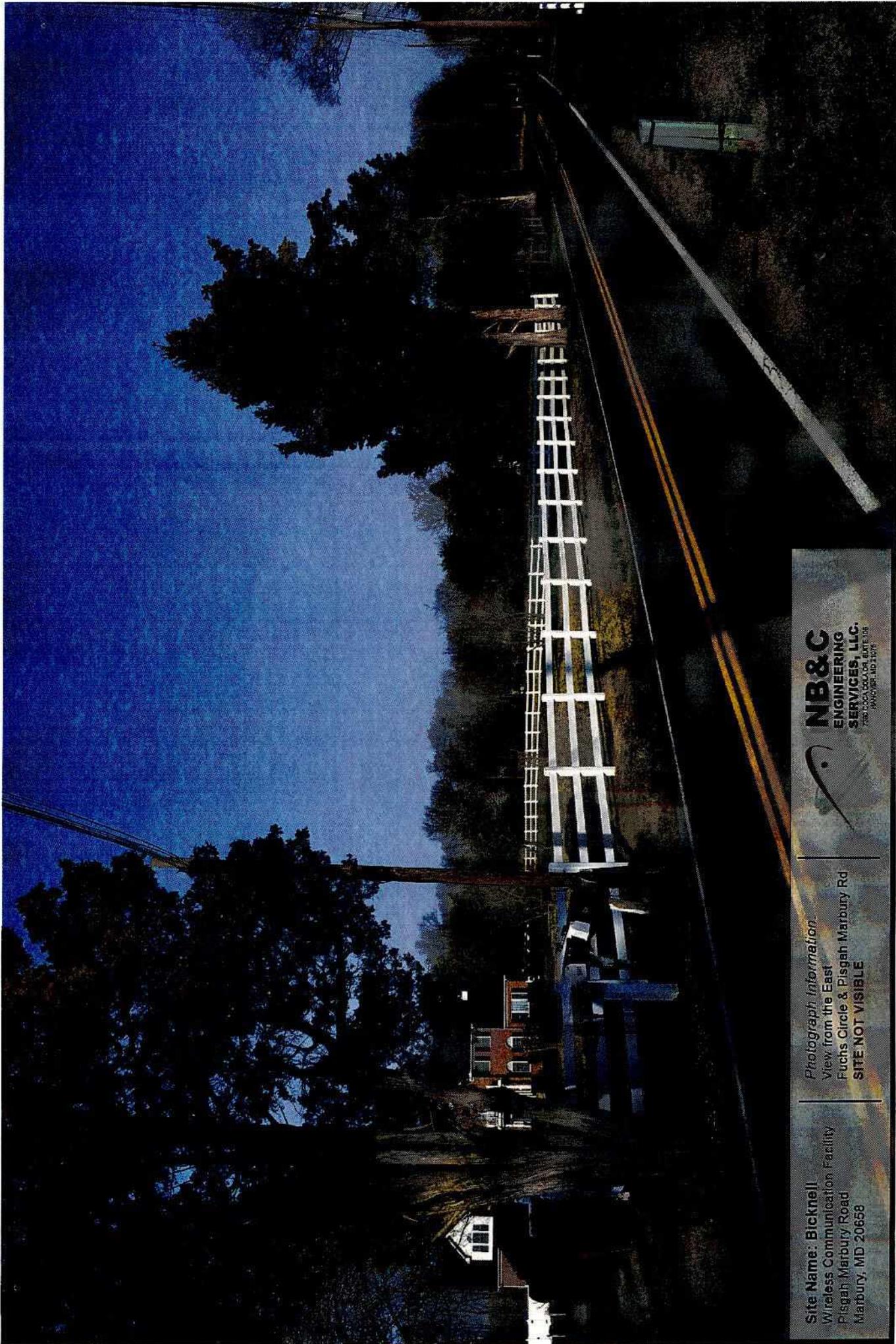


Site Name: Bicknell
Wireless Communication Facility
Pisgan Marbury Road
Marbury, MD 20658

Photograph Information:
View from the West
Bicknell Road
SITE NOT VISIBLE



NB&C
ENGINEERING
SERVICES, LLC.
10000 WOODS LANE, SUITE 100
FALLS CHURCH, VA 22041



Site Name: Bicknell
Wireless Communication Facility
Pisgah Marbury Road
Marbury, MD 20658

Photograph Information
View from the East
Fuchs Circle & Pisgah Marbury Rd
SITE NOT VISIBLE

NB&C
ENGINEERING
SERVICES, LLC.
7300 COOLCREEK DRIVE, SUITE 105
HARROVEE, MD 21076



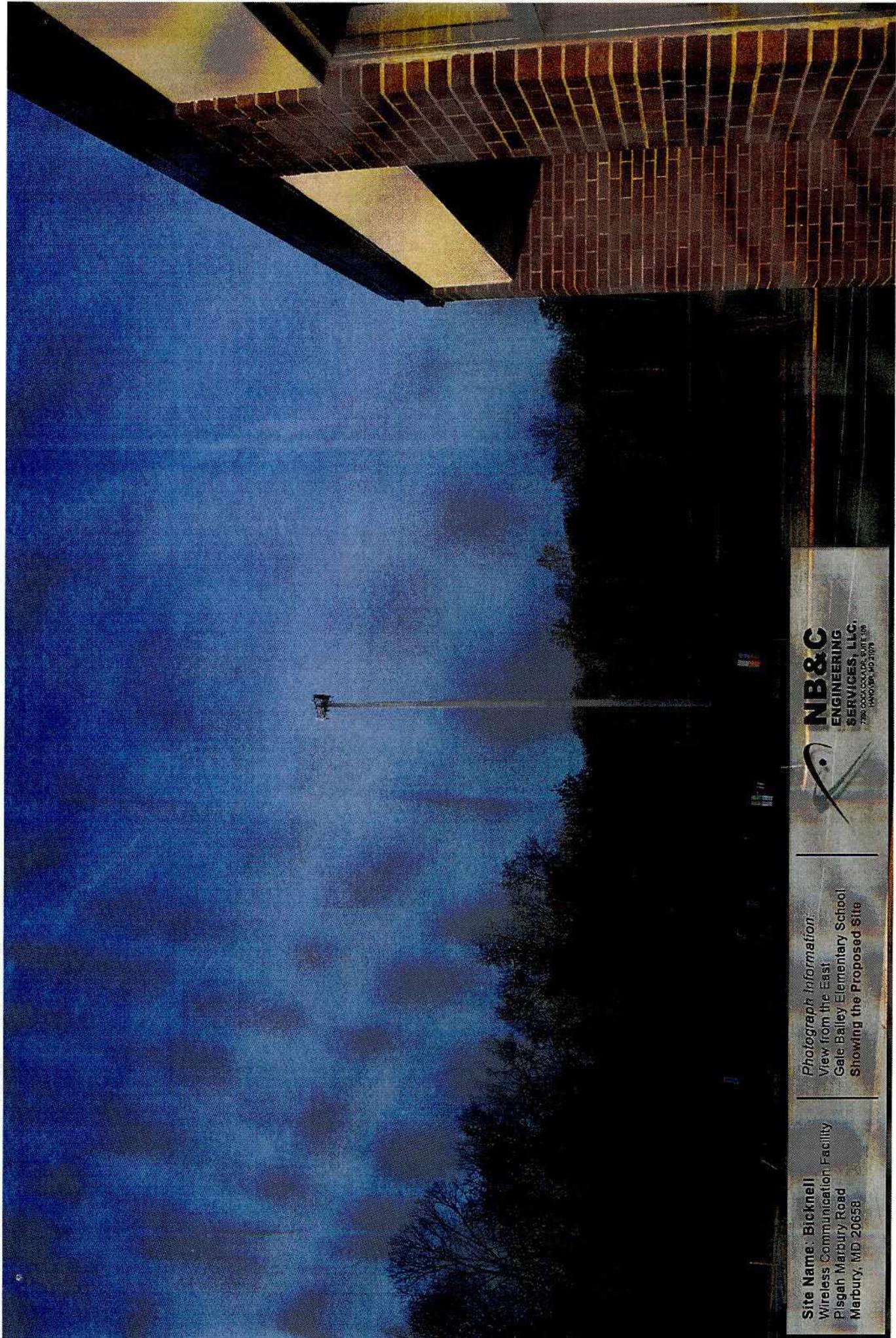


Site Name: Bicknell
Wireless Communication Facility
Pisgah Marbury Road
Marbury, MD 20658

Photograph Information:
View from the East
Sole Bailey Elementary School
Showing the Balloon Fly



NB&C
ENGINEERING
SERVICES, LLC.
7300 COLLEGE BLVD. SUITE 100
HANOVER, MD 21076

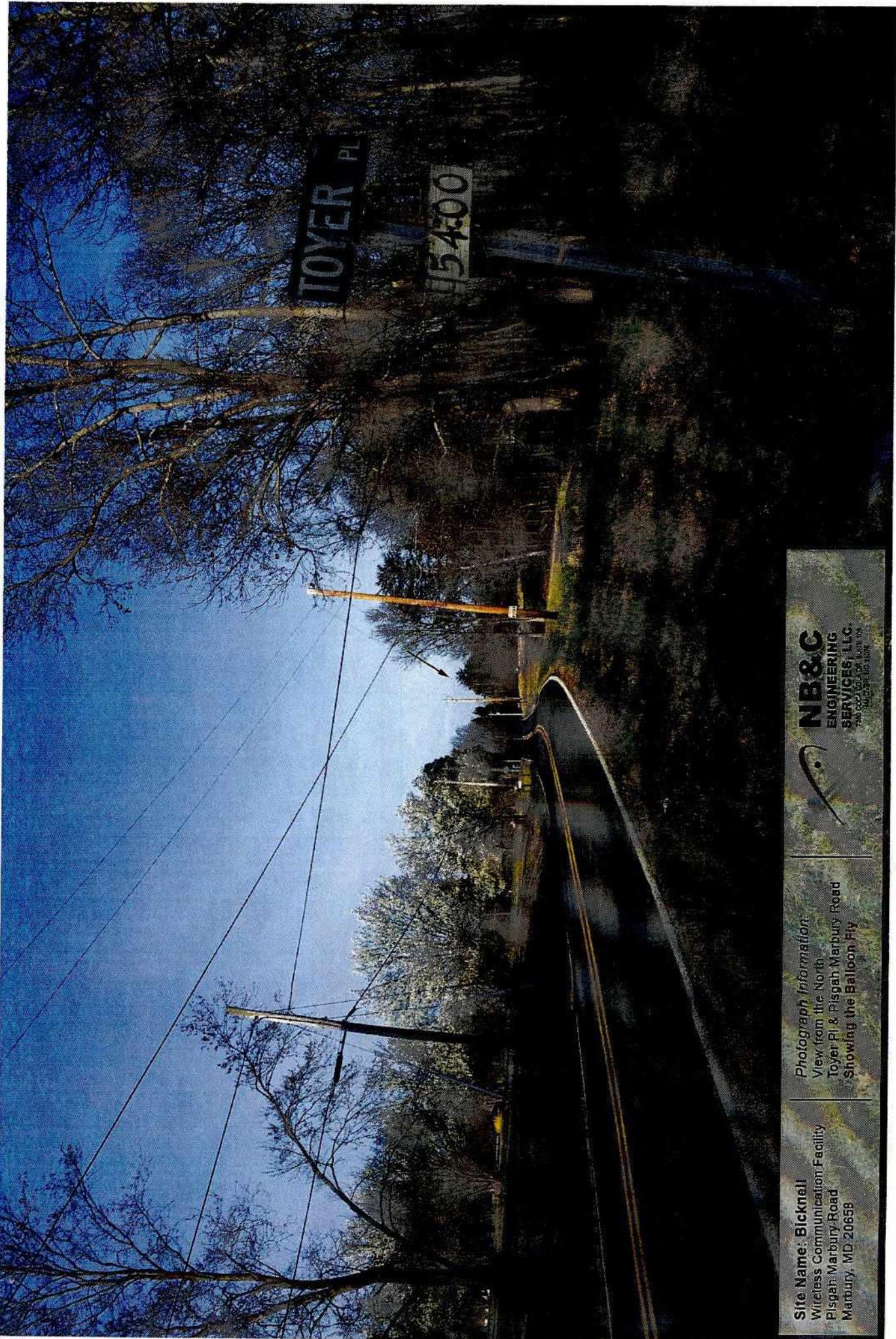


Site Name: Bicknell
Wireless Communication Facility
Pisgah Marbury Road
Marbury, MD 20658

Photograph Information:
View from the East
Gale Bailey Elementary School
Showing the Proposed Site



NB&C
ENGINEERING
SERVICES, LLC.
7300 ROCKCREEK SUITE 100
FARMERS BRANCH, TX 75234

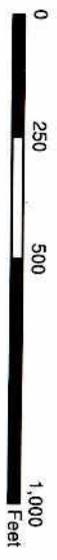
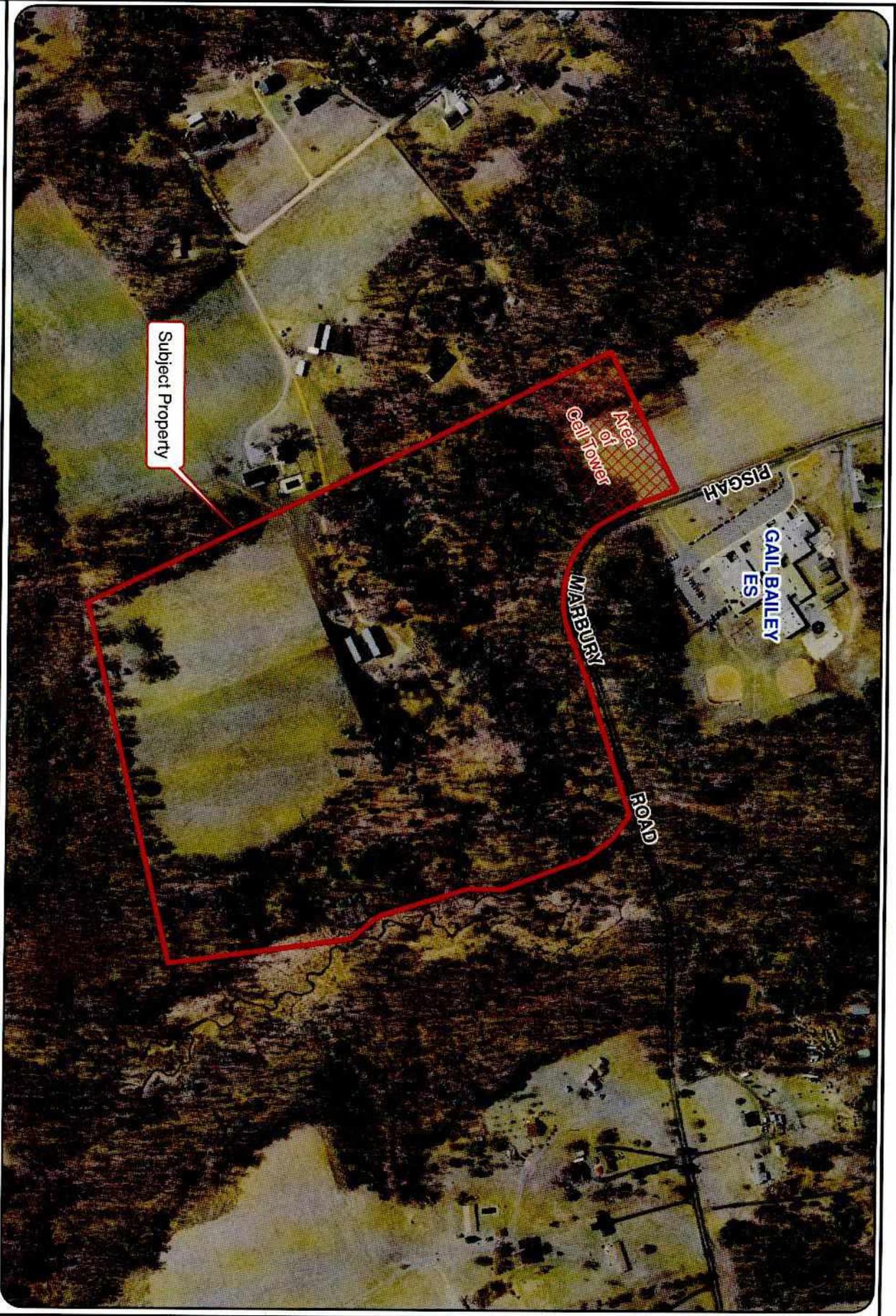


Site Name: Bicknell
Wireless Communication Facility
Pisgah Marbury Road
Marbury, MD 20658

Photograph Information:
View from the North
Toyer Pl & Pisgah Marbury Road
Showing the Balloon Fly



NB&C
ENGINEERING
SERVICES, LLC.
7300 COCKEY ROAD, SUITE 104
HAGERSTOWN, MD 21041



Measurements contained on this drawing are for graphical purposes only and are not meant to be used for engineering purposes.



