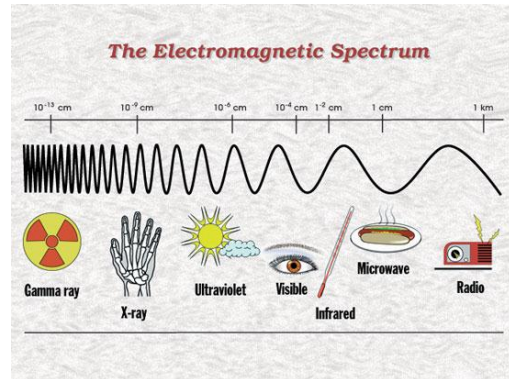


Cell Towers – Toolbox Talk

What is Radio Frequency (RF)?

- RF is part of the non-ionizing radiation spectrum, similar to AM and FM radio waves and infrared waves from heat lamps.
- Overexposure to RF causes heating of the body.
- RF is NOT related to alpha, beta, gamma, or x-ray radiation.



WVU Cell Tower Survey

- RF measurements were taken on rooftops around campus on April 19, 2011.
- Most measurements were below 10% of the allowable level for public exposure.
 - One exception was the Engineering PRT roof.
 - Workers should remain greater than 5 feet from the cellular antennae at this location.



Federal Communications Commission (FCC)

- The FCC regulates exposure to RF.
- People who normally work with RF are allowed higher exposures.
- The general public exposure is more stringent.
- The survey of WVU rooftops are based on general public exposure levels.

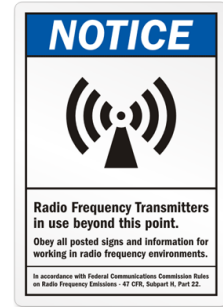
WVU Safety Program for Cell Towers

- Post signs.
- Limit rooftop access.
- Stay at least 3 feet away from antennae (5 feet at the Engineering PRT Rooftop).
- Personnel with implanted medical services (pacemakers) and personnel who are pregnant or believe they are pregnant should not work on rooftops with antennas.

- Personnel that require access to locations in close proximity to the antennas should employ Lock-Out/Tag-Out procedures to isolate the RF.

Recommended Signs

- A NOTICE sign (pictured to the right) will be posted at roof access points for buildings with cell towers, along with a notice to not be within 3 feet of the antennae for more than 30 minutes.
- A CAUTION sign (pictured to the right) will be posted at roof access for the Engineering PRT along with a notice to stay 5 feet from the antennae at all times.



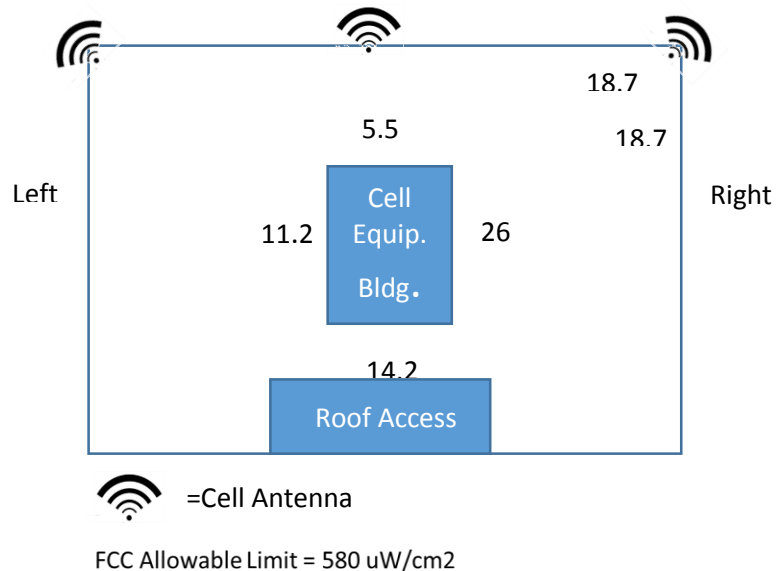
Campus Antennas and Details

All

- Cell towers are mounted high above the ground and facing off of the rooftop to limit human exposure.
- Closer to the antenna face, the RF level is higher.
- The RF level decreases as it gets farther from the antenna face.
- At ground level the RF is nearly undetectable.

