



EXTENET INFORMATION IN RESPONSE
TO VARIOUS PUBLIC COMMENTS
DATED DECEMBER 8, 2014

This report has been prepared by ExteNet to provide additional information in response to public comments at the November 6th and December 2nd public hearings held on its application for a Distributed Antenna System (“DAS”) in the Village of Pelham, New York. The information contained herein was prepared by Chris Fridrich, ExteNet RF Manager, Rick Angelini, ExteNet Director of Construction, and Tamara Slade, Director of External Relations, all of whom testified before the Village Board on November 6th and contributed to ExteNet’s November 17th report that provided additional information in response to questions the Village Board had of after the November 6th public hearing.

I. Nature of Public Comments

There have been public comments in support of and opposition to ExteNet’s application. All comments in opposition have been opinions relating to public health, property values, the need for wireless service improvements in the Village, the aesthetics of ExteNet’s DAS nodes located at three locations in the Village’s rights-of-way in Pelham (“ROW”) and how the Village Board should interpret Chapter 87 of the Village Code as amended and applied to ExteNet’s application. Our attorneys are responding under separate memorandum to the Village Board regarding the scope of Chapter 87 and its proper interpretation by the Village Board. This report is intended to address comments by the public and one consultant for a resident in opposition to one of ExteNet’s nodes in the vicinity of Second Street and Cliff Avenue.

A. Need for Wireless Service Improvements & Evidence Provided by ExteNet & T-Mobile

T-Mobile and we at ExteNet have on staff RF engineers with decades of experience that have studied Pelham, collected data in the Village through drive tests and testified that there is a significant gap in T-Mobile’s wireless services in residential areas of the Village under any standard recognized as a matter of physics and radio frequency communications. The Village’s own consulting RF Engineer has testified that the proof provided by ExteNet and T-Mobile is appropriate, standard and confirms a significant gap in T-Mobile’s wireless services in residential areas of the Village.

We have reviewed a letter report from the Center for Municipal Solutions (“CMS”) dated November 26, 2014. Interestingly, the CMS report includes no technical evidence or reports on T-Mobile’s network or the additional technical proof and evidence provided by ExteNet.

Rather, the report simply comments on the proof provided by ExteNet and T-Mobile and already verified by the Village's RF consultant, CTC. We nevertheless offer the following comments and information in response to CMS' statements regarding the need for T-Mobile wireless service improvements and ExtNet's DAS in Pelham.

1. T-Mobile RF Thresholds for Reliable Service & In-Building Services

CMS' letter report attempts to undermine T-Mobile's standard signal level thresholds used across the United States in assessing the delivery of reliable wireless services in its 4G LTE network. Yet CMS offers no literature references, data or even an opinion on what "standards" let alone a dBm signal level they think would be appropriate if not those that T-Mobile uses. We believe this just reiterates that CMS is not acting in the capacity as an RF engineer in this proceeding. Under separate cover, the Village Board's consultant CTC recently asked for further background on T-Mobile's dBm signal level thresholds and ExteNet has asked T-Mobile to respond to same.

2. Existing Network Test Data

Drive test data collected from public streets is a tool routinely utilized by wireless carriers and infrastructure companies like ExteNet on the performance of wireless networks. In our experience, collection of data from inside homes is never part of a drive test. We seriously can't imagine companies like ours or T-Mobile developing survey protocols, seeking resident consent to have a professional enter their homes and then actually collect data on wireless carrier networks and their existing signal strengths inside homes. Principally we have this position because a drive test from public streets coupled with industry standard signal path loss assessments (including building penetration) have been used for years and have statistical accuracy in assessing and extending to in-building environments when done by experienced RF engineers like those at ExteNet and T-Mobile. In our opinion, there simply is no need for measurements inside the homes of Pelham residents to know whether or not their wireless service is consistently reliable.

