

**MINUTES OF THE  
MENDHAM BOROUGH BOARD OF ADJUSTMENT  
February 2, 2010  
Garabrant Center, 4 Wilson Street, Mendham, NJ**

**CALL TO ORDER**

The regular meeting of the Board of Adjustment was called to order by Vice Chair Seavey at 7:30 p.m. at the Garabrant Center, 4 Wilson Street, Mendham, NJ.

**CHAIR'S ADEQUATE NOTICE STATEMENT**

Notice of this meeting was published in the Observer Tribune on January 14, 2010 and the Daily Record on January 11, 2010 in accordance with the Open Public Meetings Act and was posted on the bulletin board of the Phoenix House.

**ATTENDANCE**

Mr. Palestina – Present	Mr. Smith - Present
Mr. Peck – Present	Mr. Santo - Absent
Mr. Peralta – Absent	Mr. Ritger, Alt. I - Present
Mr. Schumacher – Present	Mr. McCarthy, Alt II – (Present til 8:15 p.m.)
Mr. Seavey - Present	

Also Present:

Mr. MacDonald, Attorney  
Mr. Hansen, Engineer  
Mr. Denzler, Planner  
Dr. Eisenstein, Telecom Consultant

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**PUBLIC COMMENT**

Vice Chair Seavey opened the meeting to public comment or questions on items that were not on the agenda. There being none, the public comment session was closed.

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**HEARING OF CASES**

**Peggnat, LLC - Use Variance and Site Plan Waiver: **Completeness Only****

Block 305, Lot 1, 61 West Main Street

Chair announced that the completeness review would be carried to the March 2, 2010 regular meeting of the Board at the request of the applicant.

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**Skuraton, Susan & James - Hardship Variance: **Completeness/Hearing****

Block 304, Lot 9, 8 Aster Terrace

Present: Susan Skuraton, Applicant  
James Skuraton, Applicant

Exhibits: A-1: Survey

Mr. Hansen advised the Board that the applicant had provided a signed and sealed survey, architectural data and an aerial photo as requested. He recommended that the Board deem the application complete.

Mr. Smith made a motion to deem the application complete. Mr. Schumacher seconded.

ROLL CALL: The result of the roll call was 7 to 0 as follows:

In Favor: Palestina, Peck, Schumacher, Smith, Ritger, McCarthy, Seavey  
Opposed: None  
Abstentions: None

The motion carried. The application was deemed complete.

Mr. MacDonald, Esq. reviewed the public notices and advised that the Board has jurisdiction to proceed.

Mr. Skuraton testified that their existing kitchen and garage were built a while ago. The home was originally a cape with a breezeway and a garage area was added. It is built over a concrete porch that is supporting it and it is not very structurally sound. They want to expand the kitchen and make it stronger. The footprints will be the same from the front view as the addition will extend back with a family room. They are currently at the maximum lot coverage and require a hardship variance.

Mrs. Skuraton continued that the existing kitchen is outdated for a family of five. They would also like to improve the outside of the home in the neighborhood. The home will remain one story and they are not changing the front. They just want to renovate it to improve the look and have the house come together. She referred to the aerial view provided to the Board and explained that they have a double lot. Homes across the street have additions. Their proposal fits with the neighborhood.

Responding to Board on what appeared to be both a one car attached garage and a two car detached garage, Mr. Skuraton explained that the existing attached garage would become a mudroom and a half bath. They would extend to the rear with the family room. Mr. Skuraton advised that there would be a basement under the new structure. He also clarified that the stairs shown lead to the basement.

Addressing Mr. MacDonald, Esq. on what portions of the driveway would be eliminated, Mr. Skuraton referred to Exhibit A-1, the survey showing what would be removed. With the attached garage becoming the family room, the area in front is removed. It is accounted for in the coverage calculations. Responding to Mr. Smith on whether the DEP concerns had been addressed, Mr. Skuraton reported that they have submitted additional information as requested, and the discussion is on-going. They may ask them to remove part of a walkway.

Discussing the options on coverage with the Board, Mr. Skuraton stated that the patio was originally a dog pen. They could sacrifice that coverage if necessary. The paver walkway is in the calculations and the coverage would be 5,028 sq. ft. with the removal of the front driveway and the walkway. Mr. Hansen confirmed that the calculation was consistent with the survey. The concrete pad is 170 sq. ft.

Vice Chair Seavey opened the meeting to questions by the public. There being none, the public session was closed.

In deliberations the Board questioned the applicant on whether there was any additional coverage that they could remove. The rear walkway could be an issue. They were over by a substantial percentage as relates to the other lots and that would set a precedent. They do have a detached garage that is a consideration. After discussion, Mr. Skuraton stated that they had no problem removing the patio and the walkway.

