

February 14, 2013  
File: 147 201348

Mr. John Ewasutyn  
Chairman, Town of Newburgh Planning Board  
Old Town Hall  
308 Gardnertown Road  
Newburgh, New York 12550

**Re: AT&T Permit Application - MODIFICATION  
21 Bannerman View Drive  
Town of Newburgh, New York  
Technical Review Report**

Dear Mr. Ewasutyn:

This letter report was prepared to summarize HDR's technical review of an application prepared by Cuddy & Feder LLP, an agent of New Cingular Wireless PCS, LLS (AT&T), to modify its existing wireless telecommunication facility (WTF) at the above-referenced location (the site) in the Town of Newburgh, New York. The site includes an existing 88 ft lattice tower.

This review includes a general assessment of AT&T's application by HDR. The review consisted of an analysis of the application materials dated January 3, 2013 and January 24, 2013. The applicant is seeking Planning Board approval and a Building Permit for the proposed modifications. The application also references Section 6409(a)(1) of the Middle Class Tax Relief and Job Creation Action of 2012, which concerns modifications to existing wireless telecommunications facilities.

This letter report is written for the review and comment of the Town of Newburgh Planning Board. Aside from the Building Permit, the applicant has not identified the need for variances or other approvals. A summary of recommendations is included at the end of this report.

## **1.0 Application Review**

### ***Background Information***

AT&T is proposing to install a total of three new panel antennas (one per sector) for a total of 12 panel antennas on an existing 88 ft lattice tower in an R-3 (Residential) zoning district. The existing lattice tower is located on the north side of Bannerman View Drive, west of Route 9W.

AT&T currently operates an approved WTF at this site consisting of nine panel antennas at a centerline height of 62 ft above grade, and an equipment shelter located at grade on the west side of the lattice tower. AT&T's existing facility is co-located at the lattice tower site along with the facilities of other wireless carriers (Sprint/Nextel and T-Mobile).

AT&T is proposing modifications to its existing WTF, as follows:

1. Nine of the existing panel antennas (three per sector) will remain at the site and be relocated onto three (one per sector) new "swing boom mounting frame" antenna mounts (at same height and general configuration as existing conditions).
2. One new "Long-Term Evolution" (LTE) panel antenna will be installed in each sector (total of 3 new LTE antennas at the site). The applicant is proposing installation of the new LTE antennas to provide for more capacity and faster data transfers within the local AT&T network.
3. One GPS antenna is proposed to be mounted on the ground-based equipment shelter.
4. Six radio head units (two per sector) will be installed on new frames, in close proximity to (but lower than) the panel antennas. These units are used to enhance operations of AT&T's facility and local services (e.g., support antenna sharing applications).
5. Surge suppression boxes (three total) are proposed on the new frames (one per sector), between the radio head units. This system serves as a grounding location for the new radio head units.
6. A new junction box and fiber cable box is proposed on the south tower leg.
7. Changes to other equipment (all within the ground-based shelter) include: new coax cables and duct, alarm and alarm cable, Argus power unit, LTE rack/equipment, removal of one power cabinet, and decommissioning/installation of DCDC converter.

Based on a review of the original application materials provided to HDR, the following items were requested for clarification purposes:

- *Copy of owner proxy and checklist.*
- *Confirmation that no new dish antennas are being proposed as part of this action.*
- *Exhibit D – NYS P.E. sign / seal the cover page of the structural certification statement.*
- *Confirmation of existing and new LTE antenna specs:*
  1. *Summary of AT&T frequencies, with RX antenna power levels*
  2. *Summary of total post-upgrade ERP per sector*

Upon review of original and supplemental applicant submittals, it was confirmed that the height of the tower and the size of the dedicated equipment compound will not change. There will be a net increase in the number of panel antennas (from nine to 12), and the new

antennas will be installed at the same height locations as the current antennas. Six small radio head units will also be added.

### ***Conformance with NIER and Other Radiation Hazard Criteria***

In order to comply with the Non-Ionizing Electromagnetic Radiation (NIER) hazard criteria, Black & Veatch (on behalf of the applicant) calculated radio frequency (RF) levels for the proposed installation. The calculated RF levels, as provided in the application package, assume a “worst case” situation (i.e., scenario does not account for signal attenuation or interference with vegetation or other obstacles; assumption of maximum antenna output), and are thus conservative. The RF calculations are also cumulative by including the existing T-Mobile and Sprint/Nextel antennas in the analysis. For ground-level general public exposure areas on and in the vicinity of the Bannerman View Drive property, the maximum calculated RF level was found to be 7.31% of the FCC’s Maximum Permissible Exposure (MPE) limit. Thus, RF emissions at all general public areas in the vicinity of the site are anticipated to be well below the applicable MPE levels.

## **2.0. Additional Application Issues and Considerations**

### ***Aesthetics***

Based on a review of the upgrade application materials, the overall height of the existing 88 ft lattice tower is not proposed to be increased as part of this application. No tower lighting is required or proposed, and there will not be any significant alteration to the existing tower configuration. Cables associated with the new antennas and equipment will be routed along AT&T’s existing cable bridge and cable rack. The color of the proposed antennas was not provided. No modifications to the exterior of the existing ground-based equipment shelter (or existing fenced compound), parking area, ground-based lighting, or landscaping are proposed.

As noted, there will be a net increase in the number of panel antennas at the site (from nine to 12). The dimensions of the proposed panel antennas (51” tall x 11.9” wide) appear identical to those of the existing antennas. The proposed equipment (including antennas, radio head units, and ground-based equipment) does not appear to present significant visual impacts as compared with the existing facility’s conditions.

### ***Structural & Safety***

A structural report by the Applicant’s NYS Professional Engineer was provided in the application materials, confirming that the existing structure can accommodate the proposed upgrade. The Applicant’s engineer maintains full responsibility for the accuracy and adequacy of all aspects of the upgrade design and operation.

Structural calculations were also provided for the proposed antenna upgrade, and considered wind and dead loads. The calculations also assumed a 100 ft tower height, and utilized existing and proposed antennas. The analysis appeared to utilize the current TIA 222-G guidelines. HDR did not review the structural calculation in detail, as the Structural Analysis Report letter from the Applicant's engineer appears adequate for the proposed upgrade.

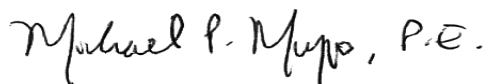
### **3.0. Conclusions and Recommendations**

The following recommendations were identified based on HDR's technical review of the upgrade application. If the AT&T application is approved, the following should be considered as conditions of approval.

- Security fencing around the ground-based equipment and FCC warning signage should be routinely inspected and maintained at the site.
- The proposed antennas, remote radio head units, and mounting structures shall be color matched to the existing tower and antenna colors.
- Operations should be maintained in accordance with the Town's Wireless Ordinance and all other relevant Town codes. Any proposed increase in AT&T's number of antennas, antenna sizes, or number/sizes of ground-based equipment cabinets, shall be approved by the Town prior to any modifications.

Please feel free to contact us should you have any questions on this report.

Sincerely,  
Henningson, Durham & Richardson  
Architecture and Engineering, P.C.  
in association with HDR Engineering Inc.



Michael P. Musso, P.E.  
Senior Project Engineer