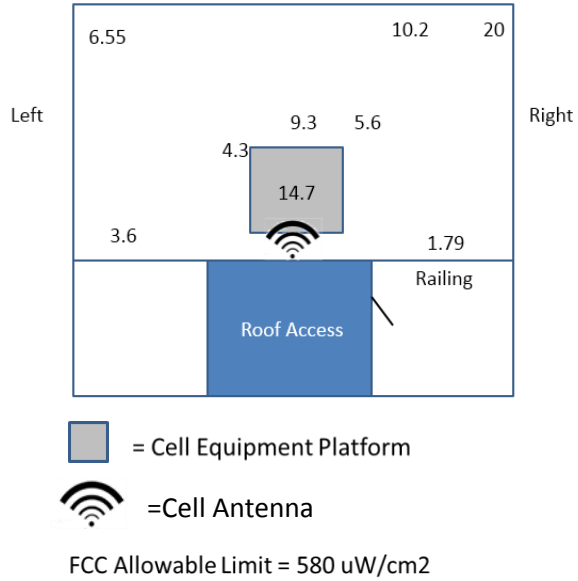
Arnold Apartments

- Cell towers are mounted at 3 locations on the side opposite the roof access (see diagram to right).
- Remain 3 feet away from antennae at all times.



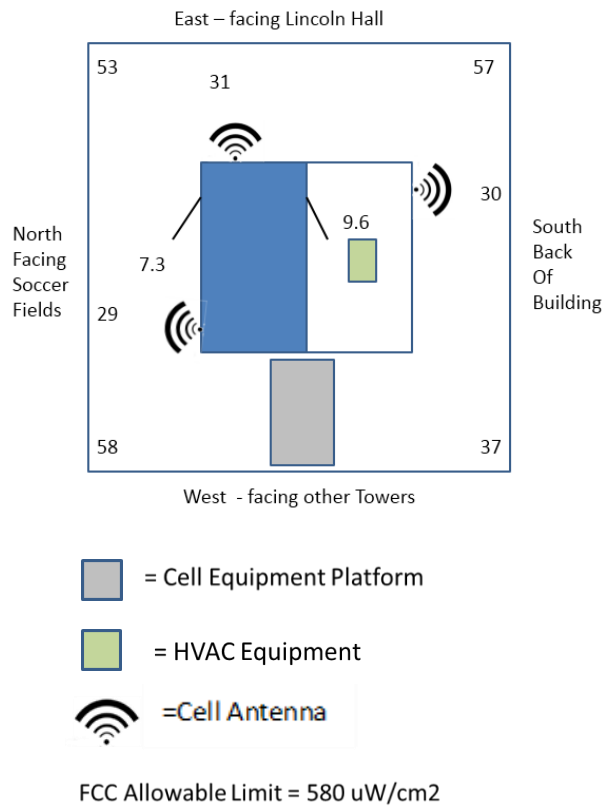
Arnold Hall Main

- Cell tower is mounted directly adjacent to the roof access door (see diagram to right).
- Remain 3 feet away from antenna at all times.