SCALE

DRAWN BY:

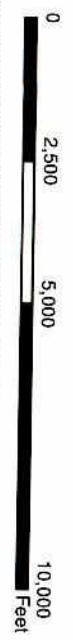
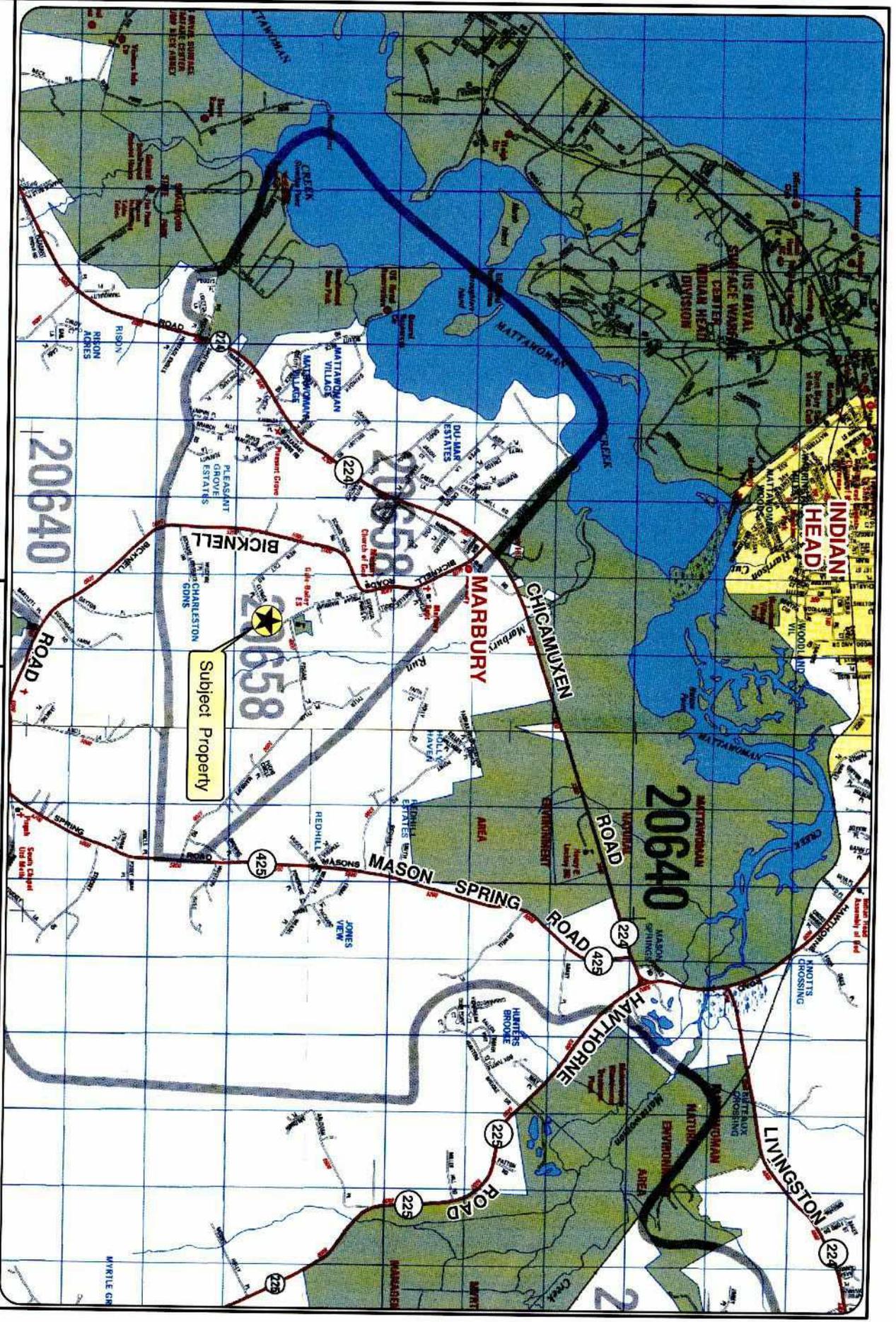
CHECKED BY:



CHARLES COUNTY GOVERNMENT
 Department of Planning and
 Growth Management
 200 Baltimore St.
 P.O. Box 303284
 Columbia, MD 21046-0287

DATE
 AUG 2013

VERIZON WIRELESS - CELL TOWER
 Pisgah Marbury Road
 DOCKET 1315
 AERIAL MAP (2011)
 CHARLES COUNTY, MD



Information contained on this drawing is for graphical purposes only and is not meant to be used for engineering purposes.

SCALE

DRAWN BY: _____

CHECKED BY: _____



CHARLES COUNTY GOVERNMENT
Department of Planning and
Growth Management
200 Hollister St.
P.O. Box 7130
P.O. Station 14
Charles County, MD 20745-0147

DATE

AUG 2013

VERIZON WIRELESS - CELL TOWER

Pisgah Marbury Road
DOCKET 1315
LOCATION MAP
CHARLES COUNTY, MD

BASE ZONING:

- AC AGRICULTURAL CONSERVATION
 - RC RURAL CONSERVATION
 - RV RURAL RESIDENTIAL
 - RL VILLAGE RESIDENTIAL
 - RM LOW DENSITY SUBURBAN RESIDENTIAL
 - RH MEDIUM DENSITY SUBURBAN RESIDENTIAL
 - RO HIGH DENSITY SUBURBAN RESIDENTIAL
 - RO OFFICE
 - RO CORE DEVELOPMENT / RESIDENTIAL
 - RM CORE MIXED RESIDENTIAL
 - RR CORE RETAIL RESIDENTIAL
 - CN NEIGHBORHOOD COMMERCIAL
 - CC COMMUNITY COMMERCIAL
 - CB CENTRAL BUSINESS
 - VC VILLAGE COMMERCIAL
 - BP BUSINESS PARK
 - LI LIGHT INDUSTRIAL
 - HI HEAVY INDUSTRIAL
 - AUC ACTION URBAN CENTER
 - WC WALDORF CENTRAL
- * NCID: A RURAL CONSERVATION ZONING DISTRICT
- OVERLAY ZONES:**
- HC HIGHWAY CORRIDOR
 - RP RESOURCE PROTECTION
 - CB CRITICAL AREA BOUNDARY
- FLOATING ZONES:**
- PRD PLANNED RESIDENTIAL DEVELOPMENT
 - PMH PLANNED MOBILE HOME PARK
 - PIR PLANNED SPECIAL INDUSTRIAL PARK
 - PMU PLANNED MIX USE
 - PLU PLANNED UNIT DEVELOPMENT
 - WPC WATERFRONT PLANNED COMMUNITY
 - POD TRANSIT ORIENTED DEVELOPMENT



SCALE

DRAWN BY:

CHECKED BY:

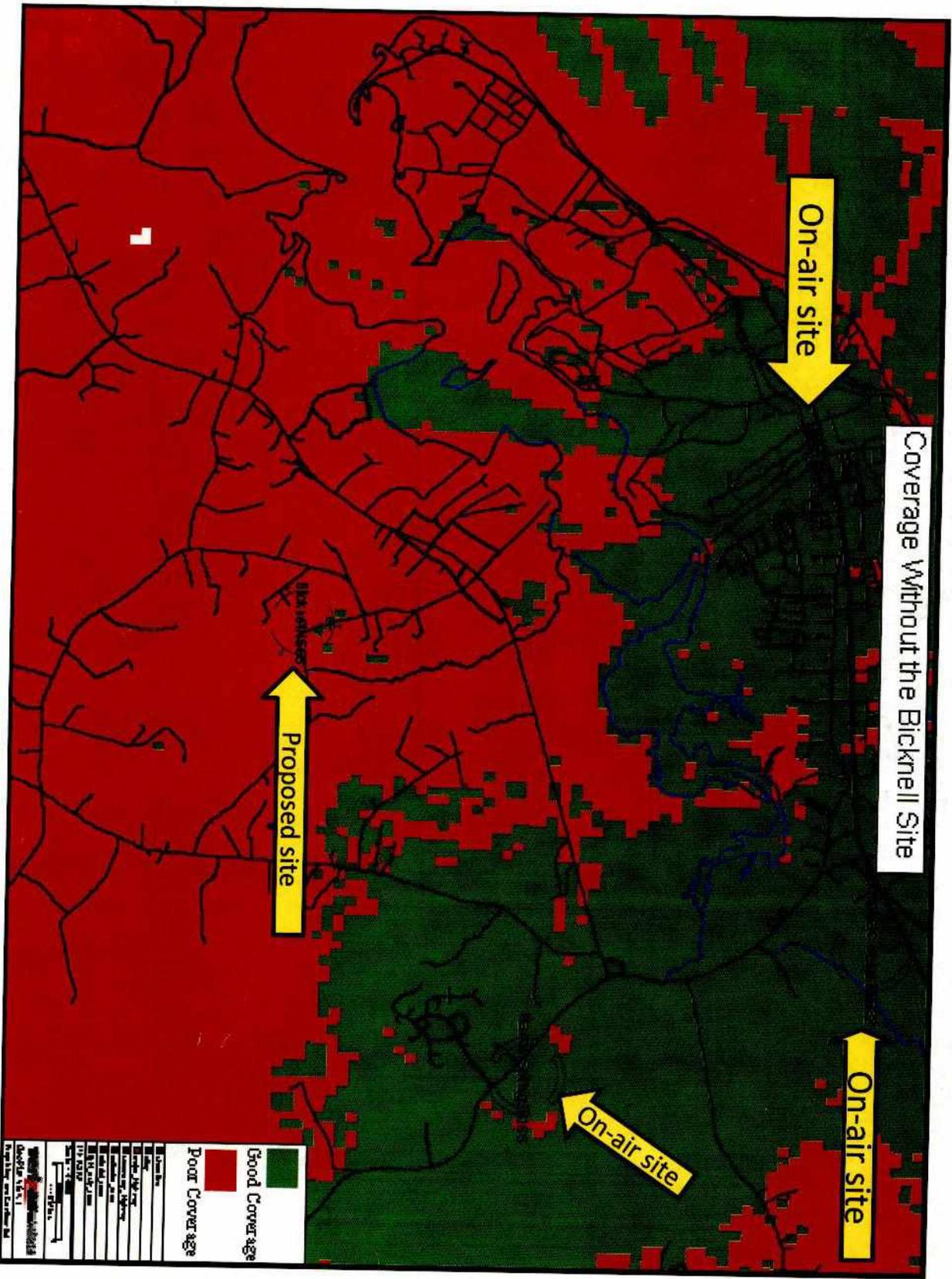


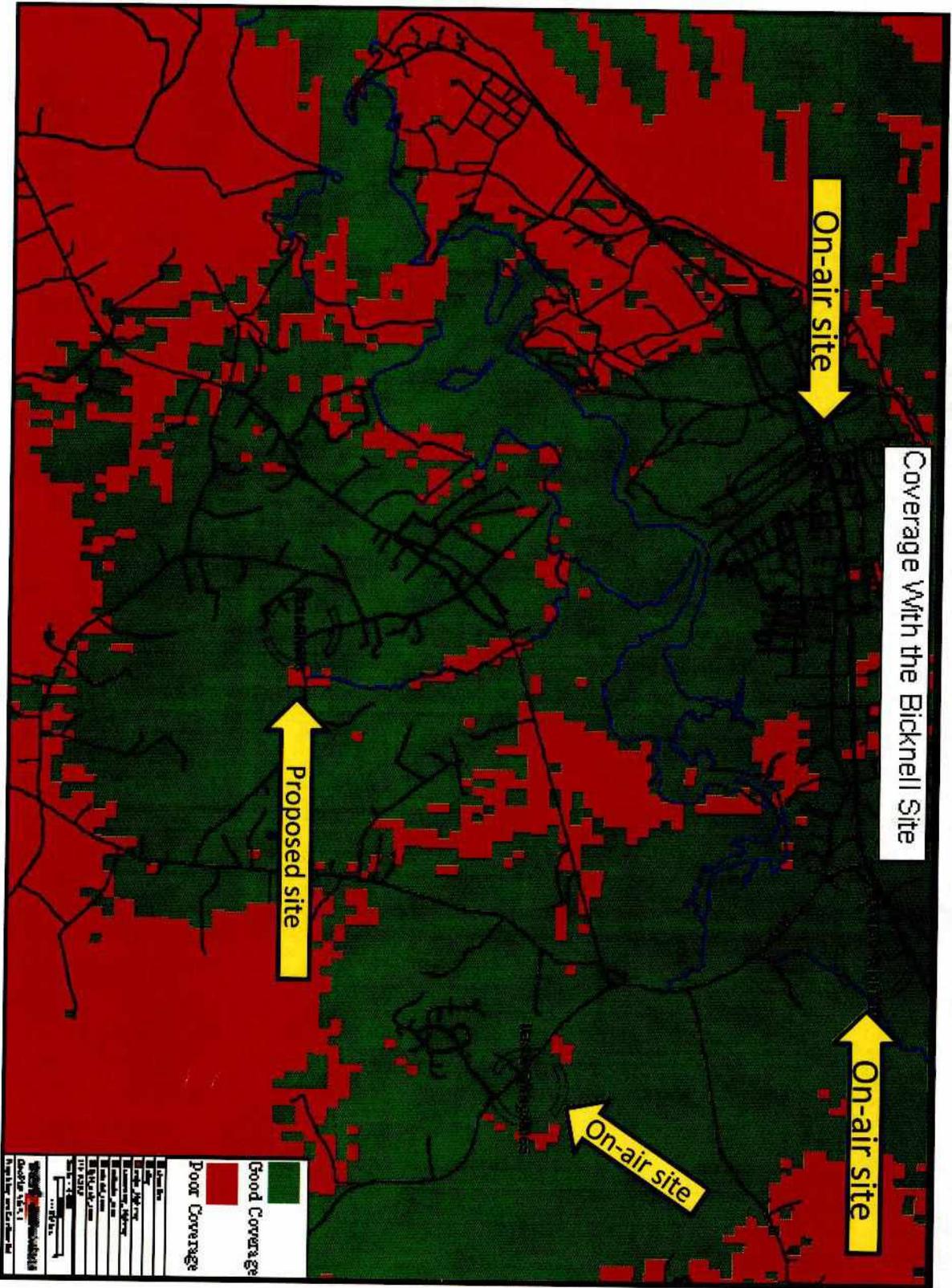
DATE

AUG 2013

VERIZON WIRELESS - CELL TOWER
Pisgah Marbury Road
DOCKET 1315
ZONING MAP
 CHARLES COUNTY, MD

Information contained on this drawing is the product of a professional engineer and is not to be used for any other purpose.







(Bicknell Site)

STATEMENT OF COMPLIANCE WITH STATUTORY STANDARDS

Verizon Wireless (VZW) seeks Special Exception approval for a proposed telecommunications facility to be located on property known as Pisgah Marbury Road, Marbury, MD 20658 (as listed in SDAT with an account #000157). The property consists of 40.76 +/- acres, and is located in the Pisgah/Marbury area of Charles County, Maryland. The use is specifically permitted as a Special Exception by Article 27, Section 297-10, et. seq., permissible use number 4.06.300, "Tower more than 50 feet tall," and is subject to the conditions set forth in that section, and the general special exception criteria set forth in Section 297-415 H. The present application meets these standards. The property is located within the RC zoning district, and the telecommunications use is permitted in that district pursuant to Section 4.06.300.

