

January 25, 2026

Supervisor Edward A. Lachterman
and Members of the Town Board
Town of Yorktown
363 Underhill Avenue
Yorktown Heights, NY 10598

**SUBJECT: RF ENGINEERING EVALUATION OF HOMELAND TOWERS
APPLICATION TO INSTALL A WIRELESS TELECOMMUNICATIONS
FACILITY AND MONOPOLE ON GRANITE SPRINGS ROAD IN
YORKTOWN, NY**

Supervisor Edward Lachterman and Members of the Town Board:

The purpose of this report is to provide the Town Board with a summary of my review of the documents received related to the Homeland Towers application to install a wireless telecommunications facility and monopole on Parcel# 27.11-1-3 on Granite Springs Road in Yorktown, NY. The documents received in preparation for this report included:

- Town of Yorktown Code §300-59 (*Wireless telecommunication services facilities*)
- Board Required Scope E-mail (January 21, 2026)
- KSCJ Consulting Site Plans (December 19, 2025)
- VCOMM RF Justification Report (November 17, 2021)
- Pinnacle Telecom Group FCC Compliance Report (November 16, 2021)
- Homeland Tower Alternate Site Analysis

This report will focus on evaluating the RF Engineering components of the submission with consideration of the Town Code regulations cited above. Therefore, my focus was on the reports and items detailed below.

A. Board Required Scope E-mail (January 21, 2026)

Below is the scope specifically requested by the Town Board, and references to where the items will be addressed in this report:

- *RF report to determine whether there is a gap, and whether proposed tower (including the height) is least intrusive means for addressing it. Refer to Section C of this report.*
- *Review propriety of alternative locations analyzed. Refer to Section C of this report.*
- *Review of propriety of alternate technologies, i.e., DAS. including how and why each one could/could not address gap issues for Yorktown residents, e.g., number of required poles, availability of existing poles and/or need for new poles, # of antenna allowed on a pole, impact on service, etc. And if appropriate, are there vendors interested in installing. Will be discussed in Section C of this report.*

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- *Review and confirm that the structure will comply with FCC regs re health and safety of RF. Recommend steps for Town to take to ensure it complies throughout its operational life, e.g., reasonable testing requirements. Refer to Section E of this report.*
- *Homeland dismissed “tree” pole arguing that whip antennas used by first responders couldn’t be “hidden.” If sufficient and proper “branches” are used, is that an accurate statement? Do you have photos to illustrate? Will be discussed in Section B below.*

B. KSCJ Consulting Site Plans (December 19, 2025)

The submitted site plans show a 130 ft AGL (above ground level) monopole to be mounted on Town property located at 62 Granite Springs Road¹. The monopole is proposed to be mounted towards the back of the property, in a wooded area (relative to Granite Springs Road). The drawing of the proposed monopole (ZD-8/ZD-12) illustrates four (4) levels of antennas to accommodate 4 future wireless carriers at 126 ft, 116 ft, 106 ft and 96 ft AGL, plus space at the top of the monopole for the Town’s public safety radio antennas at 130 ft. The monopole proposed will be painted “thunder gray”.

Note that there are no details provided in the Site Plans regarding:

- Which carrier is planned for which height? Based on the RF Justification Report (see Section C), Verizon will be the first carrier on the pole, and be located in the top position at 126 feet AGL. This should be indicated on the site plans.
- What is being installed on the proposed monopole and at the base of the monopole? Details concerning antennas, cabling, transmission equipment, power, etc. must be provided on the Site Plans in order to meet §300-59E.1(n,o,p,q,r) of the Town Code.

Provision of a “tree monopole” technically is an option here, but its not clear to me that it will provide improved concealment over the proposed monopole. Assuming that public safety radio antennas will be mounted on top of the pole as indicated in the Site Plan, they will not be concealed by the “tree branches”, which mount to the sides of the pole. These antennas are typically omnidirectional “sticks”, which can be up to 10 ft long, depending on frequency band. In addition, the “branches” actually add visual “space” to the monopole in order to conceal the antennas and respective mounts. In this area, I would think that a large tree, taller than the surrounding foliage, would actually be less visually appealing than the proposed monopole. See the following page for a photo of a tree pole² with both cellular and public safety antennas.

¹ I believe that this address is incorrect, as it is associated with Stuarts Farm, not with Parcel# 27.11-1-3, which is owned by the Town.

² Note that it appears that many of the “branches” have fallen off this treepole, leaving the antennas somewhat exposed.

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Public safety radio antenna

Cellular antennas

These Site Plans appear to be Zoning Drawings, not Construction Drawings. *The Applicant needs to submit Construction Drawings that provide the missing details required to meet the Town Code requirements details above.*

C. VCOMM RF Justification Report (November 17, 2021)

The VCOMM RF Justification Report claims that the proposed cell site is needed for coverage and capacity reasons, specifically to fill in a coverage gap in Verizon's network ³in the vicinity of the proposed site.