3. Customer Experiences

CMS's letter report goes on to recite statements and experiences by their clients. While customer experiences can be used to supplement wireless carrier information as part of network improvements, one individual customer's experience is not a substitute for the kind of data collection and professional RF planning undertaken by T-Mobile and ExteNet. Of note, Mr. Kaplan's apparent experience would not necessarily be surprising given his home's relative ground elevation and position well above the street and surrounding terrain. That experience is not, however, evidence that there is no significant gap in T-Mobile's network and that a node in ExteNet's DAS network is properly situated at the intersection of Second Street and Cliff Avenue.

4. ExteNet RF Information

On November 17, 2014, we supplied additional coverage plots associated with our DAS network in order to respond to specific Village Board questions. ExteNet supplied these coverage plots utilizing its own RF plotting tools routinely utilized across the United States and more particularly to address map scale and questions about alternatives the Village Board had asked ExteNet about. The maps need not be the same as T-Mobile's for them to be credible and we note that they are remarkably consistent with and corroborate T-Mobile's reports in this proceeding. As such, our coverage plots are not "inconsistencies", rather complimentary evidentiary submissions by competent RF professionals employed by ExteNet.

5. Additional Information on the Significance of T-Mobile's Gap and Importance of ExteNet's DAS for Service in the Village of Pelham

Modern wireless networks require signal strengths sufficient to address both fixed and mobile wireless users in various environments. In developing a reliable network, overlapping signal at the proper thresholds is one of the key design considerations and part of ExteNet's DAS network solution for T-Mobile in Pelham. In reviewing both the gap in coverage and reliable service area for ExteNet's DAS network (noted in ExteNet's higher resolution coverage mapping tool) we note the following:

- 1) Vehicle traffic – Exhibit A includes a copy of the State of New York DOT AADT trip counts for roads in this area of Pelham. We noted that the gap and coverage areas include roads with thousands of daily vehicle trips.
- 2) MTA Pelham Train Station & Rail Corridor – Passenger usage of the Pelham Station and rail traffic through this major NYC commute corridor is substantial and part of the area where service improvements are proposed in T-Mobile's network. Over 2,000 daily riders on the New Haven Metro North line use the train station and countless others pass through the coverage area on their way to and from NYC. www.mta.info
- 3) Westchester County Bee Line Bus Transit - Bus Route 53 runs through Pelham on the edge of the overlapping coverage area. www.transportation.westchestergov.com
- 4) Schools - Pelham High School, Middle School and Colonial Elementary School are all in areas of gaps in in-building service with thousands of students and teachers. www.pelhamschools.org
- 5) Residential Population – United States 2010 Census Data indicates that the residential density and population to be served in the census tracts 53 and 54 (numerous census blocks) where there is a gap in service is significant. See www.tigerweb.geo.census.gov. An exact count is beyond the scope of this report, but several thousand people live in the area where ExteNet's DAS system will provide reliable in-building services with a population density exceeding 5,000 persons per square mile.
- 6) Wireless Data Traffic – Attached as Exhibit B is an exhibit prepared by ExteNet that identifies high data usage in the proposed coverage area of the Pelham DAS network. Note areas around the rail line, schools and several residential "hot spots" in the service area of all three nodes.

B. ExteNet's DAS Network Infrastructure is Not Intrusive & the Existing Nodes are the Least Intrusive Option to the Community as a Whole

At the public hearing on November 6, 2014, ExteNet's professionals stated that the alternative to ExteNet's three node DAS network would likely be one cellular tower facility located somewhere in a residential area of Pelham. Testimony to the Village Board highlighted that the three nodes cannot be considered in "isolation" from one another as all three are required to effectively serve the community and resolve gaps in service. Our submission on November 17th bears this out quite clearly in that movement of any one of the three nodes affects the service provided overall.