VZW, as lessee of the site of the telecommunications facility to be located on the property, proposes to construct a 199' monopole, an approximate 12' x 16' equipment shelter, within a 50' x 50' fenced compound on the property of William and Cynthia Devane as more particularly shown on the site plan submitted herewith. The proposed site is surrounded by woods on 2 sides, and the views of the monopole from relevant locations are either non-existent or partially screened. (See site plan, photographs of existing site, and photo-simulations submitted herewith). The site is needed by VZW to provide coverage and a full range of wireless telecommunications services to the area. (See, "before" and "after" coverage maps submitted herewith).



(Bicknell Site)

General Special Exception Standards-

As per 297-415H, the proposed use:

- (1) Will not be detrimental to or endanger the public health, safety and general welfare.

The use will be operated in accord with all FCC and FAA requirements and will further provide wireless telecommunications services which will enhance the public health, safety and general welfare by providing effective communication services to the area to be served. See NEPA, SHPO, FAA and FCC compliance documents submitted herewith.

- (2) Is a permissible special exception in the zone.

The use is allowed by way of special exception pursuant to Section 4.06.300.

- (3) Will not be detrimental to the use, peaceful enjoyment, economic value or development of surrounding properties or the general neighborhood.

The facility is to be located on a very large property, which is screened by significant woods on several sides and is remote from adjoining properties and development. The use is passive and will be located on a very small portion of the property. The site will be visited approximately four (4) times per year by VZW technicians driving a small SUV type vehicle, in the nature of a "Chevy Blazer."

- (4) Complies with the standards and requirements set forth in Article XIII.

See Below.

- (5) Will cause no objectionable impact from traffic, noise, type of physical activity, fumes, odors, dust or glare.

As noted above, there will be very little traffic to the site, and virtually no noise from the proposed use. The site is large and buffered by woods, and the facility will be far removed from other properties. The telecommunications equipment, generator, and the air conditioning unit will be located within and enclosed by the equipment shelter. A backup generator will also be located at the facility, designed for use in case of failure of the generator located within the equipment shed. The only lighting provided will be that required by the FCC/FAA.



(Bicknell Site)

(6) Will provide adequate utilities, water, sewer or septic system, access roads, storm drainage and /or other necessary public facilities and improvements. If a use requires an adequate public facilities review by the Planning Commission, such review shall be made a condition of the granting of the special exception by the Board.

Electricity is already provided to the site. The site will not be manned, and no water, sewer, or septic systems are necessary. Access is denoted on the site and APF review by the Planning Commission is not required.

(7) Will provide adequate ingress and egress and be so designed as to minimize traffic congestion in the public streets.

See above. A 30' access and utility easement is proposed and noted on the site plan.

(8) Is in accordance with the objectives of the Charles County Comprehensive Plan.

The proposal accords with the objectives of the Comprehensive plan. The property is within the agricultural conservation district and the prime objective of the plan is not to accommodate residential development (Chapter 3, p. 3-15) and in furtherance of that objective to support creative efforts to economically support preservation of farmland, (Chapter 9, section 9-7). The telecommunications use will provide economic support to the retention of farm property without seeking residential development.

(9) Conforms to the applicable regulation of the zone in which it is located and to the special requirements established for the specific use.

See site plan, and statement below.

Specific Special Exception Standards. 4.06.300:

A. All structures shall be located at least 200 feet from an existing dwelling or residential zone.

As shown on the site plan, the proposal meets this standard.

B. A minimum ten-foot landscape strip will be around all property lines exterior to any fence or wall.

As shown on the site plan, the proposal meets this standard.



(Bicknell Site)

C. Any proposed tower will have a setback of one foot from all property lines for every foot of height of the tower.

As shown on the site plan, the proposal meets this standard.

D. The application submitted by the applicant to the Board of Appeals shall include the following:

(1) A system design plan that shall include, at a minimum, radio frequency parameters, tower height, number and location of antennas on the tower, radio, frequency output, effective radiated power and azimuth antenna type.

Provided. The proposed 199' monopole will have Verizon Wireless antennas installed at an elevation or RAD center of 195'. Twelve (12) antennas are proposed. There is room on the monopole and in the equipment compound for an additional three (3) wireless carriers.

(2) A coverage map of the area to be served by the proposed tower.

"Before" and "After" coverage (propagation) maps provided.

(3) Coverage map showing coverage available under the existing towers, towers proposed to be constructed for the county's public communications system and other appropriate structures.

See above. A designation of the Search Area is provided. There are no existing towers or other appropriate structures in the area.

(4) An evaluation of the tower's relationship to other antenna sites, existing buildings taller than 50 feet and communication towers and water tanks within one mile of a proposed tower which is greater than 150 feet tall.

The FCC data base was consulted and a physical examination was undertaken. No such antenna sites, buildings taller than 50 feet or water tanks are located within the Search Area for the facility.

E. Collocation:

(1) The applicant for a new communications tower shall demonstrate to the Board of Appeals that collocation on existing towers or other appropriate structures is not feasible. Feasibility shall be demonstrated by an analysis and explanation prepared by the applicant which identifies all reasonable, technically feasible, alternative locations and/or facilities which would provide the proposed communication service and a structural analysis indicating that no existing or proposed tower can be structurally modified to accommodate the applicant's. The intention of the alternatives analysis is to



(Bicknell Site)

present alternative strategies which would minimize the number, size and adverse environmental and public safety impacts of facilities necessary to provide the needed services to the county. The analysis shall address the potential for co-location at an existing or a new site and the potential to locate facilities as close as possible to the intended service area. It shall also explain the rationale for selection of the proposed site in view of the relative merits of any of the feasible alternatives. Physical constraints and economic feasibility may be considered. Approval of the project is subject to the board making a finding that the proposed site results in fewer or less severe environmental impacts than any feasible alternative site.

Co-location is not deemed possible if the Board finds that:

- (a) Planned equipment would exceed the structural capacity of existing and approved towers or towers proposed to be constructed for the county's public communications system considering existing and planned use of those towers, and such towers cannot be structurally modified or reinforced to accommodate planned or equivalent equipment at a reasonable cost;
- (b) Planned equipment will cause interference with other existing or planned equipment for the tower, and the interference cannot be prevented at a reasonable cost;
- (c) Existing, approved towers, or towers proposed to be constructed for the county's public communications system do not have space on which planned equipment can be placed so as to function effectively; or
- (d) Existing, approved towers, towers proposed to be constructed for the county's public communications system will not provide effective signal coverage sought by the applicant.

As noted above, the site is large, remote from other properties and development, and partially screened from adjacent properties. Electricity serves the site. There are no existing or proposed towers, or existing structures from which the coverage sought may be provided.

F. The tower shall be constructed so as to provide adequate capacity for future co-location of other commercial and/or government-operated antennas, unless the applicant demonstrates why such design is not economically or physically feasible. The system design plan shall delineate an area near the base of the tower to be used for the placement of additional equipment buildings for other users.

The proposal complies. There is room on the monopole and in the equipment compound for an additional three (3) wireless carriers. See site plan.



(Bicknell Site)

G. The applicant shall submit a master plan for its proposed communications network for the entire county. The Department of Planning and Growth Management shall adopt a policy outlining the submittal requirements for such a master plan.

Provided.

H. The applicant shall demonstrate that the proposed tower will not interfere with existing lines of communication used for public safety purposes.

The tower is not in proximity to any such lines of communication.

I. No signals, lights or illumination shall be permitted on the tower unless required by the Federal Communications Commission, the Federal Aviation Administration or the county.

The proposal complies.

J. No commercial advertising or other signage shall be permitted on the tower

The proposal complies.

K. The applicant shall demonstrate that a tower shall not unreasonably interfere with the view of, or from, sites of significant public interest such as a public park, a state-designated scenic road, a structure on the historic sites survey or an historic district.

The property is large and site remote and screened by trees. NEPA/SHPO evaluations and photo-simulations have been provided. No unreasonable interferences is occasioned.

L. All obsolete or unused facilities shall be removed within 12 months of cessation of operations without cost to the county.

The proposal will comply.

M. No tower or fixture attached thereto shall be taller than 300 feet above existing grade.

As shown on the Elevation drawing this proposal complies.

July 1, 2013

Charles County Government
Department of Planning and Growth Management
P.O. Box 2150
LaPlata, MD 20646

Re: Authorization to File a Special Exception Application to add a Proposed Verizon Communications Telecommunications Facility Located on West side of Pisgah Marbury Road, Marbury, MD 20658 with a Tax Account # 000157.

To whom it may concern:

William and Cynthia Devane, the owners of the Property, hereby authorize SCE, Inc., agents for Verizon Wireless, or Verizon's Wireless' legal counsel to represent us (the Devanes) with respect to the Special Exception application. SCE, Inc., their representatives and/or Verizon Wireless' agents are authorized to sign any and all necessary documents or speak on our behalf in furtherance of the Special Exception application including before the Charles County Board of Appeals.

Very truly yours,

By: William Devane

By: (sign)

William Devane

By: Cynthia Devane

By: (sign)

Cynthia Devane

William and Cynthia Devane
5785 New Cut Road, Marbury, MD 20658
Ph. 301-743-3673

(4)

MILLENNIUM ENGINEERING, P.C.
508 Ferncastle Drive
Downingtown, Pennsylvania 19335

Cell: 610-220-3820
www.millenniumengineering.net

Fax: 610-458-8612
Email: pauldugan@comcast.net

September 25, 2013

Attn: Luke Neiswander, RF Engineer
Verizon Wireless
9000 Junction Drive
Annapolis Junction, MD 20701

Re: Non-Interference Certification of Proposed Communications Facility
Site Name: Bicknell, Proposed 199' Monopole
Pisgah Marbury Road, Marbury, MD 20658 (Charles County)

Dear Mr. Neiswander,

I have performed an analysis to provide an independent interference evaluation and certification that the proposed Verizon Wireless communications facility at the above referenced property will comply with Federal Communications Commission (FCC) licensed operating parameters and that the system will be free of disruptive radiofrequency interference or cause interference to other wireless systems. As a registered professional engineer I am under the jurisdiction of the State Registration Boards in which I am licensed to hold paramount the safety, health, and welfare of the public and to issue all public statements in an objective and truthful manner.

The proposed communications facility consists of collocation on a proposed 199' monopole. The proposed Verizon Wireless antenna configuration from the information furnished to me consists of (1) 700 MHz (LTE) antenna (CSS X7C-880-0D or equivalent), (1) 850 MHz (CDMA) antenna (CSS X7C-880-0D or equivalent), (1) 1900 MHz (CDMA) antenna (CSS AXP19-80-0D or equivalent) and (1) 2100 MHz (LTE) antenna (CSS AXP19-80-0D or equivalent) on each of three faces (total of 12 antennas) spaced 120 degrees apart (AZ 4/124/244) on the horizontal plane with a centerline of 195' above ground level. Transmitting from these antennas will be (1) 700 MHz LTE wideband channel, up to (8) 850 MHz CDMA channels, up to (10) 1900 MHz CDMA channels and (1) 2100 MHz LTE wideband channel per face. The proposed Verizon Wireless antennas will have a transmit effective radiated power (ERP) of 100 watts for 700 MHz, 500 watts for 850 MHz, 450 watts for 1900 MHz and 100 watts for 2100 MHz.

In Charles County, Verizon Wireless is licensed by the FCC to transmit in the 700 MHz "A Block" and "Upper C Block" (728-734, 746-757 MHz), the 850 MHz (cellular) "B Band" (880-894 MHz), the 1900 MHz (PCS) "C3/C4 Block" and "D Block" (1975-1985, 1945-1950 MHz) and the 2100 MHz (AWS) "B Block" and "C Block" (2120-2130, 2130-2135 MHz).

When two or more wireless communications systems co-exist on the same structure or in very close proximity (within a few hundred feet), there is the potential for many forms of interference between systems, such as intermodulation distortion. For this reason, we often perform collocation interference modeling (aka intermod studies) to evaluate the potential for consequential interference. For the proposed facility subject to this application, no other base station antennas are in close proximity for which to model for intermodulation and all proposed and future carrier antennas will maintain sufficient vertical separation (10+ feet) proven to perform

with no detrimental impact between carriers and any other radio systems in the environment. It is for this reason that the modeling is unnecessary.

Verizon Wireless, other commercial wireless communications licensees, public safety communications systems, broadcast facilities, and utility companies collocate routinely with some basic precautions and there will be no interference issues with the proposed antennas. The licensees that collocate on these types of structures all must operate within their licensed operating parameters. A commercial wireless communications antenna system operates at a frequency and power level authorized by the FCC and, with proper precautions, will not interfere with antenna systems of other commercial wireless services, public safety telecommunications, airport navigation, broadcast radio and television, cordless phones, computers, etc., or other community office or residential household appliances. The different operating frequencies and relatively low power that commercial wireless communications antenna systems operate allow these systems to co-exist in close proximity.

There is nothing commercial wireless communications licensees could gain by operating (intentionally or inadvertently) outside of their licensed operating parameters. The network equipment used by the licensees is designed to operate at certain frequencies and power levels and sharp filtering is designed into the transmit/receive paths to ensure a clean radio system. The technicians who visit the facility for routine maintenance generally perform FCC testing to ensure proper operation of the facility and the systems are monitored remotely twenty-four hours a day, seven days per week. Furthermore, radios are designed so that virtually any type of radio equipment malfunction would cause the radio to shut down.

The FCC has remediation processes to help protect the community. If a complaint is filed with the FCC, the FCC would investigate the complaint and notify the licensee to resolve any issues whether actual or perceived. Failure to comply or negligence on the part of the licensee may result in stiff fines.

In summary, the proposed communications facility will not cause any disruptive interference with any transmitter or receiver that will co-exist at, on or near the same communications structure. Any interference to the Charles County public safety communications systems as a result of the proposed Verizon Wireless antenna system will be resolved at the sole expense of Verizon Wireless.

Respectfully,



Paul Dugan, P.E.
Registered Professional Engineer
Maryland License Number 24211



DECLARATION OF ENGINEER

Paul Dugan, P.E., declares and states that he is a graduate telecommunications consulting engineer (BSE/ME Widener University 1984/1988), whose qualifications are a matter of record with the Federal Communications Commission (FCC). His firm, Millennium Engineering, P.C., has been retained by Verizon Wireless to perform a collocation interference analysis for an existing or proposed communications facility.

Mr. Dugan also states that the calculations or measurements made in the evaluation were made by himself or his technical associates under his direct supervision, and the summary letter certification of FCC compliance associated with the foregoing document was made or prepared by him personally. Mr. Dugan is a registered professional engineer in the Jurisdictions of Pennsylvania, New Jersey, Delaware, Maryland, Virginia, New York, Connecticut, District of Columbia, West Virginia and Puerto Rico with 29 years of engineering experience. Mr. Dugan is also an active member of the Association of Federal Communications Consulting Engineers, the National Council of Examiners for Engineering, the National Society of Professionals Engineers, the Pennsylvania Society of Professional Engineers, and the Radio Club of America. Mr. Dugan further states that all facts and statements contained herein are true and accurate to the best of his own knowledge, except where stated to be in information or belief, and, as to those facts, he believes them to be true. He believes under penalty of perjury the foregoing is true and correct.



Paul Dugan, P.E.

Executed this the 25th day of September, 2013.