Existing coverage to the target area appears to be provided by a combination of five (5) existing sites:

- Mohansic 2
- Crompond Road
- Route 35
- Lincolndale

³ Verizon is not called out in the Site Plans, but based on this report, appears to be the anchor (initial) tenant on the proposed monopole.

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➤ Jefferson Valley 2

Coverage projections are presented in both the 700 MHz and 2100 MHz bands. Map 2 shows the existing coverage for Verizon in the 700 MHz band, and Map 4 shows the existing coverage in the 2100 MHz band. There appear to be significant coverage gaps to all directions of the proposed site, which are more pronounced in the 2100 MHz band due to more lossy propagation characteristics in the higher band.

Predicted coverage with the proposed site activated is provided in Maps 3 (700 MHz) and 5 (2100 MHz). The site does fill in much of the spotty coverage in the area in the 700 MHz band, but in the 2100 MHz band, there are still some significant gaps, particularly to the south of the proposed site.

There is no data provided to substantiate the claim that the site is needed to offload capacity from the neighboring sites.

Overall, the propagation analysis does appear to show that there is a substantial coverage gap, and the proposed site will help alleviate much (but not all) of the coverage issues in the area.

I'd like to see the Applicant provide a few items to complete their report, including specifically:

1. Antenna Height Clarification – *A very minor issue, but this report stated the antenna height at 127 ft AGL, while the Site Plans show 126 ft AGL. This discrepancy should be resolved.*
2. Capacity Analysis – *Provide data to substantiate the capacity offload claim made on page 4 of the report.*
3. Propagation Model / Parameters – *The propagation model and parameters utilized can make a large impact on the output coverage maps. The Applicant is requested to provide a table showing, as a minimum, for each sector of each site:*
 - *Lat/Long*
 - *Antenna Centerline Height (ft AGL)*
 - *Antenna Make/Model*
 - *ERP (dBm)*
 - *Orientation (degrees)*
 - *Propagation Model*
4. Alternate height analysis – *Show projected coverage at both 137 ft and 117 ft AGL, and at both the 700 MHz and 2100 bands. This will show the impact of monopole height variations and frequency bands differences and justify (or not) VCOMMs statement that the proposed monopole height is the minimum necessary to provide the required coverage in the area.*

It is understandable that the Town is concerned about the visual impact of the new monopole and keeping the overall height of the monopole limited. The Town is also concerned about minimizing the number of wireless sites within the Town borders. Note that these two objectives are often at odds with each other, especially in a coverage limited area like Yorktown where capacity is not the primary concern.

Generally constructing taller towers will minimize the number of towers in the Town. In addition, lower tower heights may not meet the coverage needs of additional wireless carriers, causing them

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to look to build additional towers to meet their coverage requirements. This is why it is important to look at lower and higher antenna heights as part of the analysis.

Alternative siting solutions, such as outdoor distributed antenna systems (ODAS), have been used in certain cases to fill coverage gaps. Covering a given area via ODAS requires installation of antennas and cabling on existing (or new) “telephone poles”, and provision of connectivity to the carrier networks as well as power for the device(s) attached to the pole.

Generally, it is not practical to deploy ODAS in suburban areas such as there is in Yorktown. There are several reasons for this:

- *Limits on antennas and equipment placement on telephone poles* – Antennas from different wireless carriers generally need a minimum of 10 feet of vertical separation to operate independently, which is not practical on a short pole. Therefore, if deploying carrier independent “small cells” on telephone poles, you would need 3 times as many poles as for a single carrier. An alternative approach is to use a “neutral host” ODAS, where the wireless carriers would connect via a centralized “head end”, which will provide connectivity through the desired area via fiber to pole mounted amplifiers and antennas that can support all of the carriers.
- *Limited coverage from each pole* - Telephone poles are generally between 35 and 50 ft in height, and are therefore below the tree line in most areas. This limits the coverage capability from each ODAS site to basically line of sight along the immediate roadway and adjacent properties, especially during the months where full foliage is present.
- *RF emissions concerns* – Though ODAS transmission levels are lower than those from traditional monopoles, the antennas are much lower to the ground thus much closer to the cell phone users. The viability of doing this and staying within the FCC emissions limits would need to be carefully coordinated.
- *Funding* – Due to the limited coverage of each ODAS site, many more of these sites will be needed to cover the equivalent of a single monopole site. I have seen estimates of 20 ODAS sites as a minimum to cover the equivalent of a single monopole site. This is a significantly more expensive deployment.
- *Limited Neutral Host ODAS Providers* – There are limited neutral host ODAS Providers that are active in the Westchester County area. I am aware of two of them that have deployments in the county – Extenet and Crown Castle. I do not believe that Homeland Towers is an ODAS provider. I know of existing deployments in Yonkers and Mount Vernon, which are more urban areas when compared to the area we are considering in Yorktown. Generally, the ODAS providers require financial commitments from at least 2 anchor carriers before they even begin permitting and constructing an ODAS. This is a long process.