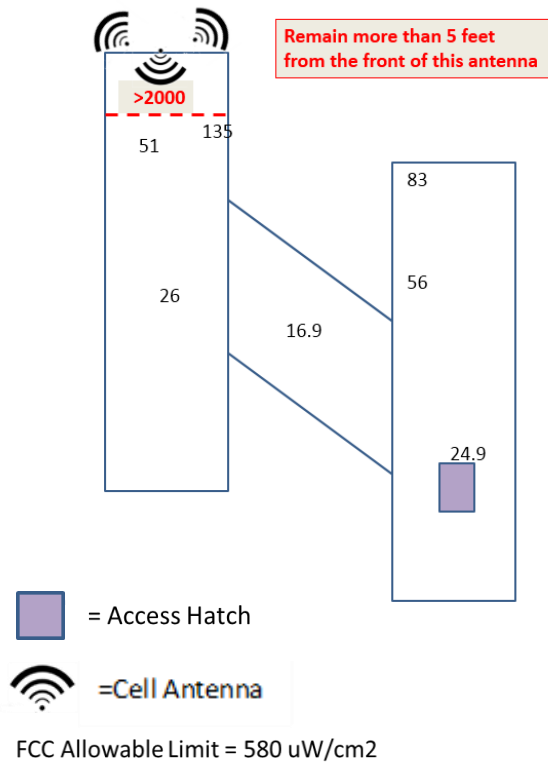
Brooke Tower

- Cell towers are mounted centrally at 3 locations facing north, east and south (see diagram to right).
- Remain 3 feet away from antennae at all times.



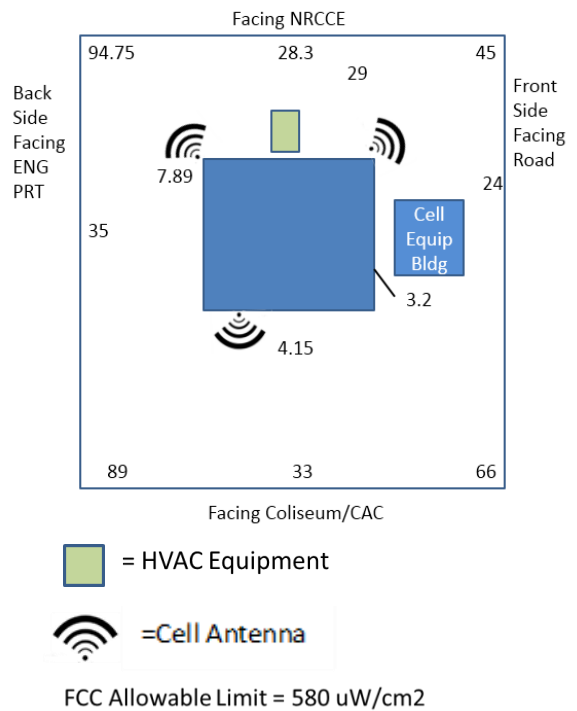
Engineering PRT

- Cell towers are mounted at the far end of PRT catwalk, facing 3 different directions (see diagram to right).
- Remain more than 5 feet from the face of the antenna that points toward MRB.
 - Any personnel that require access closer than 5 feet must employ Lock-Out/Tag-Out procedures to isolate the RF source.