In discussion on the topography, Mr. Skuraton noted that the land slopes back into the pond and the water flows that way. In terms of what would happen to the dirt that is excavated, Mr. Hansen advised that the DEP permitting process for the amount of disturbance would require that the dirt be trucked off the site. The limits are mandated by the State. The soil would need to be trucked out, but remain in the Borough.

Mr. Hansen reviewed his technical report with the Board. He advised that if the applicant removes the patio and the walkway, they will not require drywells. The applicant advised that no trees would be removed.

Mr. Seavey made a motion to grant the building coverage of 688 sq. ft. and the lot coverage of 5,028 minus the patio and the paver walkway with the following conditions:

- The Ferriero Technical Report Letter of November 9, 2009 is followed.

- The Patio, walkway and section of the driveway extending from the attached garage to the street is removed.
- The home remain as a one story.
- DEP regulations will be followed.

Mr. Smith seconded.

ROLL CALL: The result of the roll call was 7 to 0 as follows:

In Favor: Palestina, Peck, Schumacher, Smith, Ritger, McCarthy, Seavey  
 Opposed: None  
 Abstentions: None

The motion carried. The application was approved. Mr. MacDonald, Esq. will prepare a resolution for the March 2, 2010 regular meeting of the Board.

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**Levey, Donna & Yale** - Extension to previously approved variance: **Resolution**

Block 1401, Lot 19, 90 Talmage Rd.

Mr. MacDonald Esq. presented the following resolution to the Board:

**RESOLUTION OF FINDINGS AND CONCLUSIONS  
 BOARD OF ADJUSTMENT  
 BOROUGH OF MENDHAM**

WHEREAS, Henry W. Roe and Mary Roe have previously applied to the Board of Adjustment of the Borough of Mendham for permission to make various additions to their existing single family dwelling located at 90 Talmadge Road also known as Lot 19 in Block 1402 on the Tax Map of the Borough of Mendham, which premises are in the 1 Acre Residence Zone; and

WHEREAS, the Board, after carefully considering the evidence presented by the applicants and the adjoining property owners and the general public having been given the opportunity to be heard, approved said application for the reasons stated in its Memorializing Resolution dated May 4, 2004; and

WHEREAS, the Applicants did commence and complete the majority of the proposed and approved renovations with the exception of the proposed one (1) story attached two (2) car garage; and

WHEREAS, the original applicants have sold this property to **YALE LEVEY** and **DONNA LEVEY**, who have now requested the Board to extend the prior approvals for one (1) additional year to allow said New Owners time to complete the garage improvements and the Board finds no detriment to the Borough Zone Plan, nor to any neighbors from such an extension:

NOW, THEREFORE, BE IT RESOLVED by the Board of Adjustment of the Borough of Mendham on this 2nd day of February 2010, that an additional **one (1) year Extension through January 5, 2011** of the Approval of the original variance application of **Henry W. Roe and Mary Roe, for property now owned by Yale Levey and Donna Levey**, which was originally granted on May 4, 2004, be memorialized herein, subject however, to the following conditions:

1. The new garage shall be constructed in conformance with the Exhibits that were provided to the Board with the application materials and described during the Public Hearings on April 6, 2004.
2. All conditions and requirements of the original Memorializing Resolution remain in effect other than the time extension granted herein.
3. The approvals herein are subject to all relevant Federal, State, County, and Municipal regulations other than the variance relief granted and extended herein.
4. The variance relief granted herein shall expire if not utilized within the time extension granted herein.

Mr. Peck made a motion to approve the resolution. Mr. Smith seconded.

ROLL CALL: The result of the roll call of eligible voters was 6 to 0 as follows:

In Favor: Palestina, Peck, Schumacher, Smith, Ritger, Seavey  
 Opposed: None  
 Abstentions: None

The motion carried. The resolution was approved.

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Mr. McCarthy left the Board.