Distributed Antenna Systems are a distinctly different technology from traditionally designed and operated monopoles and towers. The FCC in its recent Infrastructure Report and Order FCC 14-153 of October 2014 states;

"The Commission's current rules for deploying infrastructure were drafted at a time when antennas were huge and bolted to the top of enormous towers. While that kind of macrocell deployment still exists and will continue to exist, there are now a variety of complementary and alternative technologies that are far less obtrusive. Distributed antenna system (DAS) networks and other small-cell systems use components that are a fraction of the size of macrocell deployments, and can be installed—with little or no impact—on utility poles, buildings, and other existing structures."

DAS and small cells are not a replacement for towers, they are supplements. Outdoor DAS uses existing streetlights and utility poles to place small, low power, low emission antennas that boost coverage and capacity for mobile communications and data. DAS is able to carry multiple frequency bands simultaneously and offers shared infrastructure opportunities. It incorporates fiber optic broadband technology to carry signals over optical fiber cables that are underground or on utility poles in the communication space. As a result, DAS networks have a much smaller footprint and visual impact than traditional towers, which require approximately a hundred times the ground space required for a single DAS node. However, one of the major limitations of installing a DAS network to augment macrocell deployments is the significant upfront capital investment, especially when deployed outdoors, due primarily to the costs associated with designing, siting, and installing multiple nodes and miles of fiber optic cabling. Therefore, DAS is often not the most economical option for wireless carriers but in some cases may be the least intrusive solution to meet the needs of its subscriber driven demand.

ExteNet is a leading provider of Distributed Networks to the wireless industry in North America and has been in the business of deploying small cell and DAS networks since 2004. ExteNet has over sixty operational outdoor distributed networks in major metropolitan areas which include New York City. ExteNet is under contract to provide DAS services in the Village of Pelham for its wireless carrier customer, T-Mobile who views this area as a high priority service area due to bandwidth and capacity demands. Growth in mobile data traffic and demand for more reliable connectivity drives greater need to use structures close to street level, such as lamp posts and other utility poles. Like other carriers who are reacting to a surge in demand for

network bandwidth and capacity, T-Mobile has turned to alternative technologies such as DAS in serving Pelham.