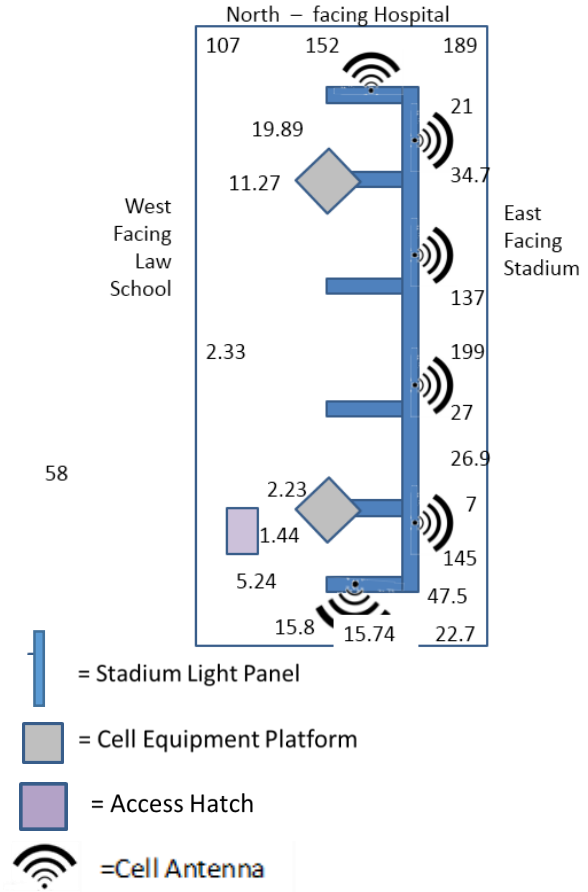
Engineering Science Building

- Cell towers are mounted centrally, pointing 3 different directions (see diagram to right).
- Remain 3 feet from the antennae at all times.



Stadium Press Box Roof

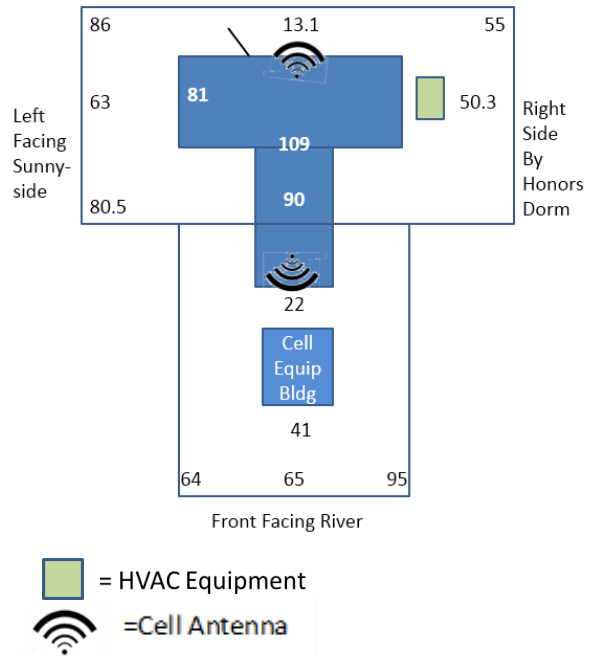
- Cell towers are mounted at 6 locations between the lights on the roof of the Stadium Press Box (see diagram to right).
- Remain 3 feet from antennae at all times



FCC Allowable Limit = 580 uW/cm²

Summit Hall

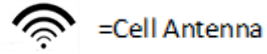
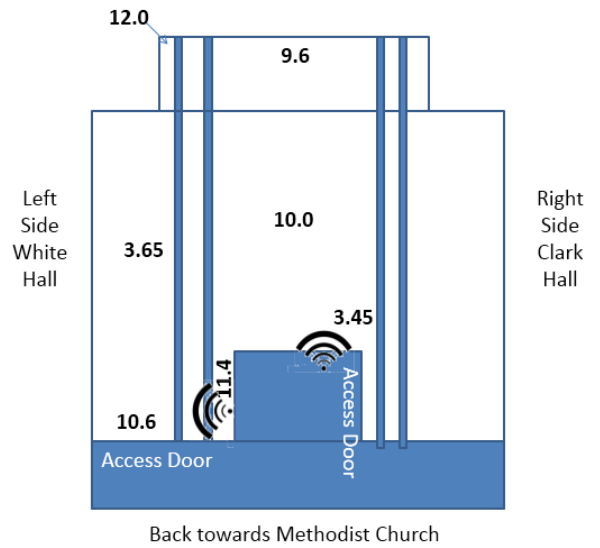
- Cell towers are located at 2 locations, one pointing toward the river, the other toward Grant Street (see diagram at right).
- Remain 3 feet from antennae at all times.



FCC Allowable Limit = 580 uW/cm²

Wise Library

- Cell towers are located at 2 locations, one pointing toward White Hall, the other toward University Avenue (see diagram at right).
- Remain 3 feet from antennae at all times.



FCC Allowable Limit = 580 uW/cm²