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**Omnipoint Communications, Inc. and New York SMSA Limited Partnership d/b/a Verizon Wireless** – Use and Other required variances: **Continuation**

Block 801, Lot 20, Kings Shopping Center

Present: Richard Schneider, Esq. – Attorney for the Applicant  
 Glenn Pierson, RF Engineer for the Applicant  
 Robert Simon, Esq. – Attorney for Mr. Isko  
 Ronald Graiff, RF Engineer for Mr. Isko

Exhibits: A-28: Letter – Pierson to Eisenstein 1/25/10  
 ZB-3: Eisenstein report 1/26/10: Response to Pierson  
 I-13: Third page of A-28 and attachment to Exhibit A-2  
 I-14: Exhibit DT-3A from A-21  
 I-15: Cut Sheet for Antenna BSA-1850120/12CF  
 I-16: Cut Sheet for Antenna BSA-185090/8-2  
 L-28: Page 5 Collins RF Report  
 L-29: Lupo Analysis

Mr. Schneider, Esq. summarized that at the last meeting he completed his cross-examination of Mr. Ritter. The Board directed Dr. Eisenstein to review a question raised by Mr. Lupo concerning an exhibit from June 2008. Mr. Pierson was also advised of the issue and prepared a report indicating that there had been a transposition error. Dr. Eisenstein's response concurs. There is still cross-examination of Mr. Ritter by Ms. Kaplan and any re-direct Mr. Simon has for Mr. Ritter. In terms of direct presentation, Mr. Schneider, Esq. has completed his case.

Board proceeded with any open issues requiring the expertise of Messrs. Pierson, Graiff and Eisenstein.

Mr. Pierson referred to A-28, the report he prepared for the Board in response to Mr. Lupo's question. Mr. Schneider, Esq. reiterated that there was a transposition error, and it does not affect the substance. Dr. Eisenstein referred to ZB-3, his response report and reported that there was carelessness in that the wrong antenna type was entered into the table.

Vice Chair Seavey opened the meeting to any questions by the public. Mr. Simon, Esq. advised that Mr. Graiff was present.

Mr. Graiff explained that he wanted to come back to the Board to explain about the data that was presented. He had reviewed the documents as prepared by Mr. Pierson and Dr. Eisenstein. Mr. Graiff stated that Table 3 never appeared in the original application, but developed as a result of the Lupo question. Entering Exhibit I-13, the third page of A-28 and the attachment to A-2 which is the 1900 megahertz Verizon site parameters, he pointed out some areas that he had highlighted and questioned the idea of "cut and paste". From his analysis the antennas as shown on the second page of I-13 differ from the new Table 2A, the first page of I-13. They have now been changed to different model numbers of BSA. If it had been a cut and paste, the information that appears in the original Table 2 would now appear in Table 3.

Continuing, he stated that the gains and the ERPS are different. He enumerated. The downtilts are also different. He did not see copy and paste. He saw reconstruction. He questioned the chain of evidence, where it initiated and what happened to it over several iterations. He could not say that the so-called cut and paste error did not affect the substance of what the applicant had previously presented as he did not know what data he was looking at.

Responding to Mr. Simon, Esq. on the wireless telecommunications ordinance and the carrier's need to first try to optimize the existing system by utilizing antennas on existing sites or even putting up new antennas that would give them equivalent gain, Mr. Graiff stated that based on his interpretation, they should try to fix existing wireless facilities first. Addressing Mr. Simon's question, he agreed that the applicants could potentially retune their existing towers to get the desired dB level and get reliable coverage. With the 1900 megahertz antennas that they are utilizing the gain, downtilt and the orientation of those antennas all play on how the system would theoretically cover in the sea of green propagation maps.

Mr. Graiff continued that in most cases with the construction of a cell site, 360 degrees coverage would be desired in a bowl like the Borough of Mendham. That would cover the largest area. The antennas used here have half-power 90 degree horizontal beamwidth. Using an analogy to watching for forest fires, Mr. Graiff explained that using only 90 degree vision with two people would create a spot where no one is watching for fires. He concluded that beyond the 45 degrees on each side of the antenna, there is 30 degrees of coverage for each of the three sectors that does not benefit. He provided a technical explanation that the area would not be totally unserved, but unserved by a significant amount. He related the explanation to a three leaf clover effect with nulls and the need to know whether coverage is suffering in the null. It applies to both Conifer and St. Johns.

Using data from Exhibit I-14, applicants Exhibit DT-3A, with drive test data, Mr. Graiff illustrated using a protractor. For one example he concluded that in the areas of poor coverage, the beam is not aiming at the area of poor coverage. The system is not optimized. He referred to Mr. Pierson's past testimony about the Borough being in a bowl and that the sites on the edges do not get other coverage. He questioned that since there is poor coverage, why all the antennas were not turned to optimize the system.

Responding to Mr. Peck on why the applicant would not do the optimization on their own from a cost-benefit standpoint or service-to-customer standpoint, Mr. Graiff responded that he did not know. He referenced the Kings Shopping Center as a newly proposed site in which they plan sixty-three degree antennas. It's just a small site, but an RF engineer with GeoPlan has decided to use them. Addressing Mr. Peck's follow-on question as to whether there is a physical requirement to use that type of antenna, Mr. Graiff stated that it is concealment structure, but they still make close-mounted concealment antennas that have wider horizontal beamwidths. There are many antennas in the catalog from which to choose.

