

**Proposed Telecommunications Tower Project at Freedom High School
July 18, 2022 Public Briefing Questions/Answers
& Received Comments**

Q1. Why needed now? What are the metrics for cellular/Internet service, 911 calls, etc. that necessitate a cellular tower at this location at this time? Doesn't the ATT cellular tower on Gum Spring Road have the capability to support this area? Is this a 5G capability, which will require multiple additional towers to be fully effective?

A1. AT&T has radiofrequency engineers who monitor the network and identify areas of sub-optimal performance. They are looking not only at how the network performs today but also reviews trends so they can appropriately forecast future demand and create additional coverage and capacity as needed. Performance metrics include (but not limited to) coverage, dropped calls, latency, and data speeds. AT&T does have a presence at the Gum Spring Road; however, it is not providing the needed coverage and capacity to meet current and future performance objectives. Yes, there will be 5G on the tower. 5G is in the early stages so it remains to be seen how many additional towers will be required for it be fully effective.

Q2. How many other cellular towers are planned for South Riding? What is Milestone Towers' overall plan for this area? Are there other vendors proposing construction of cellular towers in South Riding?

A2. I am only aware of the sites that our company (Milestone) are working on. We recently completed a public safety tower at Kirkpatrick Farms Fire Station, which is on the edge of South Riding / Aldie. We do not have any other active sites in South Riding.

Q3. The notification states that ATT will be the first wireless carrier to locate on the proposed monopole. How many more companies will place their transmitters/antennae on this proposed tower? How many transmitters/antennae will be placed on this proposed tower?

A3. AT&T is the first and only carrier to provide a commitment to co-locate on the monopole at Freedom HS. The tower will be built with capacity to accommodate up to four total wireless carriers. The total number of antennas and other equipment will vary depending on each carrier's radiofrequency design and objectives.

Q4. How much revenue will Loudoun County or LCPS generate from having the proposed cellular tower placed on Freedom High School property? Initially? Per annum?

A4. LCPS will receive 40% of all revenue derived from the tower, as well as a one-time \$40,000 fee upon construction start. The total revenue varies depending on the number of wireless providers are on the tower and when they install their equipment.

Q5. What is the program management schedule for this project (to include Loudoun County Planning Commission/Board of Supervisors approvals and construction)? When is the estimated initial operational capability and full operational capability projected?

A5. The overall schedule to gain all required approvals to build the tower – including LCPS Reg 6350, Loudoun County Special Exception and Commission Permits, Site Plan, Grading and Building Permits – is estimated to be about 15 months. The construction timeframe is about six weeks.

Q6. What have your studies shown with regard to RF energy exposure to the surrounding homes and residents in the area? Your website shows pictures of the proposed tower and line-of-sight to various parts of the affected area (on the horizon) and seems to show that RF energy transmission could beam directly into some houses to the south of the proposed tower. I suspect that directed RF energy effects will be more acute to the west, which has houses at a higher altitude than other surrounding areas.

A6. The project website (<http://www.freedomhswireless.com/safety-2/>) contains links to resources on radiofrequency (RF) energy and typical exposure to be expected from these facilities, including the American Cancer Society, Federal Communications Commission (FCC), International Agency for Research on Cancer, and World Health Organization.

The FCC has jurisdiction on a national level of determining safe levels for RF exposure; these guidelines are in place to protect and ensure the health of the general population and are buffered by a significant safety factor. In general, third-party RF monitoring of Milestone's sites has revealed negligible radiofrequency levels proximate to the tower– typically in 100 to 1,000 times below the FCC guidelines.

In the case of Freedom High School - we can't measure what's not yet built – however, DBM Engineering was engaged to predict worst-case exposure using the prescribed formulas from OET 65 and the specifics of AT&T's equipment design and three future wireless carriers. The report (attached separately) demonstrates compliance at all locations of public access, even when there are four total wireless carriers operating on the tower. The closest home is estimated to be on the order of 400 or 500 feet away - at that distance, the attenuation of the signal as it disperses will yield levels well within the acceptable limits of exposure. From DBM Engineering's experience measuring these facilities, the only time levels are in excess of FCC allowable exposure is when located 10 to 15 feet directly in front of these antennas – typically in a rooftop or tower climber scenario (i.e., when at the same elevation as the antennas).