PAUL ALLEN DUGAN, P.E.
508 Ferncastle Drive
Downingtown, Pennsylvania 19335

Cell: 610-220-3820

Fax: 610-458-8612

Email: pauldugan@comcast.net

Web Page: www.millenniumengineering.net

EDUCATION: Widener University, Chester, Pennsylvania
Master of Business Administration, July 1991
Master of Science, Electrical Engineering, December 1988
Bachelor of Science, Electrical Engineering, May 1984

PROFESSIONAL ASSOCIATIONS: **Registered Professional Engineer** in the following jurisdictions:

Pennsylvania, License Number PE-045711-E
New Jersey, License Number GE41731
Maryland, License Number 24211
Delaware, License Number 11797
Virginia, License Number 36239
Connecticut, License Number 22566
New York, License Number 079144
District of Columbia, License Number PE-900355
West Virginia, License Number 20258
Puerto Rico, License Number 18946

Full member of **The Association of Federal Communications Consulting Engineers**
(www.afcce.org) January 1999 to Present
Elected to serve on the Board of Directors for 2006-2007

Full member of **The National Society of Professional Engineers** (www.nspe.org) and the
Pennsylvania Society of Professional Engineers (www.pspe.org) June 2003 to Present
Currently serving as State Director on the Board of Directors of the Valley Forge Chapter and the South
East Region Vice-Chair for the "Professional Engineers in Private Practice" Executive Committee

Actively participate in **Chester County ARES/RACES** (CCAR www.w3eoc.org) which prepares and
provides emergency backup communications for Chester County Department of Emergency Services,
March 2005 to Present

Full member of **The National Council of Examiners for Engineering**
(www.ncees.org) May 2001 to Present

Full Member of **The Radio Club of America**
(www.radio-club-of-america.org) December 2003 to present

PROFESSIONAL EXPERIENCE: Millennium Engineering, P.C., Phoenixville, Pennsylvania
Position: **President**, August 1999 to Present (www.millenniumengineering.net)

Verizon Wireless, Plymouth Meeting, Pennsylvania
Position: **Cellular RF System Design/Performance Engineer**, April 1990 to August 1999

Communications Test Design, Inc., West Chester, Pennsylvania
Position: **Electrical Engineer**, May 1984 to April 1990

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Email: pauldugan@comcast.net

September 25, 2013

Attn: Luke Neiswander, RF Engineer
Verizon Wireless
9000 Junction Drive
Annapolis Junction, MD 20701

Re: Brief Discussion on Electromagnetic Field Safety of Verizon Wireless Telecommunications Facilities

Dear Mr. Neiswander,

I am providing a brief general overview of electromagnetic field safety as it applies to Verizon Wireless telecommunications facilities.

As an independent consulting engineer licensed in the State of Maryland, I often perform evaluations of existing or proposed wireless facilities (for Verizon Wireless and other FCC licensees) to provide an independent determination and certification that the wireless communications facility complies or will comply with Federal Communications Commission (FCC) exposure limits and guidelines for human exposure to radiofrequency electromagnetic fields (Code of Federal Regulation 47 CFR 1.1307 and 1.1310). As a registered professional engineer I am under the jurisdiction of the State Registration Boards in which I am licensed to hold paramount the safety, health, and welfare of the public and to issue all public statements in an objective and truthful manner.

Verizon Wireless facilities transmit and receive low power radio signals (aka electromagnetic fields or EMF) between base station antennas and handheld portable cell phones. The radiofrequency energy from these facilities and devices is non-ionizing electromagnetic energy. Non-ionizing, unlike X-Rays or other forms of potentially harmful energy in the microwave region, is not cumulative over time nor can the energy change the chemical makeup of atoms (e.g. strip electrons from ions). "Non-ionizing" simply means that the energy is not strong enough to break ionic bonds.

Safe levels of electromagnetic fields were determined by numerous worldwide organizations, such as the International Committee for Non-Ionizing Radiation Protection, a worldwide multi-disciplinary team of researchers and scientists studying the effects of non-ionizing radiofrequency energy such as that emitted by base stations or cell phones. The FCC did not arbitrarily establish their own standards, but adopted the recommendations of several leading organizations that set standards and research the subject such as the Institute of Electrical and Electronics Engineers (IEEE), American National Standards Institute (ANSI), and National Council on Radiation Protection and Measurements (NCRP).

When Verizon Wireless is located on an antenna structure such as a self-supporting lattice type tower, monopole, guyed tower, watertank, etc. the antennas are typically 10 meters or more above ground level (10 meters = 32.81 feet). With the relatively low power and elevated positions of the antennas on the structure with respect to ground level, the maximum ground level exposure can rarely approach 1 % of the applicable FCC exposure limit regardless of how many sets of antennas are collocated on the structure. For this reason, the FCC

considers the facilities “categorically excluded” from routine evaluation at antenna heights above 10 meters (or above 32.81 feet). Categorical exclusion exempts a site from routine on-site evaluation. However, the facility is not excluded from compliance with the federal exposure limits and guidelines. The types of facilities used by Verizon Wireless typically elevated on antenna structures (away from access to close proximity, i.e. greater than 10 meters or 32.81 feet) simply cannot generate ground level exposure levels that approach the limits under any circumstances.

More extensive methods of determining compliance are utilized on rooftop collocations where occupational workers are in much closer proximity to wireless base station antennas. Regardless of the structure type or the particular antenna configuration, Verizon Wireless facilities are always designed to comply with the federal exposure limits and guidelines by a substantial margin. Evaluations (calculations or modeling) of proposed facilities are based on reasonable upper limits parameters for an upper limit determination of compliance. Also we take into account future growth of the facility, usage surges, and ground reflections where appropriate. All evaluations include composite (sum total) exposure from all transmitting antenna systems collocated on a structure or in close proximity.

Wireless communications base station facilities are not the only source of radiofrequency electromagnetic fields. The same sources can be found throughout the everyday community and home. Base station facilities compare to everyday services and products, as follows:¹

Radio Systems*	Typical Transmitter Power (watts)
TV & Radio Broadcast	5,000 - 100,000
Air Traffic Control Radars	5,000 - 20,000
Radio Paging Services	50 - 100
Emergency Communications	50 - 100
Government Radio Systems	50 - 100
Mobile Phone Base Station	2 - 50
Wireless Broadband Base Station	2 - 50
<hr/>	
Radio Devices	Typical Transmitter Power (watts)
Walkie Talkies	0.1 - 5
Mobile Phones	0.002 - 0.2
Wi-Fi Modem	0.1
Cordless Phones	0.01 - 0.2
Baby Monitors	0.01 - 0.1
Car Remote Control	0.001 - 0.1

*typical power into antenna

Note - whilst transmitter power is important, the distance from the transmitter (or antenna) is a major factor in determining a person’s RF exposure. For example a baby monitor inside a house is often the highest source of RF exposure given the proximity.¹

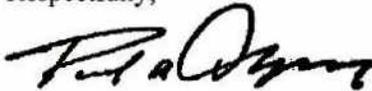
From a regulatory perspective, the FCC has sole jurisdiction over the regulation of electromagnetic fields from all facilities and devices. The FCC has established guidelines and limits over emissions and exposure to protect the general public. The FCC also has certain criteria that trigger when an environmental evaluation must be performed. The criteria are based on distance from the antennas (accessibility) and transmit power levels.

¹ “Radiocommunications in the Community - L2.” *EMF Explained Series*. Web. 20 Sept. 2010. <<http://www.emfexplained.info/?ID=25186>>.

Electromagnetic fields have existed in the environment for well over a century. Wireless antenna facilities generate low level electromagnetic fields. For over 25 years, the uses and applications in wireless communications have changed dramatically. During this period of time, these types of antenna facilities have existed extensively within residential communities, hospitals, schools, office buildings, and apartment/condominium dwellings. I am not aware of a single incident in which public safety was compromised provided facilities comply with the federal standards. Public perception and acceptance of these types of facilities has significantly evolved over time to the point where most communities are more widely accepting the presence of these facilities in the interest of reliable wireless communications for public safety. As we all know, numerous facilities such as that proposed are within our community already.

In summary, Verizon Wireless takes appropriate measures to ensure that all telecommunications facilities comply with applicable exposure limits and guidelines adopted by the FCC governing human exposure to radiofrequency electromagnetic fields (FCC Bulletin OET 65). Federal law (FCC Rule Title 47 CFR 1.1307 and 1.1310) sets the national standard for compliance with electromagnetic field safety. The FCC exposure limits are based on exposure limits recommended by the National Council on Radiation Protection and Measurements (NCRP) and, over a wide range of frequencies, the exposure limits developed by the Institute of Electrical and Electronics Engineers, Inc., (IEEE) and adopted by the American National Standards Institute (ANSI). Thus, all facilities shall comply with the standards of the IRPA, FCC, IEEE, ANSI, and NCRP.

Respectfully,



Paul Dugan, P.E.
Registered Professional Engineer
Maryland License Number 24211



PAUL ALLEN DUGAN, P.E.
508 Ferncastle Drive
Downingtown, Pennsylvania 19335

Cell: 610-220-3820
Fax: 610-458-8612
Email: pauldugan@comcast.net
Web Page: www.millenniumengineering.net

EDUCATION: Widener University, Chester, Pennsylvania
Master of Business Administration, July 1991
Master of Science, Electrical Engineering, December 1988
Bachelor of Science, Electrical Engineering, May 1984

PROFESSIONAL ASSOCIATIONS: **Registered Professional Engineer** in the following jurisdictions:

Pennsylvania, License Number PE-045711-E
New Jersey, License Number GE41731
Maryland, License Number 24211
Delaware, License Number 11797
Virginia, License Number 36239
Connecticut, License Number 22566
New York, License Number 079144
District of Columbia, License Number PE-900355
West Virginia, License Number 20258
Puerto Rico, License Number 18946

Full member of **The Association of Federal Communications Consulting Engineers**
(www.afcce.org) January 1999 to Present
Elected to serve on the Board of Directors for 2006-2007

Full member of **The National Society of Professional Engineers** (www.nspe.org) and the
Pennsylvania Society of Professional Engineers (www.pspe.org) June 2003 to Present
Currently serving as State Director on the Board of Directors of the Valley Forge Chapter and the South
East Region Vice-Chair for the "Professional Engineers in Private Practice" Executive Committee

Actively participate in **Chester County ARES/RACES** (CCAR www.w3eoc.org) which prepares and
provides emergency backup communications for Chester County Department of Emergency Services,
March 2005 to Present

Full member of **The National Council of Examiners for Engineering**
(www.ncees.org) May 2001 to Present

Full Member of **The Radio Club of America**
(www.radio-club-of-america.org) December 2003 to present

PROFESSIONAL EXPERIENCE: Millennium Engineering, P.C., Phoenixville, Pennsylvania
Position: **President**, August 1999 to Present (www.millenniumengineering.net)

Verizon Wireless, Plymouth Meeting, Pennsylvania
Position: **Cellular RF System Design/Performance Engineer**, April 1990 to August 1999

Communications Test Design, Inc., West Chester, Pennsylvania
Position: **Electrical Engineer**, May 1984 to April 1990

* Federal Airways & Airspace *
* Summary Report: New Construction *
* Antenna Structure *

Airspace User: Candice Koenig

File: BICKNELL

Location: Indian Head, MD
Distance: 2.7 Statute Miles
Direction: 352° (true bearing)

Latitude: 38°-33'-34.84" Longitude: 77°-09'-6.27"

SITE ELEVATION AMSL.....117 ft.
STRUCTURE HEIGHT.....199 ft.
OVERALL HEIGHT AMSL.....316 ft.

NOTICE CRITERIA

FAR 77.9(a): NNR (DNE 200 ft AGL)
FAR 77.9(b): NNR (DNE Notice Slope)
FAR 77.9(c): NNR (Not a Traverse Way)
FAR 77.9: NNR FAR 77.9 IFR Straight-In Notice Criteria for 2W5
FAR 77.9: NNR FAR 77.9 IFR Straight-In Notice Criteria for NYG
FAR 77.9(d): NNR (Off Airport Construction)

NR = Notice Required

NNR = Notice Not Required

PNR = Possible Notice Required (depends upon actual IFR procedure)
For new construction review Air Navigation Facilities at bottom
of this report.

Notice to the FAA is not required at the analyzed location and height for slope, height or Straight-In procedures. Please review the 'Air Navigation' section for notice requirements for offset IFR procedures and EMI.

OBSTRUCTION STANDARDS

FAR 77.17(a)(1): DNE 499 ft AGL
FAR 77.17(a)(2): DNE - Airport Surface
FAR 77.19(a): DNE - Horizontal Surface
FAR 77.19(b): DNE - Conical Surface
FAR 77.19(c): DNE - Primary Surface
FAR 77.19(d): DNE - Approach Surface
FAR 77.19(e): DNE - Transitional Surface

VFR TRAFFIC PATTERN AIRSPACE FOR: 2W5: MARYLAND

Type: A RD: 25395.39 RE: 172

FAR 77.17(a)(1): DNE
FAR 77.17(a)(2): DNE - Height No Greater Than 200 feet AGL.
VFR Horizontal Surface: DNE
VFR Conical Surface: DNE
VFR Approach Slope: DNE
VFR Transitional Slope: DNE

VFR TRAFFIC PATTERN AIRSPACE FOR: NYG: QUANTICO MCAF /TURNER FIELD

Type: A RD: 47051.79 RE: 10
 FAR 77.17(a) (1): DNE
 FAR 77.17(a) (2): DNE - Greater Than 5.99 NM.
 VFR Horizontal Surface: DNE
 VFR Conical Surface: DNE
 VFR Approach Slope: DNE
 VFR Transitional Slope: DNE

TERPS DEPARTURE PROCEDURE (FAA Order 8260.3, Volume 4)
 FAR 77.17(a) (3) Departure Surface Criteria (40:1)
 DNE Departure Surface

MINIMUM OBSTACLE CLEARANCE ALTITUDE (MOCA)
 FAR 77.17(a) (4): DNE - No Airway Found

PRIVATE LANDING FACILITIES

FACIL IDENT TYP NAME	BEARING To FACIL	RANGE IN NM	DELTA ARP ELEVATION IFR
MD05 AIR FINAGIN AIRFIELD No Impact to VFR Transitional Surface. Below surface height of 243 ft above ARP.	155.65	3.43	+131
MD83 AIR TY-TI-TO No Impact to VFR Transitional Surface. Below surface height of 358 ft above ARP.	120.61	4.58	+146
MD39 AIR BUDS FERRY No Impact to VFR Transitional Surface. Below surface height of 426 ft above ARP.	243.7	5.26	+266

AIR NAVIGATION ELECTRONIC FACILITIES

FAC IDNT	TYPE	ST AT	FREQ	VECTOR	DIST (ft)	DELTA ELEVA	ST	LOCATION	GRND ANGLE	APCH BEAR
DAA	NDB	I	22	17.76	38973	+265	VA	DAVEE	.39	
DAA	NDB	I		17.74	38990	+262	VA	RWY 32 DAVISON AA	.39	
DC	NDB	I	33	25.26	83082	+226	DC	OXONN	.16	
DCA	NDB	I		25.26	83082	+226	DC	RWY 01 RONALD REA	.16	
BRV	VORTAC	R	114.5	215.23	99693	+171	VA	BROOKE	.10	
DCA	RADAR	ON		18.00	109357	+231	VA	RONALD REAGAN WAS	.12	
DCA	RADAR	ON	15700.	17.05	113625	+238	VA	NATIONAL ASDE	.12	
DCA	VOR/DME	R	111.0	16.74	114026	+306	DC	WASHINGTON	.15	
ADW	VORTAC	R	113.1	42.03	121525	+53	MD	ANDREWS	.02	
ADW	RADAR	ON		41.37	122743	-1	MD	ANDREWS AFB	0.00	
OTT	VORTAC	R	113.7	65.27	127884	+106	MD	NOTTINGHAM	.05	

Alert! IFR Notice is not Required for this structure.
 Predict within Final Segment of Approach plus Fix Error Area. Predict
 within FAR 77.9 IFR Notice Requirement Area for 2W5: VOR-A
 The maximum IFR No Notice Height for new construction is: 460' AMSL.

AML	VOR/DME	R	113.5	326.76	163441	+19	VA	ARMEL	.01	
IAD	RADAR	Y	15700.	329.51	165953	-316	DC	DULLES ASDE	-.11	
IAD	RADAR	ON	2780.	328.51	169671	-25	VA	WASHINGTON DULLES	-.01	
QPL	RADAR ARSR	Y	1260.9	306.93	196343	-1115	VA	The Plains	-.33	
CSN	VORTAC	I	116.3	278.5	206136	-126	VA	CASANOVA	-.04	
KWB	RADAR WXL	Y	3242.	330.71	219131	-274	VA	WASHINGTON IAD LE	-.07	
NHK	RADAR	Y		114.39	232245	+202	MD	PATUXENT RIVER NA	.05	

FCC FCC MONITOR Y

23.02 239765

-45 MD LAUREL

-.01

FCC AM PROOF-OF-PERFORMANCE

NOT REQUIRED: Structure is not near a FCC licensed AM radio station Proof-of-Performance is not required. Please review AM Station Report for details.

Nearest AM Station: WKIK @ 13897 meters.