Mr. Graiff referenced the Conifer Drive application and testimony related to continuous coverage along Route 24, even for 3G. The antennas they use there now include some 90s and some 63s. He referenced his previous testimony in reference to the need for continuous wave drive tests to compare the calculated coverage to the test. Omni-directional antennas are used in drive tests. The Borough is in a bowl, but he did not see any technical reason why the existing antennae could not be reconfigured. That should be fixed before another tower is built.

Responding to Mr. Simon, Esq. on whether the measurement of dB would be affected on St. John's and Conifer if the antennas were changed to 120 degrees, Mr. Graiff referred to I-15, a cut sheet for a 120 degree half-power beamwidth antenna made by Amphenol Antel. It will fit on the Conifer tower, a monopole with arms. If it were a concealed monopole he would have to look at the plans. He then entered I-16, which is the cutsheet from the Antel Amphenol catalog describing the antenna that are used at St. Johns. He noted that based on the vertical pattern, there is a lot of energy going up towards the sky and a ragged pattern going down on the ground. With the antenna in I-15, it has narrower vertical beamwidth, but the lobes going up towards the sky are significantly reduced and there are more lobes and null down towards the ground. It puts more energy on the ground where the cell phones are located.

Dr. Eisenstein disagreed with Mr. Graiff stating that downtilt would compensate. Mr. Graiff referred to the suppression of the front to the back lobe and stated that the suppression of the back lobe would not be fixed by downtilt. Responding to Mr. Simon on whether 3 db could have an impact on the coverage, Mr. Graiff used the example that the dbs add so that if the signal were at minus 88 which is not acceptable, it would go to minus 85 which is acceptable. He then returned to I-14 that showed the calculated coverage and the drive test coverage and reiterated that he is still questioning why two colors represent the same signal: Green is minus 85 to minus 20 and yellow is minus 90 to minus 85. He explained that with the 3 db difference there is a possibility that yellow dots move closer to green which could affect the definition of a significant gap in coverage.

Testifying on his professional opinion on the evidence chain and reliability based on A-28, the site parameter evidence, Mr. Graiff stated that all professionals have different ways of evaluating applications in terms of the need. He requires drive tests, calculations and antenna information.

He requires that they show from design to implementation the chain of evidence. He did not see a reliable evidence chain to the coverage maps or the drive tests by examining I-13 that contains a revised Table 2A and a new Table 3. He has no idea of how the system was configured even when the drive tests were made. He no longer knows what parameters the system was operating under for the drive tests or the calculated coverage. The towers are at the coordinates that they specify, the elevation is at that location, the names are correct and they are monopoles. He cannot attest to the data beyond that.

Responding to Mr. Peck on how difficult it would be to verify the rest of the information, Mr. Graiff stated that he is not affiliated with Verizon. It would require going to their field engineering department or their compliance department or going to a site and having permission to look at the antennas and have someone testify to or measure the downtilt. The information is not a public record.

Dr. Eisenstein stated that when they applied for the zoning permit for the sites, they had to put the azimuths for all the antennas in the application. That would be public record. Mr. Seavey noted that they provided information, but it was not even for the same antenna. Dr. Eisenstein clarified that the azimuths and the location of the antennas on the plans have not changed. It is a matter of public record. What was done incorrectly was the entry of the parameters into the GeoPlan model. They separately typed up a table and whoever typed up the table was careless and typed it incorrectly. Whatever they typed in is not public record. The orientation of antennas that were built at St. John's and Conifer Drive would be in the zoning application and would be a matter of record.

In response to Mr. Smith on whether there would be an advantage to move the Conifer Drive and St. John's antenna from 90 degree to 120 degrees, Dr. Eisenstein stated that he did not agree with Mr. Graiff's testimony. He has a different view of how the sites are put together.

Mr. Simon, Esq. asked Mr. Graiff to read opinion number "5" from Dr. Eisenstein's response, A-28. Mr. Graiff did not agree with the opinion. The coverages for Omnipoint and Verizon are not the same. In June 2009 drive tests were conducted for Omnipoint, not Verizon. The receiver is capable of receiving multiple signals. He would have requested the current information on both systems so that they would have been measured at the same time. They should be compared to the same standard.

Responding to Mr. Simon's line of questioning, Mr. Graiff still did not believe that the applicant has demonstrated that the proposed facility at the Kings Shopping Center is necessary to avoid prohibiting, or having the effect of prohibiting wireless telecommunications services. He also believes that the Board did not get true dropped call data. He did not believe that complete evidence had been presented to demonstrate that there is a gap in coverage. He did not know if the proposed tower at Kings will improve existing wireless services.