Q7. Your website talks about intermittent RF energy transmission. How intermittently? Are you speaking to RF energy pulsing or frequency wavelengths, because to be effective, the system must be operating at all times (meaning it does not turn on and off)? Have you studied the long-term effects on humans, regardless of how intermittently the RF energy is transmitted? What studies (US and international) have you reviewed and what do they show?

A7. The emissions report (attached separately) contemplates maximum transmission power (24 hours/day, 7 days/week, 365 days/year). However only the broadcast (setup) channels are transmitting full time and represent a small percentage of maximum power. The report assumes 100% duty-cycle among a host of other worst-case assumptions. The effects of RF energy have been studied widely for over 30 years with no correlation found between adverse health effects and exposure within FCC guidelines. The US Food & Drug Administration has a webpage on the topic of RF energy, which cites several studies (link: <https://www.fda.gov/radiation-emitting-products/cell-phones/scientific-evidence-cell-phone-safety>).

Q8. Most literature states that RF energy from cellular towers is transmitted outward and not downward (e.g. into surrounding homes). What about downward RF energy scatter and its effects on the high school, elementary school, and surrounding homes?

A8. All antennas use very specific patterns and any antenna malfunction that could cause unintended downward scatter pattern would shut the transmitter down immediately due to a high voltage standing wave ratio (VSWR) alarm. FCC guidelines take into account more sensitive population segments like children and elderly that may have higher surface area to body mass ratio.

Q9. Is the applicant (Tower builder) responsible for what is, and what is not hosted on the monopole?

A9. Yes, Milestone keeps a detailed inventory of the equipment that is installed on the tower and ground. Any changes to equipment require structural and engineering review/approval by Milestone.

Q10. Will the monopole host Huawei components, antennae, transceivers, or other systems produced by the People's Republic of China?

A10. No, there is currently a ban in the US on Huawei equipment.

Q11. Will radiated emissions comply with the FCC RF radiation exposure guidelines, and where is proof of testing kept for public viewing?

A11. Yes – records will be provided to LCPS on an annual basis for towers that are in operation.

Q12. What, if any, measures will be taken to obscure the monopole within the sightline of FHS?

A12. Milestone has worked with LCPS site the monopole within a field of existing galvanized steel poles, which will lessen the visual impact to surrounding community. When viewed from both on- and off-site, it will appear within context of its surroundings.

Q13. Will the monopole host AT&T FirstNet?

A13. Yes.

Q14. Besides services meant for personal\consumer-grade cell usage, what other services or tenants are hosted on the monopole?

A14. As part of its agreement with the school system, Milestone reserves space on the tower for LCPS and/or Loudoun Public Safety use.

Q15. Will any Law Enforcement, US Government (to include FCC instrumentation), or regulatory enforcement systems be hosted on the monopole, or its subsystems?

A15. LCPS and Loudoun County are the only governmental entities with express permission to co-locate their equipment on the monopole.

Q16. Will the monopole be required to have an aircraft warning light, or is it short enough to avoid that requirement?

A16. From preliminary review, it does not appear as though the monopole will be required to be lighted or marked. However, the location will need to go through full FAA review to receive an official determination.

Q17. Are the vendors, tenants, or systems hosted on the monopole, or its supporting ground station, public record; if so where?

A17. Milestone provides copies of sub-tenant leases to LCPS. All vendors installing equipment on the monopole must also obtain a building permit from Loudoun County.

Q18. Was there a survey done for how many people (and what percentage)in the one mile radius who have kids under age of 16 are pressing for this extra coverage?

A18. Milestone, LCPS, and AT&T have not conducted any such survey. However, T-Mobile had also reached out to Milestone at one point to express interest in a possible presence on the Freedom High School.

July 18, 2022 Received Email Comments

Comment 1:

Hi,

I would like to request you to move the tower 1-2 miles away from school and residential area. Almost 3 schools with kids under 16 will be impacted and risking their health by constant emf.

As a parent I would request principal/ school/lcps and AT&T to consider this request.

Thanks

Comment 2:

Hi -- Although my husband and I are unable to attend the public briefing tonight, we wanted to provide feedback on the Freedom High School Cellular Tower Proposal. We would like to request that it not be located at the school but, rather, moved away from schools and homes to avoid potential health risks down the line. As cell towers (and cell tower radiation) are still relatively new, and their effects on residents unproven, we don't want to gamble with our children's health.

Thank you,