Airspace® Summary Version 14.1.350

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02-06-2014

07:16:49

Issue Regulatory In-Service Clearance

Project Name : <i>Bicknell - New Build</i>	Task Submitted On : <i>02/06/2014</i>
Task Submitted By : <i>Candice Koenig</i>	

Area: *Northeast*
Network Region: *Washington/Baltimore*

Reason For Submission: *NB - VZW Twr*
Expiration Date: *02/06/2015*

Regulatory In-Service Approval Notice

This notice serves as regulatory clearance for In-Service Approval and *may be Service-Specific.*
(See approval details in the "Comments" section below.)

Please Note:

AWS In-Service Approval will not be given without Spectrum Clearance Certificate. If you have any questions, please contact the Regulatory Department.

This Regulatory Clearance is only valid if there have been no modifications to the original design submitted to regulatory and construction has started before **(02/06/2015)**.

If the construction has not begun prior to the expiration dates, the requirement(s) must be restudied, re-filed and an updated regulatory clearance must be obtained.

Description of Work:

County: *Charles*
Street: *Pisgah Marbury Road*
City: *Marbury*
State: *MD*
County: *Charles*
Zip: *20658*

Coordinates (NAD83)
Latitude: *38-33-34.84 N*
Longitude: *77-09-06.27 W*

FAA Approved overall Tower Height (Ft): *199*
FAA Marking and Lighting: *No Preference*
FAA Study Number: *NA*
FAA Expiration Date:

FCC ASR Number: *NA*
NNR Expiration Date:
NRC Certification Date:

Licensing Information

Clearance	Technology Type Added	Num Sectors	Centerline (Ft. AGL)	Num Voice Carriers/Freq	Num Data Carriers/Freq	FCC Market Call Sign(s)	FCC Market Name(s)
02/06/2014	850 B	3	195	6	1	KNKA230	Washington, DC-MD-VA
02/06/2014	700 Upper	3	195	0	1	WQQJ690	Southeast
02/06/2014	PCS C	3	195	0	2	KNLF647	Washington, DC
02/06/2014	PCS D	3	195	0	2	KNLH444	Washington, DC
02/06/2014	AWS B	3	195	0	1	WQPG204	Washington-Baltimore, DC-MD-VA-WV-PA
						WQQZ840	Washington-Baltimore, DC-MD-VA-WV-PA
02/06/2014	AWS C	3	195	0	1	WQPG204	Washington-Baltimore, DC-MD-VA-WV-PA
						WQQZ840	Washington-Baltimore, DC-MD-VA-WV-PA

Comments:

Law Offices
STEVEN P. RESNICK
116 D Cathedral Street
Annapolis, Maryland 21401
Tel: 410-267-8400
FAX: 410-626-6188

ADMITTED: Maryland, D.C., FLA

December 18, 2013

Kirby Blass, Planner II
Charles County Planning
200 Baltimore Street
La Plata, Maryland

Re: BOA Docket #1315 Pisgah Marbury
Site

Dear Mr. Blass:

As you know, I represent Verizon Wireless with respect to the above captioned Special Exception application. This letter follows a meeting between the County Planning Staff and Verizon Wireless (VZW), (Ms. Morrison in attendance for VZW), held in November, 2013, regarding VZW's request for Special Exception approval for a "Tower more than 50 feet tall," pursuant to Article 297 Section 297-210 et. seq., as set forth in the above captioned docket. It is my understanding that it was determined at that meeting that VZW had fully responded to comments issued by the County regarding grading, forest preservation, storm drainage, and storm water management issues, and to the comments issued by RCC, the County's telecommunications consultant. At that meeting, the comments of Ms. Cathy Thompson, Community Planning Program Manager, dated September 5, 2013, regarding the issue of "Historic Preservation" were discussed, (the "Comments"). VZW's response to those comments is provided herein.

Those Comments stated that the Community Planning Staff had conducted research and determined that the "proposed communications tower is located in close proximity to, and will likely be visible from several historic resources." The Comments further noted that the "Staff is particularly concerned about the historic resources that are located within the Marbury Historic District (CH-785) and the Hetty and Tom Wright House (CH-763)." Although VZW had previously conducted a balloon test and filed the results of that test with its application for Special Exception approval, VZW agreed to conduct a second balloon test to address the concerns which had been raised. Accordingly, a second balloon test was conducted on November 22, 2013. To my knowledge, the County staff was in attendance, and photographs were taken from four locations within the southern portion of the Marbury Historic District, including the Hetty and Tom Wright House.

The Comments requested that VZW identify all historic sites listed on the Maryland Inventory of Historic Properties (MIHP) located within a one-mile radius of the proposed tower, on a location map. The MIHP however is an archive of information and the determination of a property's historic significance *is not a requirement for inclusion* in the inventory. Indeed, the inventory is not a regulatory instrument and consists of nearly 90,000 resource entries. We would note that the identification of properties on the MIHP does not appear to be a requirement of obtaining Special Exception approval from the Board of Appeals. We further note that the Programmatic Agreement implemented pursuant to section 106 of the National Historic Preservation Act specifically addresses the potential for impact of telecommunications towers under 200' in height on historic resources, and establishes an Area of Potential Effect (APE) of ½ mile from the proposed location of such a communication facility. The request, to us, would appear to seek the identification of properties which may not have been determined to have any historic significance over an area twice that which has been employed by federal regulation. Nevertheless, VZW has provided an identification of such properties by designating them on the attached maps, as requested.

VZW has addressed Community Planning's particular concerns, (See Report of CHRS, Inc., issued by Ms. Maureen McDougal, attached hereto). Although a portion of the tower will be visible from the Hetty and Tom Wright House (CH-763), the tower is at a great distance from this property-approximately 1,580 feet south-south east of that structure. The view of the tower is buffered by trees and topography (photographs attached) and the view-shed of the Wright House has already been altered with modern construction and utilities, which are located in immediate proximity to the structure. Ms. Maureen McDougal, an architectural historian, has evaluated the question of whether any impact would be occasioned by the proposed tower upon the Wright House structure and has concluded that the proposed monopole will have No Adverse Effect on the Hetty and Tom Wright House. (See Report Attached).

As to the Marbury Historic District (CH-785), the southernmost section of the district is the area located closest to the proposed facility, but is nevertheless approximately 1,000 feet north of the proposed monopole location. The closest contributing resources are the Hetty and Tom Wright House (CH-763) and the Alfred and Daisy Willet House (CH-764). These properties are located 1580' and 1850' away from the proposed monopole location, respectively. While the monopole will be partially visible from these two locations, it will not be visible from other locations within the District. The proposed facility will have No Adverse Impact upon the Marbury Historic District. (See McDougal report attached).

It was also requested that VZW at its expense hire a qualified professional to complete Determination of Eligibility forms for all MIHP properties from which the monopole will be visible which are located within ½ mile of the proposed site, so that they may be presented to the County's Historic Preservation Commission. VZW is unaware of any statutory requirement imposing this procedure upon the special exception process, and respectfully asks that you provide us with a code citation so that we may have the benefit thereof and, if necessary, further evaluate the request. Moreover, there

are four MIHP properties within the ½ mile radius- the Wright House, the Alfred and Daisy Willett House, the Ernest Skinner property and the Marbury Church of God Rectory (CH-771). The proposed facility is not visible from the Skinner or Marbury Church of God properties and the Wright and Willett properties have been addressed herein.

We appreciate the opportunity afforded to VZW to respond to the Comments, and believe that we have worked cooperatively and in good faith with the County, in an effort to address the concerns of the Community Planning Department. We remain willing to do so, and hope that this response is helpful and well received.

Sincerely,

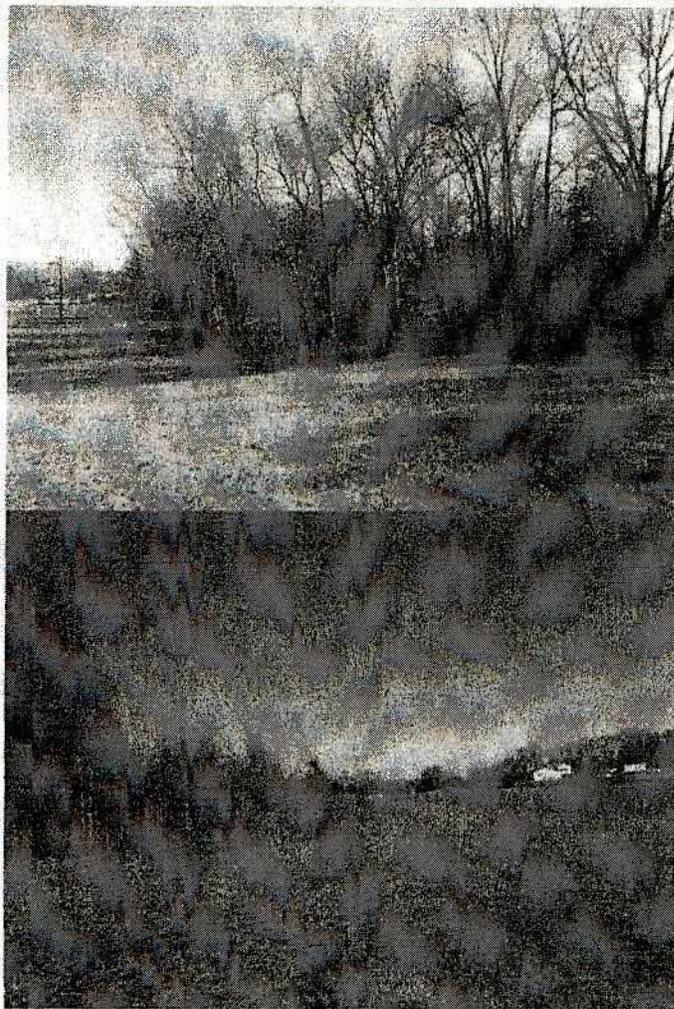
A handwritten signature in black ink, appearing to read 'S. Resnick', with a long horizontal line extending to the right.

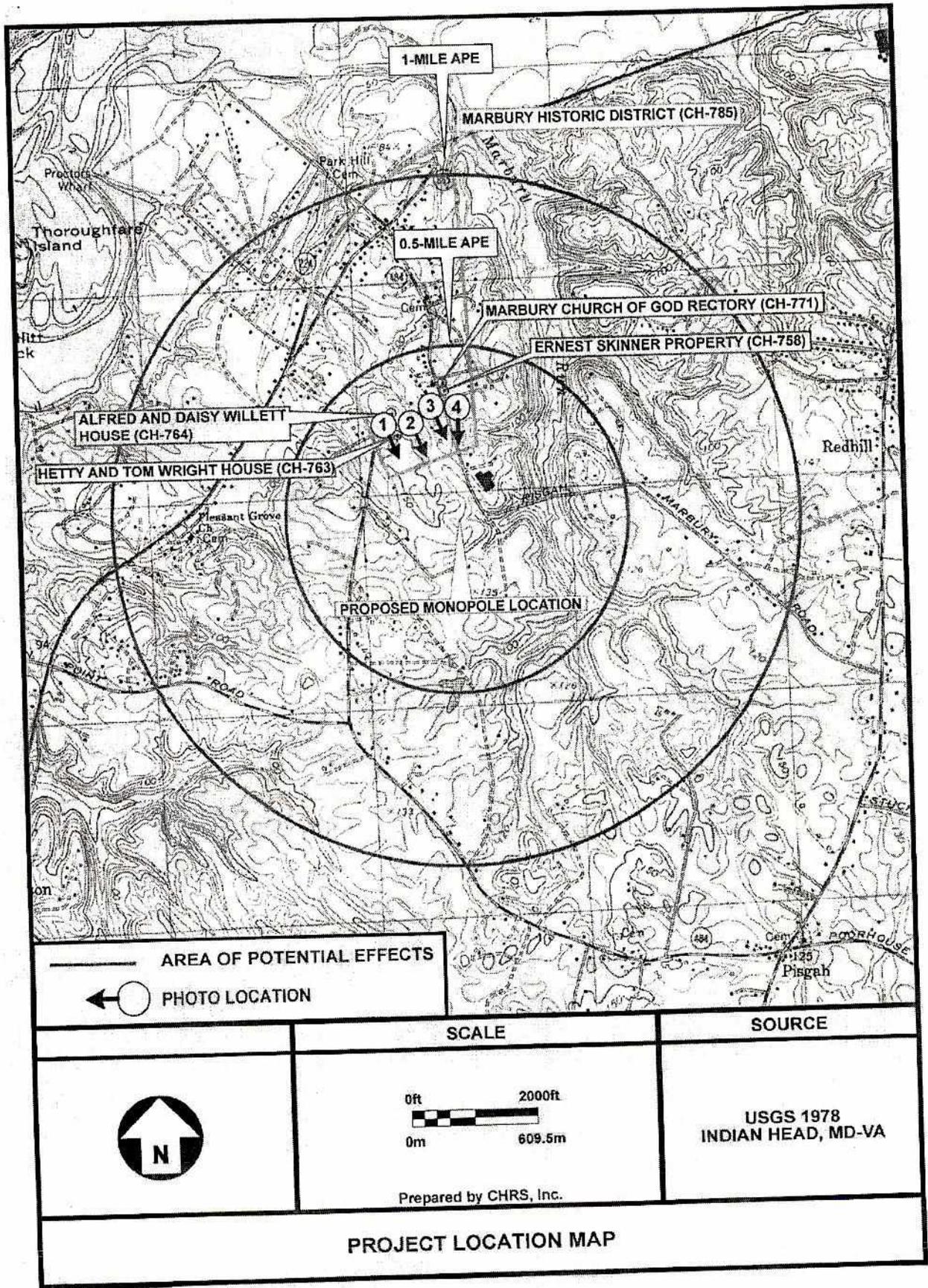
Steven P. Resnick





v

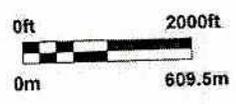




 AREA OF POTENTIAL EFFECTS
 PHOTO LOCATION

SCALE

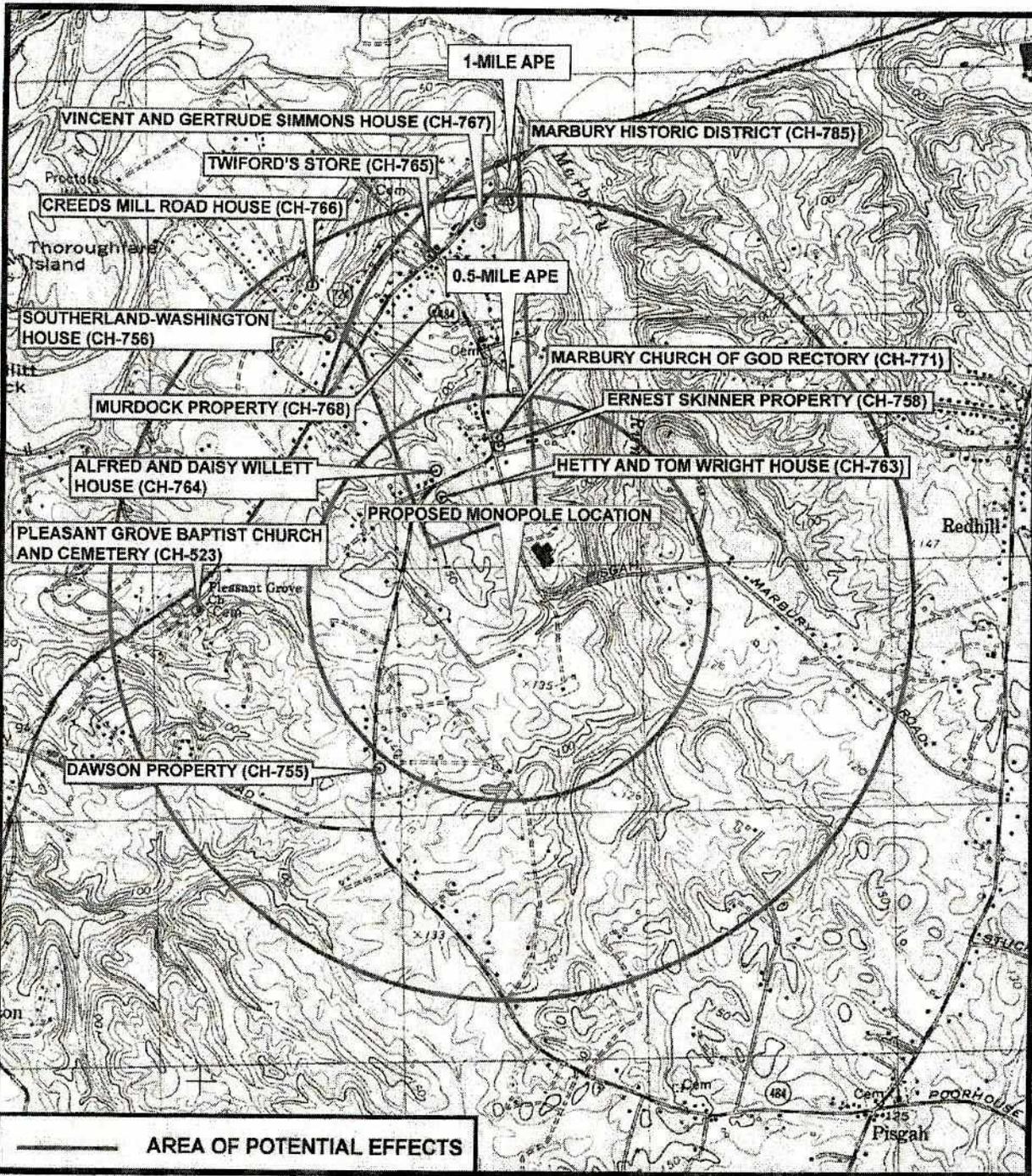
SOURCE



USGS 1978
 INDIAN HEAD, MD-VA

Prepared by CHRIS, Inc.