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Board took a ten minute break.

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Dr. Eisenstein described a great deal of Mr. Graiff's testimony as a "distinction without a difference". The question is "does it make any real difference?". He cited an example referring to the chart for the drive test data where the ranges are marked minus 20 to minus 85 and minus 85 to minus 90. In terms of the duplication of minus 85 that both Mr. Graiff and Mr. Ritter referenced, everyone from freshmen to high school students understands that when you put a chart together and say minus 80 to minus 85 the next minus 85 means a little bit less than the previous one. It's not a point of contention and should not even be mentioned.

Continuing, Dr. Eisenstein explained that the items they are talking about have randomness associated with them. There is no definitive measurement for an antenna that gives one a precise number. There is no definitive measure for the power to be measured at the street whether with a drive test or anything else. If one goes out at a different time of day or a different season of the year, or if one stands in the same spot for a minute or two, the numbers will change drastically. When formulating an opinion about whether there is a gap in coverage or coverage from an antenna site, the opinion is formed based upon a qualitative assessment. When he wrote number "5" in ZB-3, he meant that they are qualitatively the same, not exactly the same. If Mr. Pierson were really trying to gain the system, he would have used the 800 megahertz antenna and run it through the model at 1900 megahertz. There would have been a huge gap because it does not propagate very well. That would be a qualitative difference.

Referring to Mr. Graiff's testimony related to the edges, Dr. Eisenstein stated that the edges would represent one or two pixels in terms of which way the graph would move. The pixels are 50 meters. That would be a 100 meter possible discrepancy in something that starts off being random. It is insubstantial and inconsequential to the bulk of the application. The bulk of the gap is in the middle of the coverage.

In terms of the moving of the antennas, Dr. Eisenstein advised that his experience is different from that of Mr. Graiff. The network engineers that design the sites tune the sites. After the initial propagation plots, they go through a tuning process where they try and reorient the antennas. That includes the downtilt and the azimuthal orientations. They tune the antennas to maximize the coverage, which they have to do because of the topography and also to prevent them from interfering with other sites. His experience is that they tune the sites to optimize their coverage. His guess is that the reason the engineers choose a 90 degree versus a 120 degree antenna is that there are topological features that occur. Beams are not wasted. In terms of narrowing the beam, if you narrow the beam, you increase the gain and if you increase the gain, you decrease the beam. If one wants more gain and a wider beam, a physically larger antenna is needed. The larger antenna creates aesthetic issues. Dr. Eisenstein referred to I-14 and stated that in spite of all the comments made by Mr. Graiff, the plots from the antennas are a remarkable 360 from a qualitative perspective. He believes that they tuned the system to get the best that they could with the size of the antenna that they were going to have. The physical size of the antenna matters.

Responding to Mr. Simon, Esq. on whether there is any Graiff testimony from the evening that he agrees with, Dr. Eisenstein stated "not much". The underlying premise of the testimony is troublesome as it relates to nibbling at the edges. No one could rationally disagree that a new site would improve coverage, even if they believed there was not a gap.

Mr. Peck raised the question that the public and Board have had in reference to the ability to get 85dBm at the shopping center today. It does not match the propagation charts. It is difficult to accept from a practical standpoint. Dr. Eisenstein explained again that Verizon is dual-banded. They have both the 850 and 1900 band. There is no question that good coverage is received on the 850 band. They are applying for coverage on their 1900 band to which they are entitled. It is almost like a separate company. The propagation maps have been provided and he believes them. He also understands the public issue. That is why based on the Ho-Ho-Kus case, the Supreme Court in New Jersey has said that non-professional, non-expert testimony about whether there is or is not coverage is not acceptable at hearings.

Responding to Mr. Seavey on whether the court system relies on the testimony to receive 85 dBm for coverage, Dr. Eisenstein stated that there have been several cases that were decided in the New Jersey Supreme Court where they did not say they relied on it, but that they said the applicant made a credible case when they argued that they had a gap at negative 85 dBm. He relies on negative 85 dBm in New Jersey. It correlates very well with the 2 percent grade of service which is mandated for the carriers in the Code of Federal Regulations.