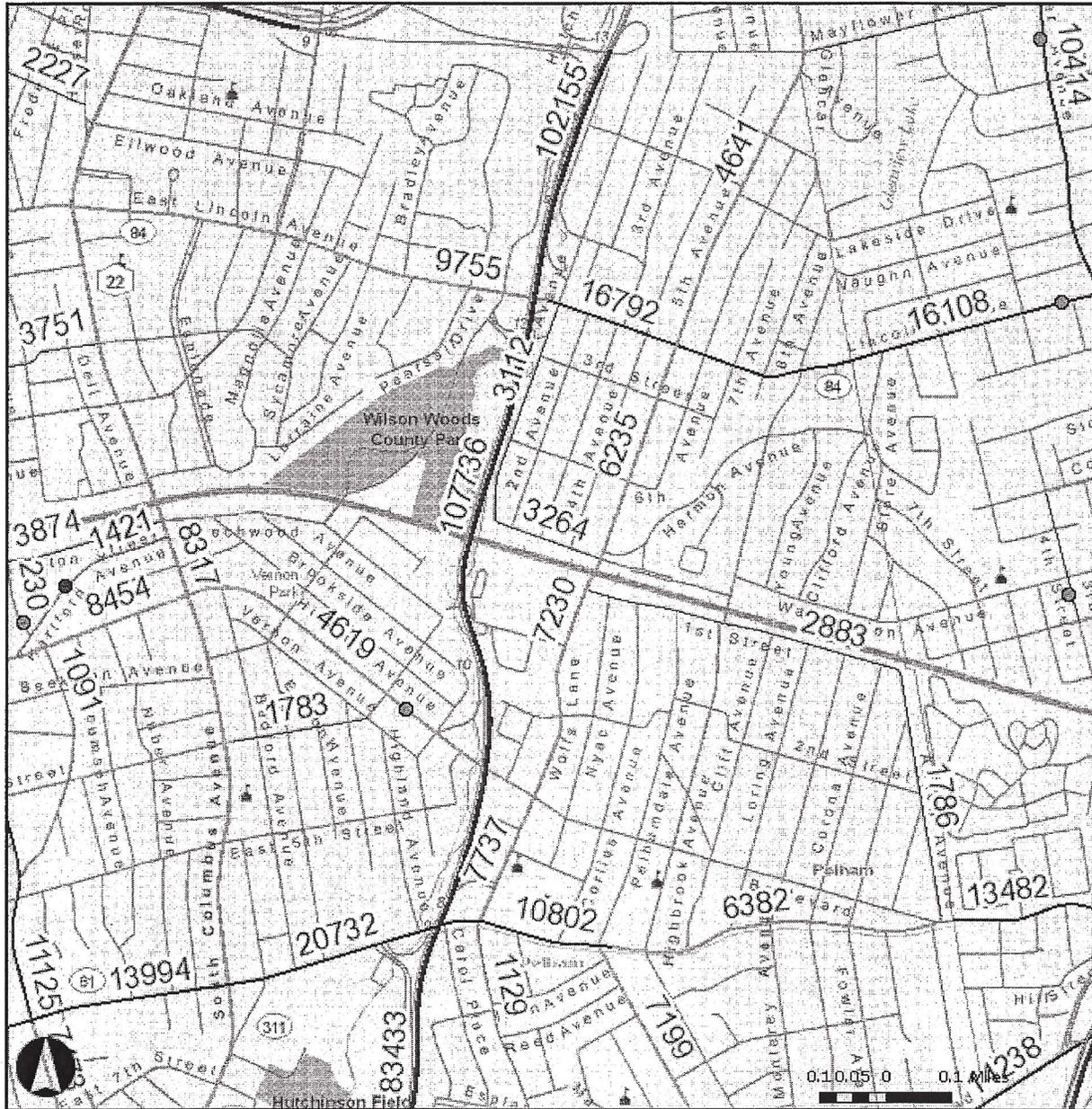
In reviewing the CMS letter report it presumes several legal aspects of the Village's law that our counsel will address in a separate memorandum. It also seems to suggest that any new utility pole would be "more intrusive" in all cases as compared with a node attachment to an existing pole with substantial modifications, an opinion we don't share based on our years of experience designing and building DAS networks and throughout the country. We offer the enclosed information and visual in Exhibit C to explain why the new pole set in public right-of-way as used in ExteNet's DAS system is not intrusive and in fact even the new pole set in this instance is the least intrusive means of providing reliable service in residential areas of the Village of Pelham.

- The location was chosen as having the least impact on the front door/front window view as it is set away from all four homes at the intersection.
- The pole height and class are consistent with other utility poles in the surrounding neighborhood.
- DAS equipment attached to the pole is in most cases smaller than the existing CATV, Telephone and Electrical attachments in the surrounding neighborhood.
- Existing poles in the neighborhood did not meet ConEd attachment specifications and/or RF coverage requirements.

Our evidence documents that the new pole set is in fact distant from the adjacent home as compared with most poles in the Village (due to the ROW and relative terrain) and not particularly visible from the immediate adjacent home owned by Mr. Kaplan and Ms. Linn given surrounding trees. We submit that the DAS system as a whole is the least intrusive means of providing service in Pelham consistent with Chapter 87's generally recognized planning and zoning considerations.

EXHIBIT 1

Map



Short Counts

- Volume
- Volume, Class
- Volume, Speed
- Volume, Class, Speed

AADT

- No Data
- 1 - 1500
- 1501 - 4000
- 4001 - 10000

AADT (continued)