PROJECT LOCATION MAP



<p>— AREA OF POTENTIAL EFFECTS</p>	<p>SCALE</p>	<p>SOURCE</p>
	 <p>0ft 2000ft 0m 609.5m</p>	<p>USGS 1978 INDIAN HEAD, MD-VA</p>

Prepared by CHRIS, Inc.

RESOURCE LOCATION MAP



CHRS, Inc.

Historic
Preservation
Services

Archaeology · Historic Preservation · Research

November 25, 2013

Hillorie Morrison
Zoning Specialist
SCE, Inc. o/b/o Verizon Wireless
9305 Gerwig Ln., Ste M
Columbia, MD 21046
Email: hmorrison@sceeng.com
Phone: (443) 570-0014

William A. Bates
Senior Project Manager
TRILEAF Corporation
10845 Olive Boulevard, Suite 260
St. Louis, MO 63141
Email: W.Bates@trileaf.com
Phone: (314) 997-6111

RE: TRILEAF Corporation Site 605738 "Bicknell" – Candidate: Devane Farm
Pisgah Marbury Road, Parcel 0119, Marbury, MD 20658 (N 38° 33' 34.84" W 77° 9' 6.27")
Balloon Test

Dear Ms. Morrison and Mr. Bates:

On Friday, November 22, 2013, at 9:00 a.m., CHRS, Inc. staff flew a red helium weather balloon to a height of 199 feet at the proposed telecommunications monopole location. The wind speed at the time was less than 6 miles per hour and no weather-related issues were encountered. The attached photographs were taken from the historic resources identified by Charles County Staff as being of particular concern. These resources include the Hetty and Tom Wright House (CH-763) and the Marbury Historic District (CH-785). Photographs were taken from four locations within the southern portion of the Marbury Historic District (including the Hetty and Tom Wright House), all within a 0.5-mile radius of the proposed monopole location.

The proposed monopole will be visible facing south-southeast from the Hetty and Tom Wright House, which is approximately 1,580 feet north-northwest of the proposed monopole location (Photograph 1). The proposed monopole will be visible from some areas within the Marbury Historic District. For example, the proposed monopole will be visible facing south-southeast from the Alfred and Daisy Willett House (CH-764), which is a contributing resource to the Marbury Historic District, and is located approximately 1,850 feet north-northwest of the proposed monopole location (Photograph 2). However, the proposed monopole will not be visible from the Marbury Church of God, nor from the Ernest Skinner Property (CH-758), both of which are located approximately 1,950 feet north-northwest of the proposed monopole location, within the southern portion of the Marbury Historic District (Photographs 3 and 4).

451 N. Cannon Ave., Suite 100B
Lansdale, PA 19446
www.chrsinc.com

Tel.: 215-699-8006
Fax: 215-699-8901
Email: mmedougall@chrsinc.com

Based on the information gathered during the balloon test, it is my opinion that the proposed monopole will have No Adverse Effect on the Hetty and Tom Wright House. The proposed monopole will stand approximately 1,580 feet south-southeast of the Hetty and Tom Wright House. The viewshed of the resource has already been altered with modern construction and utilities. Although Charles County recommended the house eligible for the National Register of Historic Places in their Phase VI Historic Sites Survey, the Maryland Historical Trust has not issued a concurrence with this recommendation. Thus, the resource has not been determined eligible for the National Register. Moreover, even if it were determined eligible, the construction of the proposed monopole will not alter those characteristics for which it would be eligible for listing in the National Register of Historic Places.

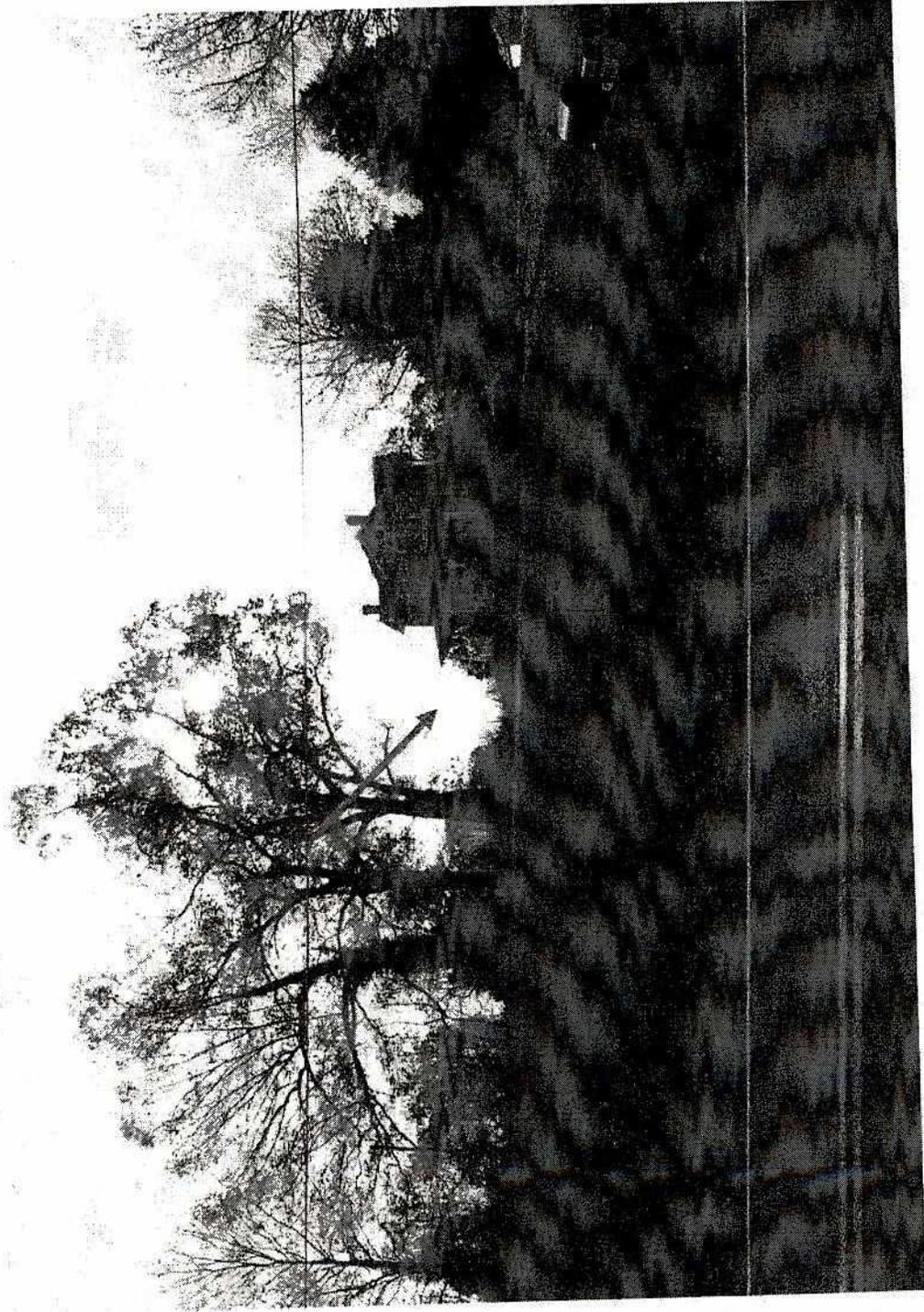
Similarly, it is my opinion that the proposed monopole will have No Adverse Effect on the Marbury Historic District. The southernmost section of the district is approximately 1,000 feet north of the proposed monopole location, with the closest contributing resources within the district being the Hetty and Tom Wright House and the Alfred and Daisy Willet House, which are approximately 1,580 feet north-northwest of the proposed monopole location, and approximately 1,850 feet north-northwest of the proposed monopole location, respectively. While the proposed monopole will be visible from these resources, it will not be visible from other locations within the district, due to extant trees, topography, and distance. Moreover, the historic viewshed of the district has already been altered with the presence of modern utilities and modern construction. The Marbury Historic District was recommended eligible for the National Register of Historic Places in the Phase VI Charles County Historic Sites Survey; however, the Maryland Historical Trust has not issued a concurrence with this recommendation. Even if the Maryland Historical Trust were to determine the district eligible for the National Register of Historic Places, the proposed monopole would not alter those characteristics for which the Marbury Historic District would be eligible for listing in the National Register of Historic Places.

Please feel free to contact me directly if you have any questions or require any additional information.

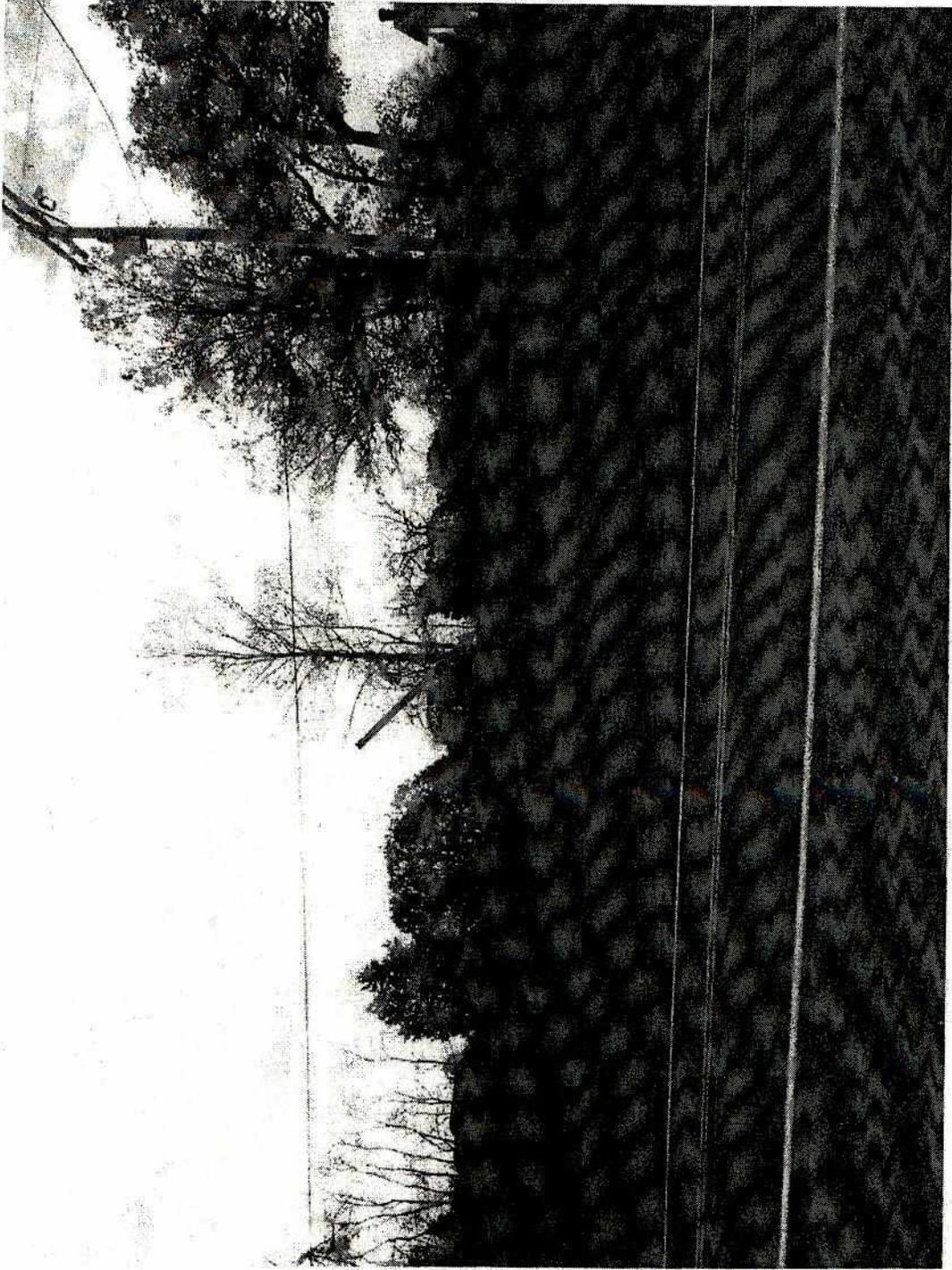
Sincerely,



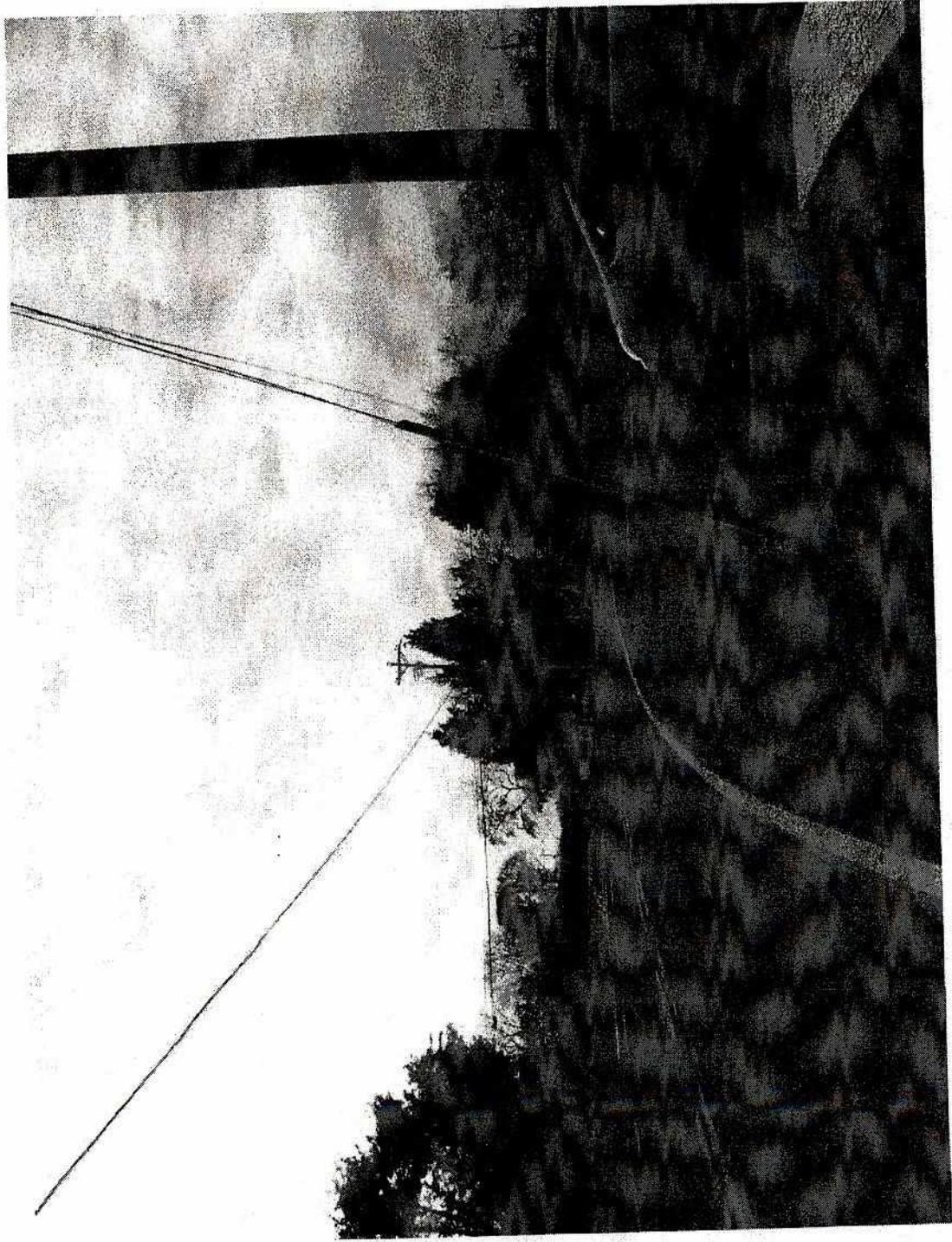
Maureen McDougall
Architectural Historian



Photograph 1—Hetty and Tom Wright House (ID# CH-763): View facing south-southeast towards the proposed monopole location from the resource, which is located within the Marbury Historic District (CH-785). Note that the balloon is visible from the resource.