Addressing Mr. Smith's question on whether a change in the antennas on the Bell Tower or at Conifer Drive would suffice to mitigate the gap in the Kings Shopping area for 1900 megahertz, Dr. Eisenstein advised that he did not know. There is another issue. The applications at St. John's and for Conifer include the sizes of the antennas that they have put in. They could not just go in and swap them out. They would need to reapply. As he has not seen what the network looks like, he does not know whether or not it would interfere with the traffic on their network. It was his opinion that the network engineers have presumably optimized the site and picked the best antennas for the most coverage. They would not want to spend the money to put up an extra site if all they had to do was swap out a couple of antennas.

Mr. Palestina questioned whether there are any Verizon phones that are strictly 1900, and who they are trying to serve with the proposed gap in coverage at 1900 if everyone has dual-banded phones. Dr. Eisenstein did not think Verizon had any 1900-only phones as they acquired the 1900 bands more recently. He explained that they have an FCC license at 1900 and the FCC requires them to build out their system to all the frequencies for which they hold licenses. Otherwise the license is forfeited. There is also not enough capacity for Verizon at the 850 band. They have to be dual banded for spillover. There are also additional bands such as 1700 and 2100 that have just been released and 2400 and 2500 are about to go to auction. Abandoned TV channels will also be auctioned off. Phones will be quad or six-banded phones. If the carrier wins a band, they will have a right to build them out. The FCC is tightening the requirements on providers and making them build out faster, and they are tightening the obligations of zoning boards to handle the cases. The conclusion at the federal government level is that the US is seriously lagging in wireless technology.

In terms of Mr. Palestina's question on satellite technology, Dr. Eisenstein advised that satellite technology is very, very limited. The biggest boost in satellite technology recently has been the tragic events in Haiti. With the damage to all the infrastructure, it was the satellite phones that worked the best. Aside from that type of emergency condition, it is limited with the exception of ships at sea, explorers in the arctic circle, etc.

Addressing Mr. Seavey's question on DAS, Dr. Eisenstein explained that at the present time DAS works very well in confined areas such as a college campus or an island such as Nantucket or Hilton Head. It is an isolated system and antennas can be placed low. He continued that in a year or two femtocells will become more prominent. They are like a DAS system in which the antennas are mounted on the sides of homes. They are not put on poles. The backhaul is accomplished through the WiFi network inside the home. He did not think that Mendham is a good area for femtocells as the homes are too far apart, the lots are too large, and the population density is not that great.

Responding to Mr. Seavey on whether DAS or femtocells would be feasible along the Main Street Corridor, Dr. Eisenstein stated that DAS systems are feasible. The expense is quite high. He cited an example of Hilton Head which has all underground utilities and did not have existing poles. They had to erect a large number of 70 ft. poles. He does not believe that Mendham has the type of infrastructure that would support a DAS system as 70 to 90 foot poles, depending on the tree height, would be required. A telephone pole is usually about 35 ft. The poles might not be any more concealed than the stealth flagpole that is being proposed at the shopping center. The systems are possible.

Referencing Dr. Eisenstein's testimony related to the distinction between qualitative and quantitative differences, Mr. Simon, Esq. questioned why Verizon always insists on negative 85 dBm. Dr. Eisenstein replied that it is the standard that he directed them to use. They typically ask for minus 75 or minus 72. Clarifying his comment on 1900 buildout, Dr. Eisenstein stated that Verizon has acquired 1900 channels, and they are under obligation to build out the channels they have acquired. He did not know if the build out is complete. Responding to Mr. Simon, Esq. on whether he has attempted to find out, Dr. Eisenstein requested that Mr. Simon, Esq. define "complete". The licenses do not require them to build out by a certain date, but they do require that they cover a percentage of geographical area by certain dates.

Mr. Ritger questioned Mr. Graiff on whether turning or tuning the antennas at St. John's and Conifer Drive would potentially provide coverage through the gap area. Mr. Graiff answered that if the antennas were optimized in either direction, their downtilt, their gain or their beamwidth, a two or three dB difference could affect the Board decision. In response to Mr. Ritger on whether 6 ft. antennas on Conifer and St. John's would work, Mr. Graiff stated that the equivalent gain, the greater beamwidth, and the less downtilt of those antennas could bring the signal strength up enough. Most applications he hears today are for dual band 6 ft. antennas. The pole at Conifer has arms so that the larger antennas could be hung from them. The only issues would be wind loading on the tower. With the bell tower as a stealth installation it is easier as the antennas are not seen.

Responding to the same question, Dr. Eisenstein stated that the drive test data shows the gap area has locations at minus 105 and minus 95. The extra 3 dB is not going to alleviate that. Mr. Graiff argued that the calculated plots of the addition of the proposed site do absolutely nothing for the area that Dr. Eisenstein was referencing. He took I-14 and drew a circle around an area where coverage will not improve with the Kings Shopping Center tower.