The bottom line is that although I believe that this is not a good application for ODAS, I think it is fair to ask the question to the Applicant and request a justification for why that is not being considered.

D. Homeland Towers Alternate Site Analysis

A copy of the Alternate Site Analysis was not provided, but I was able to find the alternates discussed in the *Town Supervisor's Letter to Residents Regarding the Granite Springs Road Cell*

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Tower Proposal, posted on January 9, 2026. Four (4) alternative sites were analyzed. The alternates were all on Town property. The 3 not selected were all significantly closer to residences than the site on Granite Springs Road and were eliminated from consideration apparently on that basis (not clear).

If the Town would prefer the applicant build on one of the alternate town properties, it would be fair to ask for a RF study to determine the viability of the alternate location.

It appears that the proposed location at Parcel# 27.11-1-3 on Granite Springs Road is the most viable location at this point to construct the subject monopole.

E. Pinnacle Telecom Group FCC Compliance Report (July 14, 2023)

My review of this report is provided below.

1. Technical Parameters

- a. *Verizon Wireless Parameters* – If Verizon is in fact the anchor tenant, per the VCOMM report, Pinnacle should utilize the antenna and power parameters that are consistent with Site Plans. This was not done, in part because the Site Plans did not contain any of these parameters (see Section A of this report)
- b. Parameters of other occupants – Transmit parameters of the potential occupants of the monopole (Verizon, AT&T and T-Mobile) were estimated, and not based on actual transmit power levels or antenna types as these would all be potential future tenants of the site. Antenna elevations appear to be modeled slightly differently from those detailed in elevation drawing provided in the Site Plans (One foot higher in this report for each antenna level in this report. This should be corrected). Estimated parameters (frequency bands, power levels) appear to be reasonable based on industry practices. Since these are future applicants, estimated parameters are acceptable.
- c. Frequency Bands – The study includes all of the 4G (LTE) bands used by the wireless carriers, but appears not to consider the 5G only bands, such as C-Band (used by both Verizon Wireless and AT&T). That should be considered in determining the composite output power of the proposed site.
- d. Antenna Downtilts – No electrical or mechanical downtilt of any of the antennas was assumed in the RF-EME analysis. In reality, many of the wireless carrier antennas can, and are, downtilted either electronically or mechanically to improve coverage on the ground level, typically at 2 percent or more. At 130 ft AGL, this should not make a significant difference in the RF exposure results.

2. Calculations – The RF Exposure calculations were done in accordance with the FCC OET Bulletin 65, which is the standard for performing such analyses.

3. RF Exposure Results – The analysis performed shows that the monopole emissions, including all occupants, do not exceed 5.3% of the maximum permissible exposure level at 300 feet from base of tower on ground level, as defined in OET Bulletin 65 – well within the acceptable range.

Note that the Town Code provides provisions to ensure that RF Emissions are tested once the site is on the air, and periodically thereafter, to ensure compliance. Refer to Town Code §300-59F.

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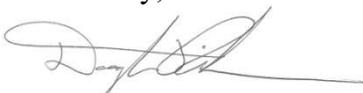
F. Summary and Recommendations

After my thorough review of the RF Engineering submittals with respect to the proposed Homeland Towers cell site on Parcel# 27.11-1-3 on Granite Springs Road in Yorktown, it appears that the Applicant has done an inadequate job in submitting justification for this new site. There are some issues with respect to their application for which I'd like to see some additional information provided before I can approve it from an RF Engineering standpoint:

1. Applicant is requested to provide Construction Drawings in addition to the Zoning Plans, which show the required antenna and equipment parameters detailed in §300-59E.1(n,o,p,q,r) of the Town Code. These parameters must align with the parameters utilized in the other submittals.
2. Applicant provide a few items to complete their RF Justification Report, including specifically:
 - Antenna Height Clarification – A very minor issue, but this report stated the antenna height at 127 ft AGL, while the Site Plans show 126 ft AGL. This discrepancy should be resolved.
 - Propagation Model / Parameters – The propagation model and parameters utilized can make a large impact on the output coverage maps. The Applicant is requested to provide a table showing, as a minimum, for each sector of each site:
 - Lat/Long
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 - Alternate height analysis – Show projected coverage at both 137 ft and 117 ft AGL, and at both the 700 MHz and AWS bands. This will show the impact of monopole height variations and frequency bands differences and justify (or not) VCOMMs statement that the proposed monopole height is the minimum necessary to provide the required coverage in the area.
3. Update the FCC compliance report to use heights consistent with the Site Plans provided and include the 5G bands for each wireless carrier.
4. Please provide the required structural analysis report for the proposed monopole. Refer to §300-59D.5 of the Town Code.

Please feel free to reach out to me with any questions or comments.

Sincerely,



Douglas Fishman
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