Photograph 2—Alfred and Daisy Willett House (CH-764): View facing south-southeast towards the proposed monopole location from the resource, which is located within the Marbury Historic District (CH-785). Note that the balloon is visible from the resource, but is partially obscured by the extant trees.



Photograph 3—Marbury Historic District (CH-785): View facing south-southeast towards the proposed monopole location from the Marbury Church of God, which is located within the Marbury Historic District. Note that the balloon was not visible due to the mature evergreens.



Photograph 4—Ernest Skinner Property (CH-758): View facing south towards the proposed monopole location from the resource, which is located within the Marbury Historic District (CH-785). Note that the balloon was not visible due to the mature evergreens.

DEVANE WILLIAM T & CYNTHIA N
DEED BOOK: 3697 PAGE: 555
ACCOUNT NUMBER: 022304
ZONING: RC

BRD OF EDUCATION OF CHARLES CO MD
DEED BOOK: 178 PAGE:319
ACCOUNT NUMBER: 014735
ZONING: RC

SITE NOTES:

- EXISTING SITE INFORMATION WAS OBTAINED FROM THE FOLLOWING SOURCES: FIELD OBSERVATIONS CONDUCTED BY KCI TECHNOLOGIES, INC. ON 3/18/13.
- BOUNDARY INFORMATION WAS OBTAINED FROM RECORD PLATS.
- PROPERTY SHOWN HERON LIES WITH ZONE C, AN AREA OF MINIMAL FLOODING, AS PER FEMA MSC PRODUCT MAP SEARCH COMMUNITY PANEL NO. 2400890070B DATED JUNE 5, 1985.
- THE SITE IS UNMANNED AND DOES NOT REQUIRE WATER OR SEWER CONNECTIONS.
- THE SITE WILL GENERATE ONE TRIP EVERY 6 MONTHS AND ONLY REQUIRES PARKING FOR ONE VEHICLE.
- SITE PLAN WAS GENERATED WITH AERIAL IMAGES, A RECORD PLAT PREPARED BY BEN DYER AND ASSOCIATES, INC. DATED AUGUST 2002, AND A LIMITED SITE SURVEY BY KCI TECHNOLOGIES, INC. CONDUCTED IN APRIL 2013.

SCHWEITZER ROBER &
JEWEL D TRS
DEED BOOK: 2980 PAGE: 528
ACCOUNT NUMBER: 020816
ZONING: RC

PRICE VIRGINIA L
DEED BOOK: 7267 PAGE: 289
ACCOUNT NUMBER: 018072
ZONING: RC

PISGAH MARBURY ROAD

PROPOSED 30' WIDE
ACCESS AND UTILITY
EASEMENT

PROPOSED 50'x50' VERZION
WIRELESS EQUIPMENT COMPOUND
SEE SHEET C-2 FOR DETAILS

CURVE TABLE						
CURVE	LENGTH	RADIUS	DELTA	TANGENT	CHORD BEARING	CHORD
C1	436.23	279.31	89°29'08"	276.81	S 60°17'50" E	393.23

KELLAM MARIAN L ETAL
DEED BOOK: 1948 PAGE: 24
ACCOUNT NUMBER: 018161
ZONING: RC

DEVANE WILLIAM T & CYNTHIA N
DEED BOOK: 2135 PAGE: 129
ACCOUNT NUMBER: 009111
ZONING: RC

BOWMAN ELAINE T C/O ELAINE T BAKER
DEED BOOK: 1053 PAGE: 223
ACCOUNT NUMBER: 017572
ZONING: RC

DEVANE WILLIAM T & CYNTHIA N
DEED BOOK: 3697 PAGE: 555
ACCOUNT NUMBER: 000157
ZONING: RC

DEVANE WILLIAM T & CYNTHIA N
DEED BOOK: 2135 PAGE: 129
ACCOUNT NUMBER: 009448
ZONING: RC

DEVANE WILLIAM T & CYNTHIA N
DEED BOOK: 2135 PAGE: 129
ACCOUNT NUMBER: 009111
ZONING: RC

CAMPBELL SARA & CHARLES SIMPKINS
DEED BOOK: 966 PAGE: 192
ACCOUNT NUMBER: 007356
ZONING: RC

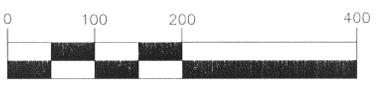
ABELL LOUIS R TRS
DEED BOOK: 4217 PAGE: 321
ACCOUNT NUMBER: 000149
ZONING: RC

OVERALL SITE PLAN

SCALE: 1"X17" = 200'
24"X36" = 1" = 100'



GRAPHIC SCALE



(IN FEET)

NO.	DATE	DESCRIPTION
0	7/08/13	ISSUED FOR ZONING

KCI TECHNOLOGIES
KCI TECHNOLOGIES, INC.
8161 Maple Lawn Blvd, Suite 150
Fulton, MD 20759
Phone: 410.792.8086

verizon wireless
BICKNELL
PISGAH MARBURY ROAD
MARBURY, MARYLAND 20668

ENGINEER:
JOHN J. RUPP, PE
MD LICENSE NO.: 40838

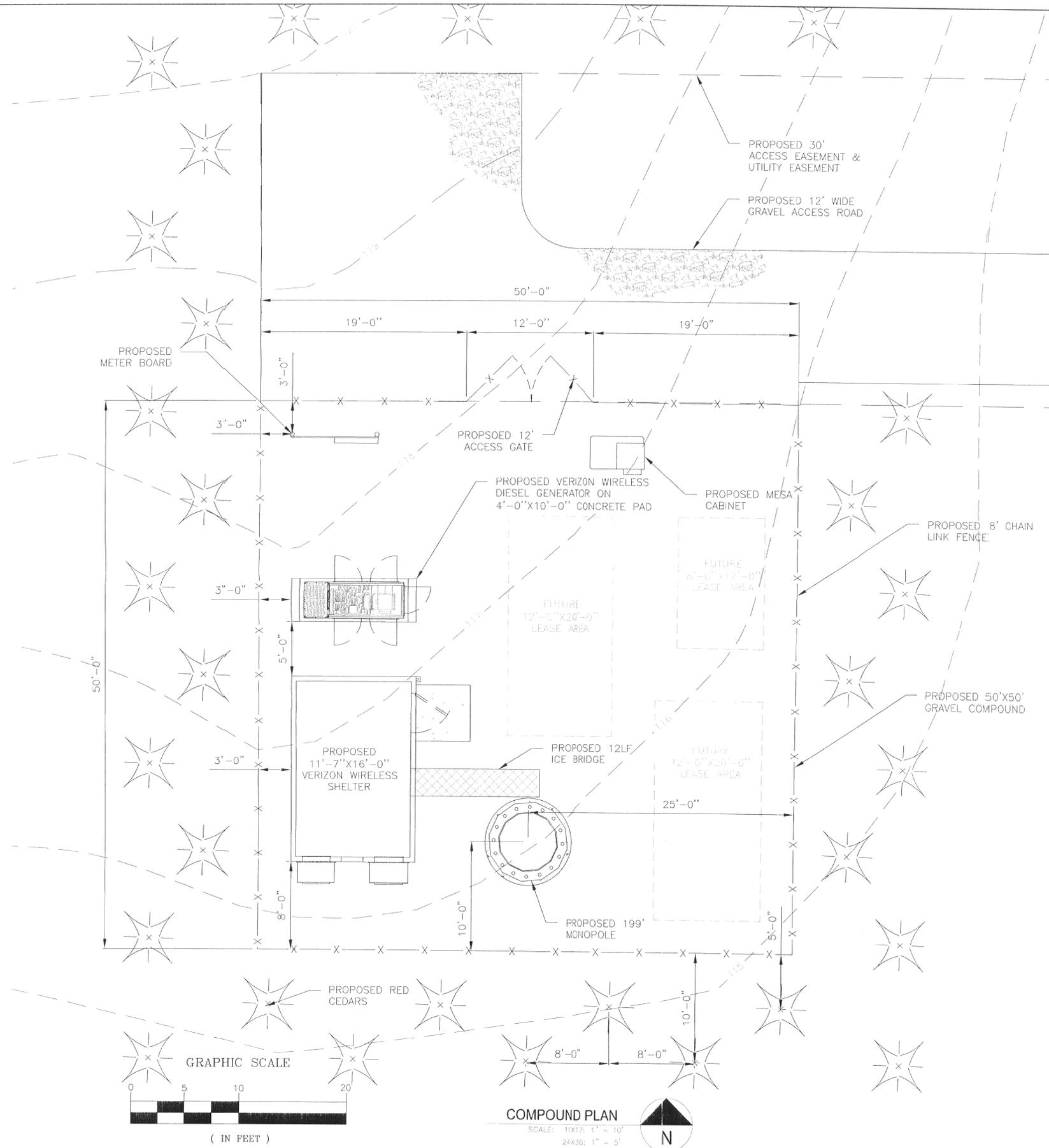
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SCALE: AS NOTED
DATE: 03/27/2013
KCI JOB NUMBER: **02133254A**

SHEET TITLE
SITE PLAN & COMPOUND PLAN

SHEET
C-1

PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO.: 40838. EXPIRATION DATE: 06-20-2015.



NO.	DATE	DESCRIPTION
0	7/08/13	ISSUED FOR ZONING

DRAWN BY: BEW
 CHECKED BY: JJR
 APPROVED BY: JJR

KCI TECHNOLOGIES
 KCI TECHNOLOGIES, INC.
 8161 Maple Lawn Blvd, Suite 150
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 Phone: 410.792.8086

verizon wireless
BICKNELL
 PISCATAWAY ROAD
 MARLBURY, MARYLAND 20658

ENGINEER:
JOHN J. RUPP, PE
 MD LICENSE NO.: 40838

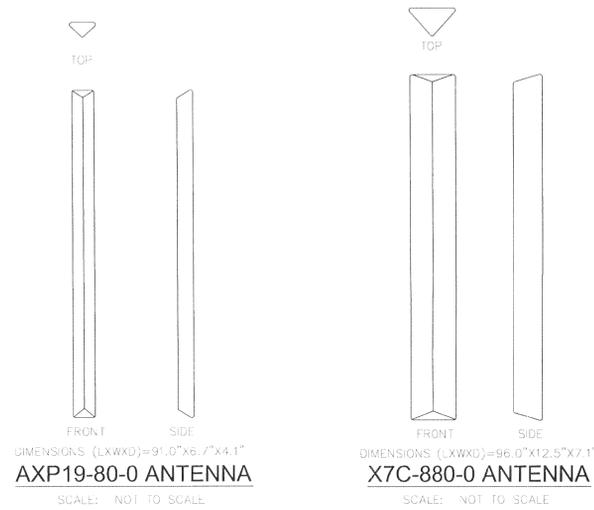
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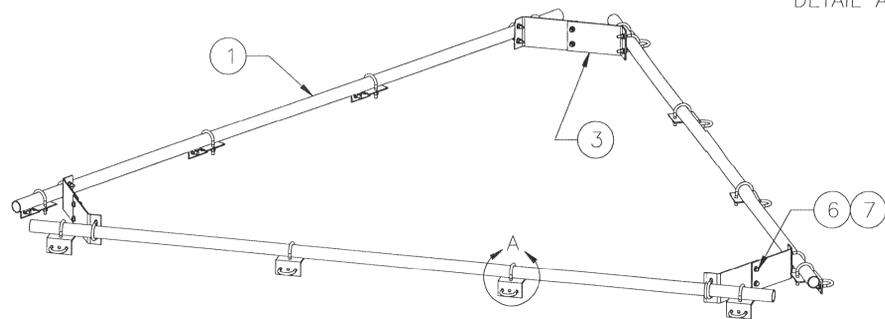
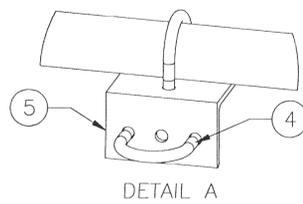
SHEET TITLE
COMPOUND PLAN

SHEET
C-2

PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A FULLY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO: 40838. EXPIRATION DATE: 06-20-2015

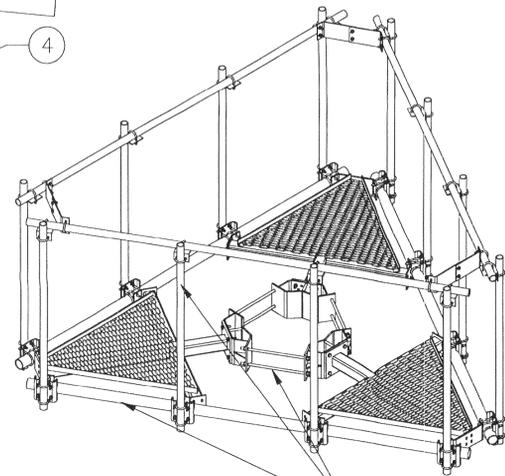


ITEM	PART No.	PART DESCRIPTION	QTY	WEIGHT
1	MT-XXX	2 3/8" O.D. PIPE (SEE TABLE)	3	-
2	MT195HK	HARDWARE KIT (ITEMS 3-7)	1	-
3	MT195.03	END PLATE	6	5.63 LBS
4	GUB-4240	1/2" x 2 1/2" x 4" GALV. U-BOLT KIT	30	0.56 LBS
5	XA2020.01	CROSSOVER ANGLE	12	2.66 LBS
6	GB-04145	1/2" x 1 1/2" GALV. BOLT KIT	6	0.13 LBS
7	GWF-04	1/2" GALV. FLAT WASHER	12	0.02 LBS

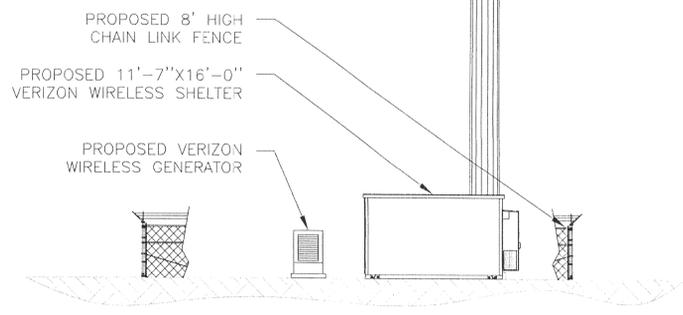
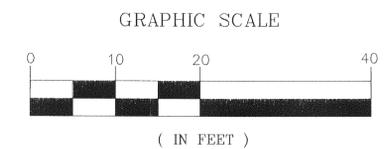
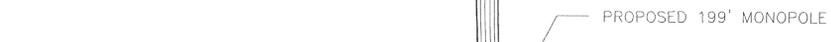
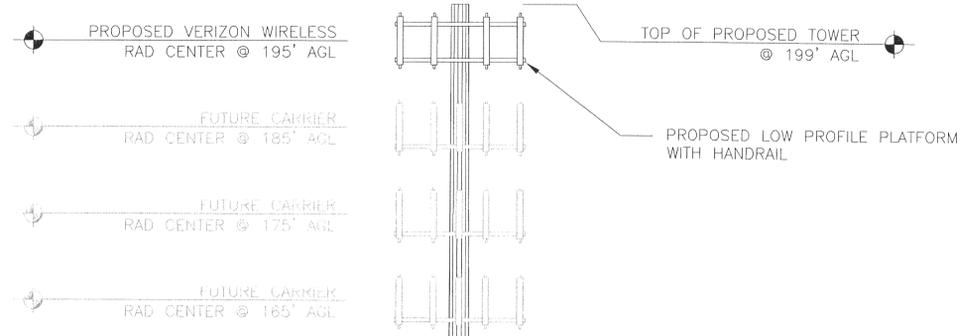