At the questioning of Mr. Schneider, Esq., Mr. Pierson addressed the cost issue previously raised by Mr. Peck. There is a lot of cost involved in developing a site such as the Kings Shopping Center. Radio equipment must be installed and depending on the carrier it is between a hundred thousand to three-quarters of a million dollars. There is a cost associated with the construction of the tower and with making lease payments. There are a lot of soft costs for example with professionals. It could go as high as a million, million five to develop the site. To swap out antennas, a climbing crew is 1500 dollars and the antennas are about a thousand dollars each. There are about 6 per site. As a lay person, he would choose the cost benefit of the antennas. He does not believe that swapping out the antennas at St. John's or Conifer will eliminate the gap.

Continuing with his explanation of why the gap would not be eliminated, Mr. Pierson referred to the data. It shows a significant amount of areas that are between 95 and 100dBm down Tempewick for, for example. Mr. Pierson related a hypothetical with the example that the Verizon performance engineer has not a clue about what he has been doing since he has had PCS, and that Mr. Graiff is correct. New antennas are put in and 3 to 4 dB is obtained with a minus 85 threshold. The data indicates holes at 95 to 100 that is 10 to 15 dB. They buy three dBm and do not fix the gap.



Addressing the ability to obtaining a dB level on a phone, ten different phones and drive test will result in readings that are plus or minus 5 to 10 dB. A commercial phone is not a calibrated device with an absolute reference to dBm level unless you buy the \$5,000 test phone. In response to Mr. Lupo's question on whether there is a gap at 800, there is, primarily south of Kings.

Mr. Schneider, Esq. questioned Mr. Pierson on the drive tests. He agreed that right from the start there were drive tests that were performed for Verizon showing the existing coverage from Conifer and St. John's and from St. John's for T-Mobile. At that time the only thing not live was T-Mobile-Conifer. Another drive test was done as T-Mobile had gone live on Conifer between the time that they created the first propagation and when they got to the point where a critical review needed a drive test. It was almost a year to the day between the drive tests.

Responding to Mr. Schneider's question on whether there was anything that had been inserted relative to I-13, I-14, A-28 or ZB-3 which in any way affects the existence of a gap for T-Mobile, Mr. Pierson stated there was not. There has not been any discussion on that. They are a 1900 provider.

Mr. Simon, Esq. requested that a copy of the Verizon license be provided to the Board. After some discussion, Mr. Schneider, Esq. agreed that he could provide a copy of the 1900 license. There is a firm legal right to build out against the license. Dr. Eisenstein stated that the build-out is contained in paragraph 47 of the code of Regulations. He was not sure as to what details it contained.

Mr. Seavey asked for clarification on what build-out really means. Dr. Eisenstein stated that the Board has no right to speak to the applicant about FCC requirements. They have to meet their requirements. He expressed that they were filing an application under the MLUL, not making an application to the FCC. Mr. MacDonald, Esq. advised that the issue would be addressed in summation unless Mr. Simon wanted to make any comments on what the build-out question has to do with the variances from the Mendham Borough wireless communications ordinance. Messrs. Simon and Schneider had opposing opinions as to whether it pertained. Mr. MacDonald, Esq. expressed his opinion that having RF experts cross over into an area of minimal legal expertise was a concern.

Mr. MacDonald, Esq. allowed Mr. Graiff to present a fact, not an opinion. Mr. Graiff stated that most municipalities that he works for require in the application a copy of the applicant's radio telephone license to operate their system. The licensee, call letters, band, area it is good for and the required completion build-out dates are included. Mr. MacDonald, Esq. questioned the relevance to the Board if they have or have not met the build-out. Mr. Graiff explained that if they have not built out their license because they have not provided the coverage that the FCC requires them to, they will lose their license. But if they have built out their license, they are finished and anything that they do after is to satisfy their own internal needs. Again, Mr. MacDonald, Esq. questioned him on the relevance to the Board on the variances requested. Mr. Graiff responded that the Board should not be threatened by the fact that they have to approve the application because the applicant has not met their build-out. Mr. Graiff stated that he has seen the licenses and build-out is completed.

Mr. Seavey moved the discussion from legal issues to what he labeled a board issue and summarized the testimony he had heard leading to Dr. Eisenstein indicating that they were entitled to build out. Dr. Eisenstein clarified that because they have purchased the license, they are entitled to it, and they are under obligation to build-out. He did not know what Mr. Simon, Esq. meant about "complete" build-out. There are certain performance parameters that they must meet over time. If they have not built out the site, the Board is under no obligation to grant them the variances. If they have built it out, the Board is under no obligation to deny them. The application could be denied under the Municipal Land Use Law, but any FCC issues could not be preempted.