- 10001 - 25000
- 25001 - 75000
- 75000 - 300000

Copyright

Basemap
City: NYS GIS Program Office

EXHIBIT 2

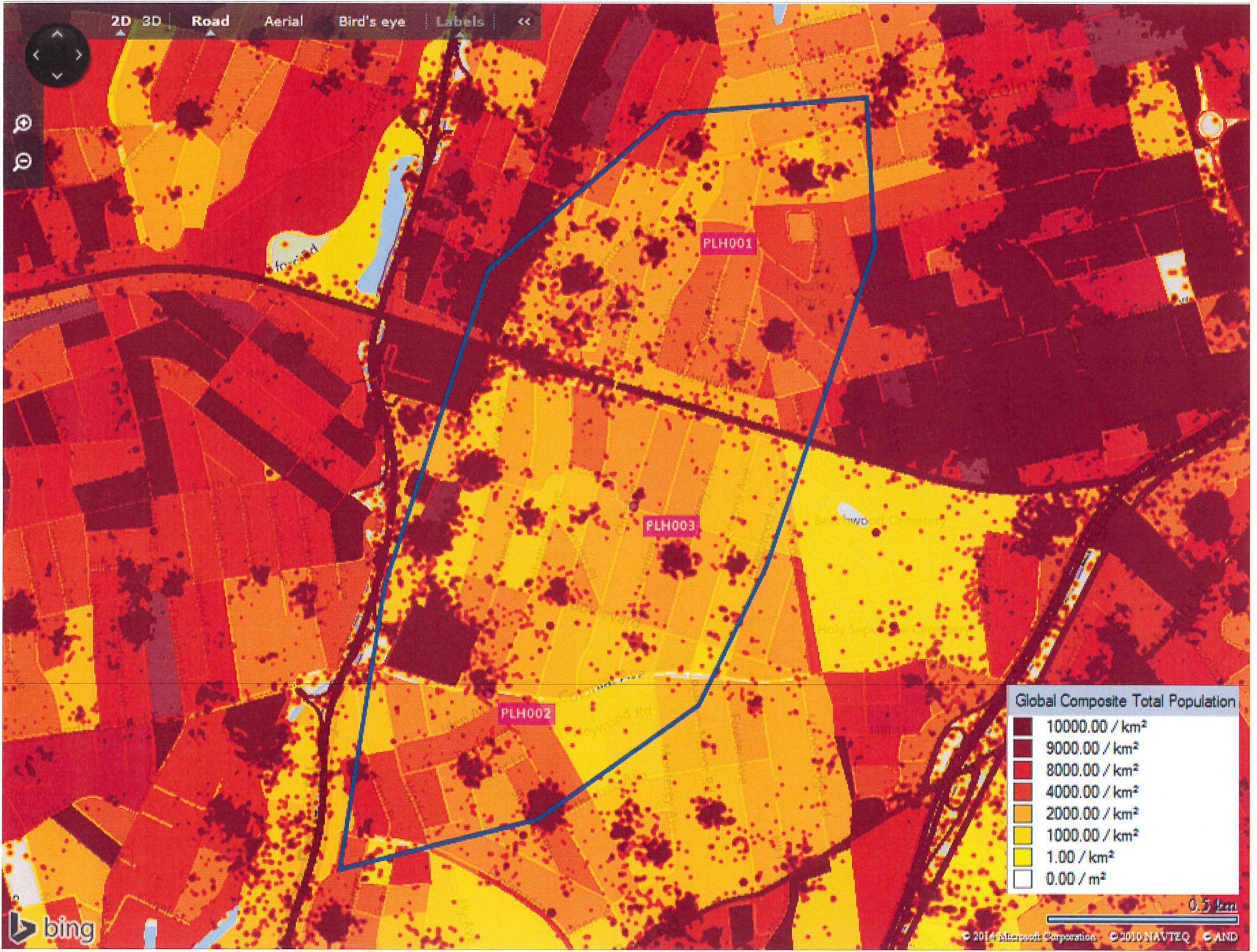
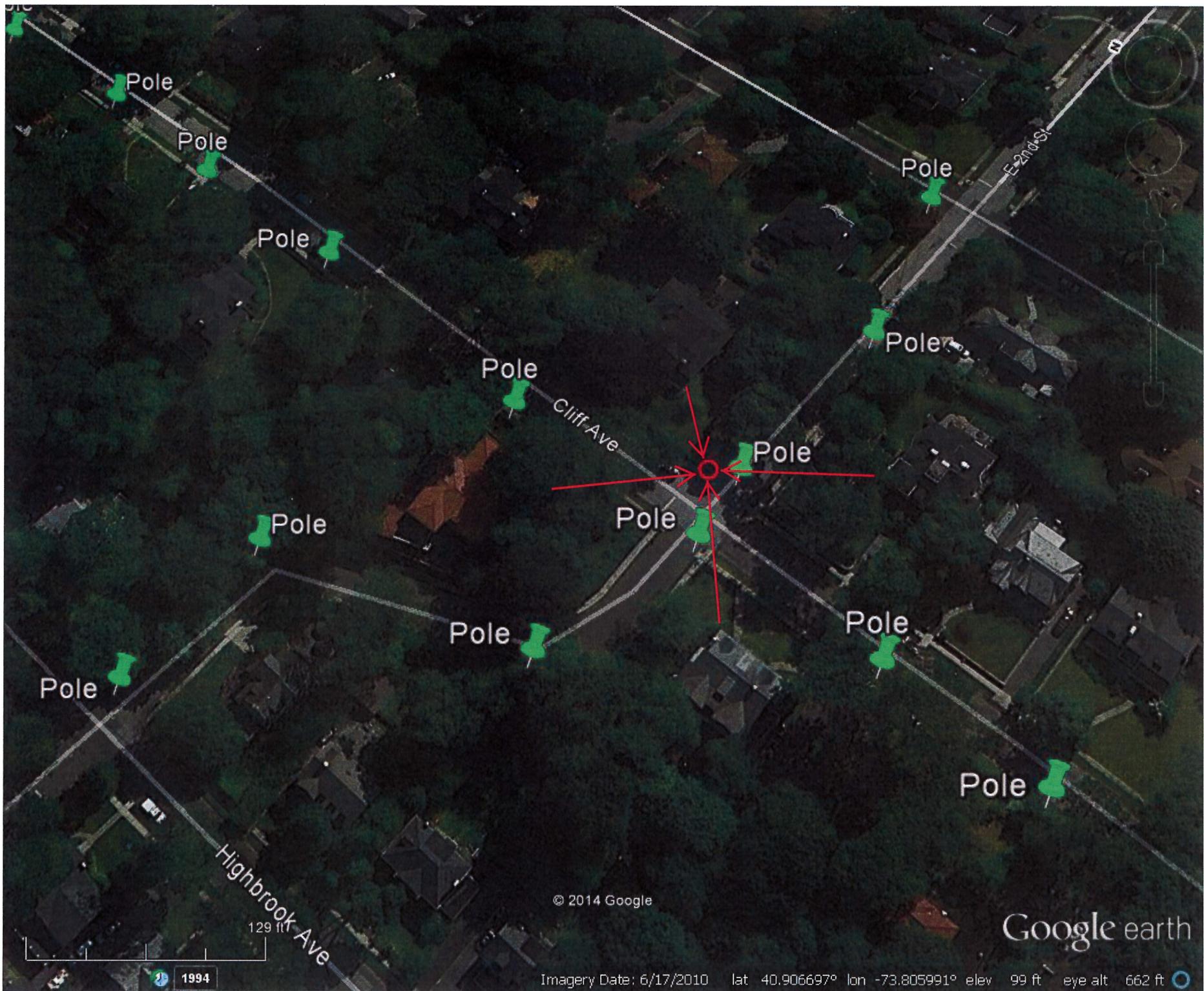


EXHIBIT 3



Pole

Pole

Pole

Pole

Cliff Ave

Pole

E 2nd St

Pole

Pole

Pole

Pole

Pole

Pole

Pole

Pole

Highbrook Ave

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Imagery Date: 6/17/2010 lat 40.906697° lon -73.805991° elev 99 ft eye alt 662 ft