PRODUCT	PIPE #	PRODUCT DESCRIPTION	WEIGHT
MT19512	MT 651 150	2 3/8" O.D. x 150" STIFF ARM PIPE	225.1 LBS
MT19514	MT 537 174	2 3/8" O.D. x 174" STIFF ARM PIPE	247.0 LBS

LOW PROFILE PLATFORM WITH HANDRAIL DETAIL
SCALE: NOT TO SCALE



SITE PRO LOW PROFILE PLATFORM
RMQLP-496 AND PIPE MOUNTS;
SOLD SEPARATELY



TOWER ELEVATION
SCALE: 1"X17: 1" = 20'
24X36: 1" = 10'

PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO.: 40838 EXPIRATION DATE: 02-28-2015

2-9-13

NO.	DATE	DESCRIPTION
0	7/08/13	ISSUED FOR ZONING

DRAWN BY: BEW
CHECKED BY: JUR
APPROVED BY: JUR

KCI TECHNOLOGIES
KCI TECHNOLOGIES, INC.
8161 Maple Lawn Blvd, Suite 150
Fulton, MD 20759
Phone: 410.792.8086

verizon wireless
BICKNELL
PUSGAM MARYBURY ROAD
MARYBURY, MARYLAND 20656

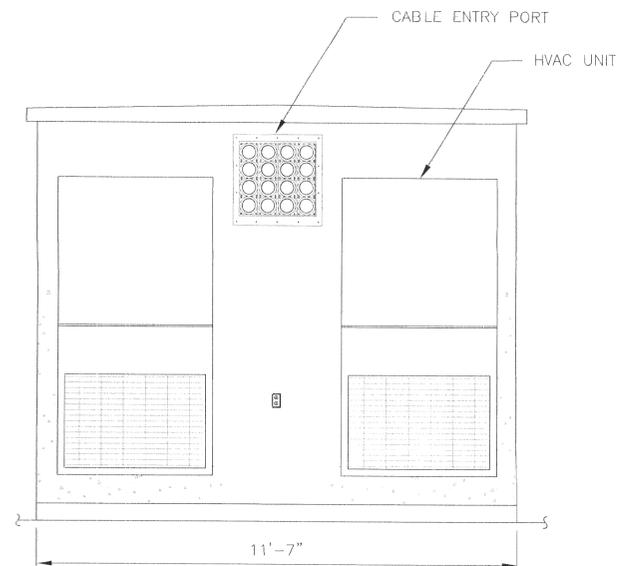
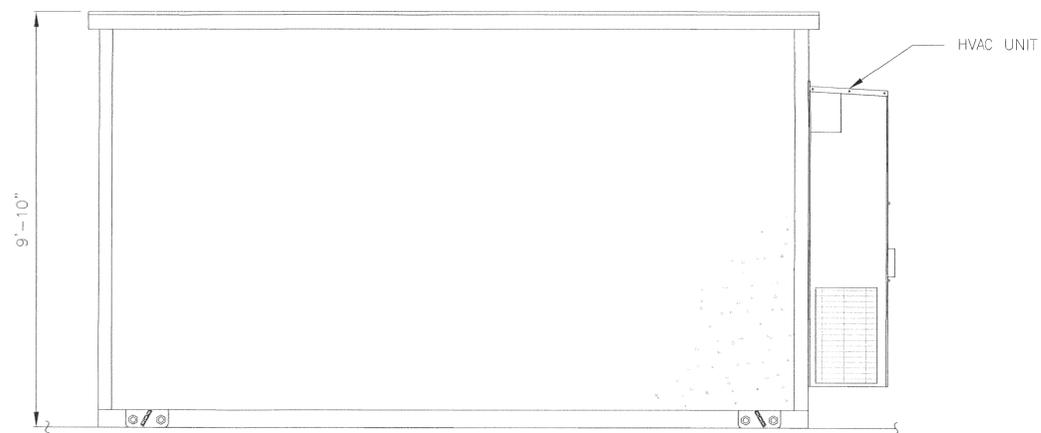
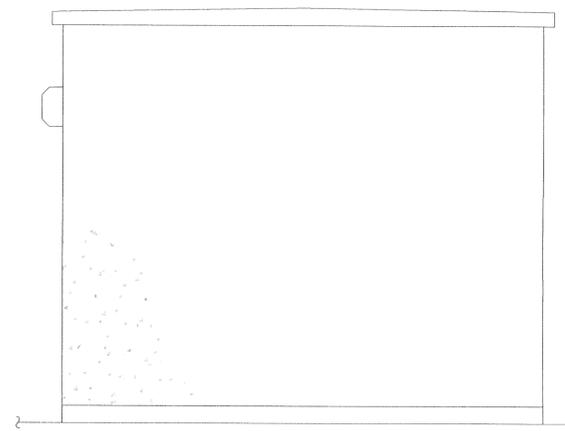
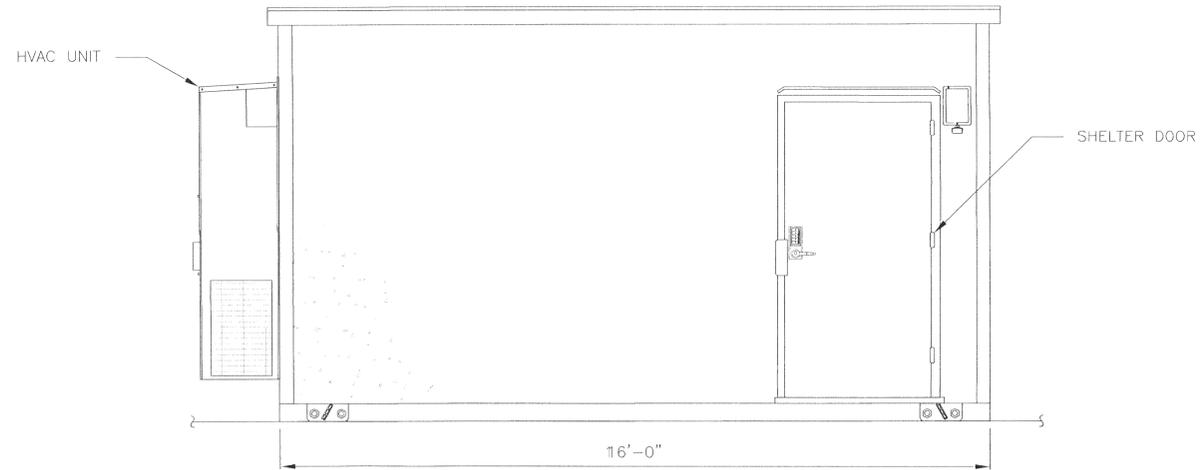
ENGINEER:
JOHN J. RUPP, PE
MD LICENSE NO.: 40838

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SCALE: AS NOTED
DATE: 03/27/2013
KCI JOB NUMBER: **02133254A**

SHEET TITLE
TOWER ELEVATION & DETAILS

SHEET
C-3

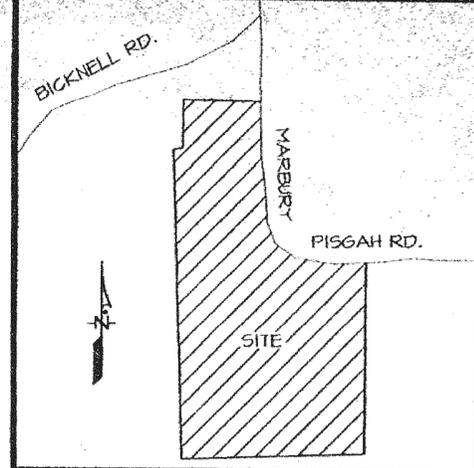
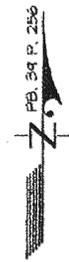
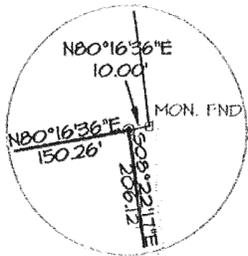
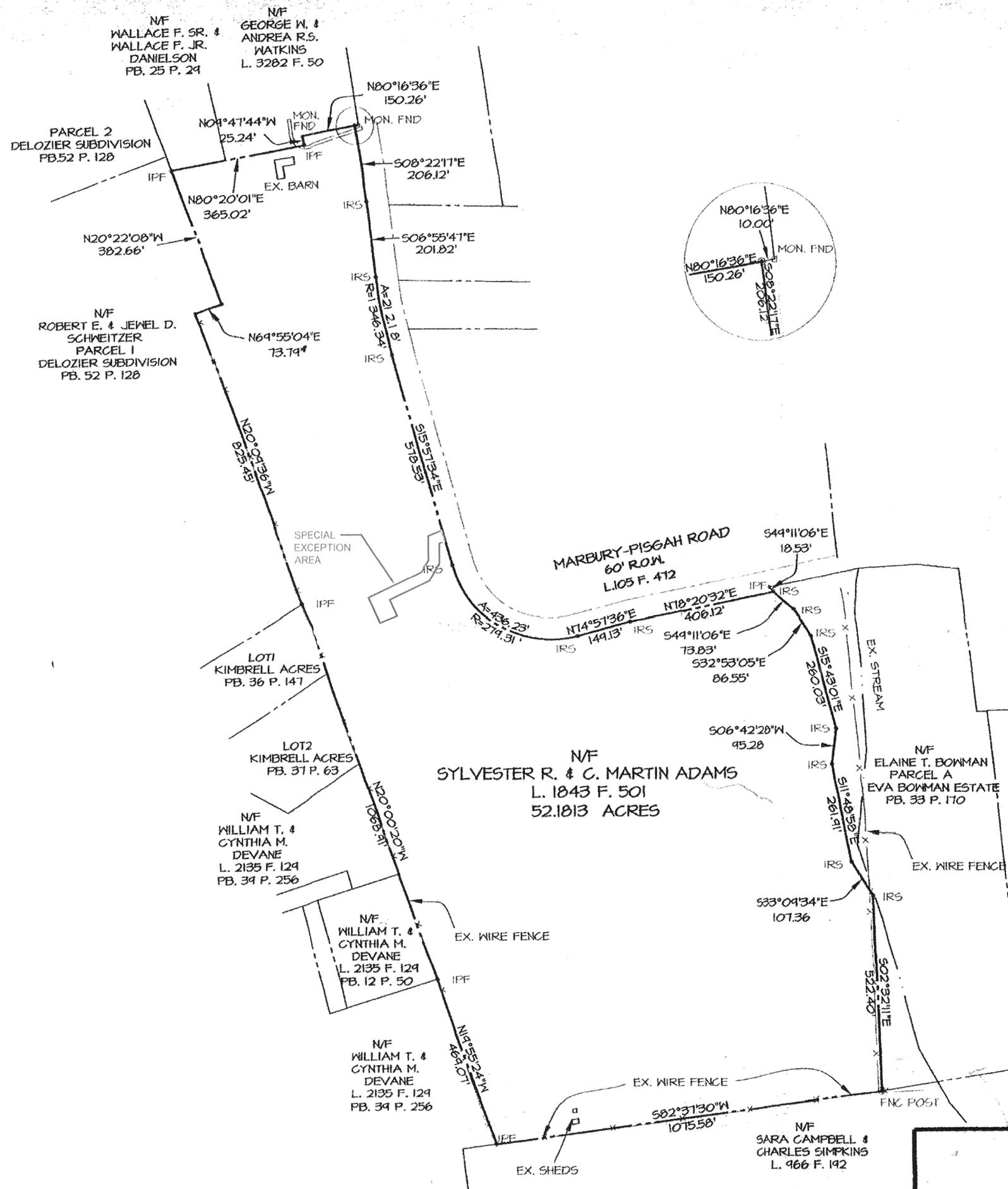


VERIZON WIRELESS SHELTER ELEVATIONS

SCALE: 11x17: 1" = 4"
24x36: 1" = 2"

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DRAWN BY: BEW		DESCRIPTION	
CHECKED BY: JJR	DATE: 7/08/13	ISSUED FOR ZONING	
APPROVED BY: JJR	NO. 0		
 KCI TECHNOLOGIES KCI TECHNOLOGIES, INC. 8161 Maple Lawn Blvd, Suite 150 Fulton, MD 20759 Phone: 410.792.8086			
 verizon wireless BICKNELL PISGAH MARBURY ROAD MARBURY, MARYLAND 20658			
ENGINEER: JOHN J. RUPP, PE MD LICENSE NO.: 40838			
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SCALE:	AS NOTED		
DATE:	03/27/2013		
KCI JOB NUMBER:	02133254A		
SHEET TITLE:	SHELTER DETAILS		
SHEET:	C-4		



VICINITY MAP SCALE: 1" = 2,000'
TAX MAP 20, GRID 22, PARCEL 119

SURVEYOR'S CERTIFICATE:

I HEREBY CERTIFY THAT I HAVE CAREFULLY SURVEYED THE LAND SHOWN HEREON; THAT IT IS ALL OF THE LAND AS CONVEYED BY KATE C. ADAMS, SURVIVING TENANT BY THE ENTIRETY WITH RALPH J. ADAMS, BY SYLVESTER R. ADAMS, HER ATTORNEY-IN-FACT, TO KATE C. ADAMS, SYLVESTER R. ADAMS, AND C. MARTIN ADAMS BY DEED DATED JULY 31, 1986 AND RECORDED AMONG THE LAND RECORDS OF CHARLES COUNTY, MARYLAND IN LIBER 1143, FOLIO 50; AND FURTHER THAT IT IS ALL OF THE LAND AS CONVEYED BY SYLVESTER R ADAMS, PERSONAL REPRESENTATIVE OF THE ESTATE OF KATE C. ADAMS, TO SYLVESTER R. ADAMS AND C. MARTIN ADAMS BY DEED DATED SEPTEMBER 14, 1993 AND RECORDED AMONG THE LAND RECORDS OF CHARLES COUNTY, MARYLAND IN LIBER 1843, FOLIO 501;

THAT MARKERS HAVE BEEN FOUND OR PLACED AS INDICATED.

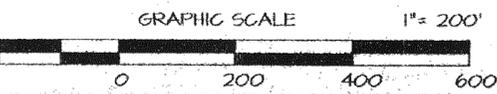
William Wesley Tomlinson, Jr. Nov. 6, 2002
 WILLIAM WESLEY TOMLINSON, JR. DATE
 PROFESSIONAL LAND SURVEYOR
 MARYLAND NO. 10725

LEGEND:

- Property Line _____
- Iron Pipe Found IPF
- Iron Rod Set IRS
- Conc. Monument MON FND
- Ex. Wire Fence X

**BOUNDARY SURVEY
LAND OF
SYLVESTER R. AND
C. MARTIN ADAMS**

10TH ELECTION DISTRICT
CHARLES COUNTY, MARYLAND



THIS SURVEY WAS PREPARED WITHOUT
BENEFIT OF A TITLE REPORT.

9375 CHESAPEAKE STREET, SUITE 227 P.O. BOX 2727, LA PLATA, MARYLAND 20646 BEN DYER ASSOCIATES, INC. Engineers / Surveyors / Planners TELEPHONE (301) 783-1898 COPYRIGHT © 2002 BEN DYER ASSOCIATES, INC.			
DRAWN BY	DESIGNED BY	CHECKED BY	RECORD NO.
SCALE	1" = 200'	DATE	AUGUST, 2002
DATE		BY	
AUGUST, 2002		J-02604	
REVISIONS		DRWG. NO.	
		01.001-P	