Mr. Schneider, Esq. clarified. He stated that the Board would have the right to deny the application if they found that by virtue of the 130 ft. height and its present location as compared to the rear yard, that the site would be unsuitable. Mr. Schneider, Esq. did not believe that the Board could deny the application if they believed the applicant did not prove a gap in coverage. The applicant has a right to apply for the variance based on the two deviations and a right to build out the 1900 frequency. He added that Omnipoint does not have 850 coverage in Mendham and they are a co-applicant with Verizon. Omnipoint is the lead, and Verizon joined as the co-applicant for the 1900 coverage.

Mr. Simon, Esq. questioned Mr. Pierson on the drive tests. Mr. Pierson stated that he did not need to test Verizon again. He was not aware if any changes had been made to the Verizon

system. He spoke with Verizon before he prepared Table A-2 to make sure he had it correct. He confirmed everything was the same as when they pulled the information in 2008.

Chair opened the meeting to questions by the public.

Mr. Lupo noted that in I-13 the new table now has 800 megahertz antennas. He provided page 5 of the RF exposure report. He questioned why the new table represents more antennas than what is listed on the parameters. He did not understand if the radiation from the tower would be higher or lower than what has been testified to. Page 5 of the RF exposure report was marked L-28.

Mr. Pierson stated that it had nothing to do with any updates that he did for Table 2A. Nothing was updated for Kings Plaza. Mr. Lupo pointed out what he determined to be the discrepancies. Mr. Pierson could not testify to the report by Mr. Collins of Pinnacle, but he explained that generally health and safety reports will have a lot of generic, worst-case antennas that will be entered to their tools. He did not know what Mr. Collins did.

Mr. Lupo questioned how we are to know what is in the numbers when there is a possible inaccuracy in passing the parameters to Mr. Collins and also in Mr. Pierson's numbers. In response to Mr. Seavey, Mr. Lupo indicated that he would like to see the safety report from Mr. Collins indicate what the antennas are that are going on the tower. Responding to Mr. Lupo on the multiple by which Mr. Collin's analysis is below the recommended limit, Dr. Eisenstein stated that it is 195 times below the FCC limit and 975 times below the New Jersey Radiation Protection Act. Mr. Seavey concluded that Mr. Lupo was concerned with the inconsistencies.

Exhibit L-29 was entered by Mr. Lupo. After explaining the numbers he had run, he questioned why two approved higher gain antennas that could gain 30 or 40 watts would not be used on the tower. Dr. Eisenstein responded that if physically larger antennas are used there would be some improvement in coverage. That improvement, at best, according to Mr. Graiff, would be 3dB. The gap they are looking at goes as far as minus 105dB so the 3 dB will not relieve the gap. At best it would take something that is on the margin and move it from one block to another. Mr. Lupo referred to the Beverage drive test that he believed showed it could be done.

Dr. Eisenstein commented that he did not know specifically the test to which Mr. Lupo was referring, and he has not seen a record. He does not know if it was based on an 800 megahertz system. He is not certain that every applicant that comes before the Board is obligated to do everything possible to satisfy all the engineering conditions. Engineers try to design a system to minimize the probability that something bad is going to happen.

Bruce Theuerkauf, 22 Dean Road questioned whether Verizon would get rent back against their \$1.5 million investment. Mr. Schneider, Esq. clarified that T-Mobile is the lead. They enter into a lease with the owner of Kings Shopping Center, who would then sublease to Verizon. Kings would be receiving rent. T-Mobile would be receiving a small sublease payment from Verizon. Verizon would be paying, not receiving. While it is unique to have competitors on the same tower, it happens as municipalities are encouraging collocation.

Dr. Eisenstein advised that the business case comes from their customers, their client base, who are using the phones and paying monthly rents to use the phones. While Mendham Borough is reviewing one tower, that is not the way the T-Mobile or Verizon look at it. They view it from a national network perspective. They could have a national network that has one gap that could cost them enough customers to lose out.

Vice Chair Seavey announced the application would be carried to the March 2, 2010 regular meeting of the Board. Mr. Schneider, Esq. granted an extension.

#### **ADJOURNMENT**

There being no additional business to come before the Board, on motion duly made, seconded and carried, Vice Chair Seavey adjourned the meeting at 11:15 p.m. The next regular meeting of the Board of Adjustment will be held on Tuesday, March 2, 2010 at 7:30 p.m. at the Garabrant Center, 4 Wilson Street, Mendham, NJ.

Respectfully submitted,

Diana Callahan  
Recording Secretary

