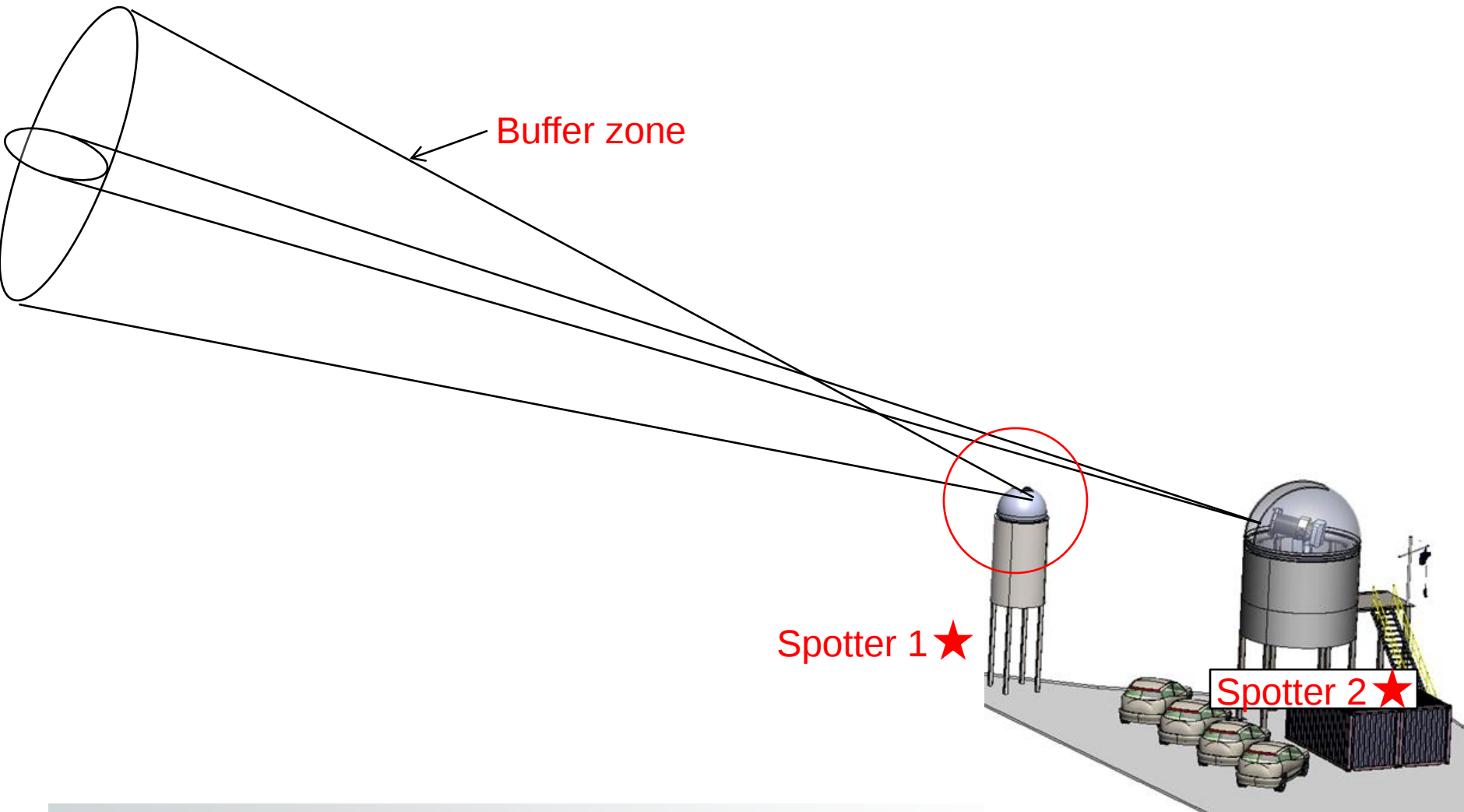


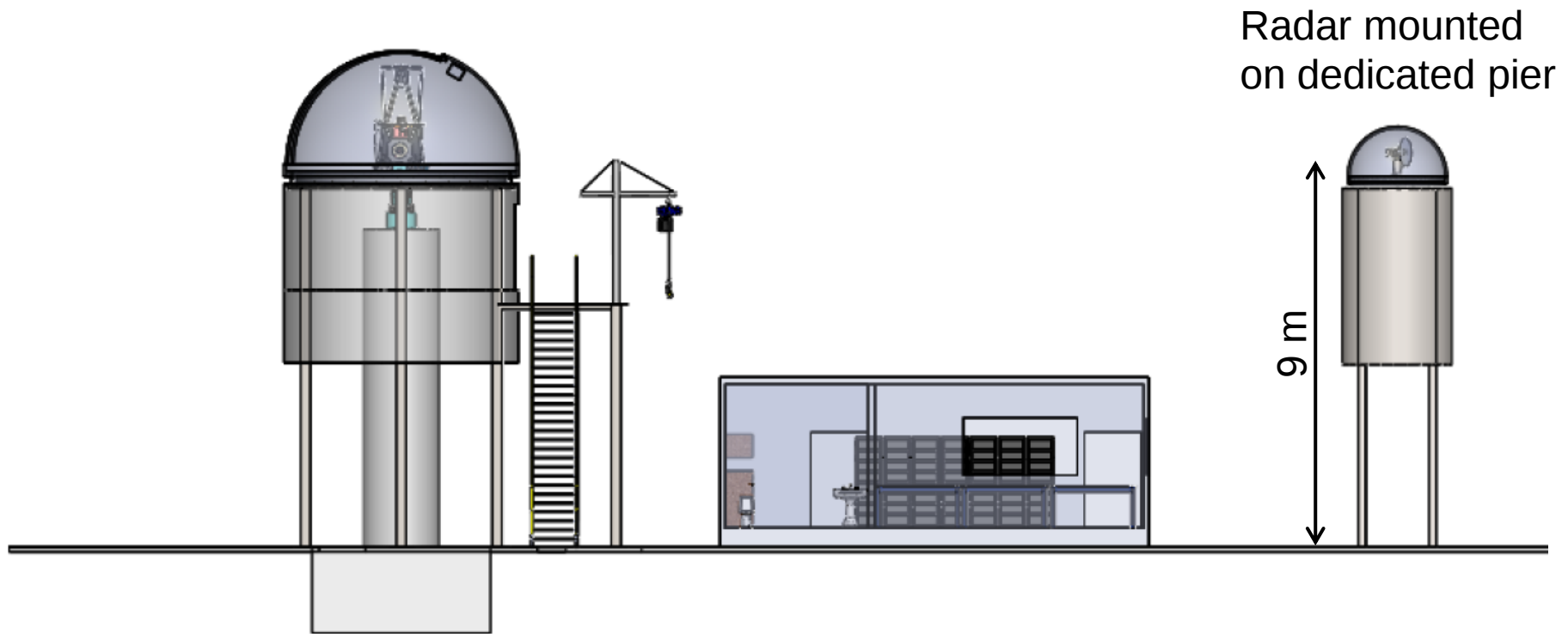
Design Motivation – Aircraft Safety

- FAA regulations require us to ensure clear airspace in the direction of telescope pointing from altitudes of 100 ft to 60,000 ft.
 - *At 10-degrees elevation angle and altitude of 60,000 ft aircraft will be at a range of 55 nM.*
- This will be accomplished with two overlapping safety measures.
 - *Visual Spotters (100 ft – 3 nM)*
 - ***Active boresighted radar (1 nM – 55 nM)***

Operational Overview - Schematic



Facility Overview

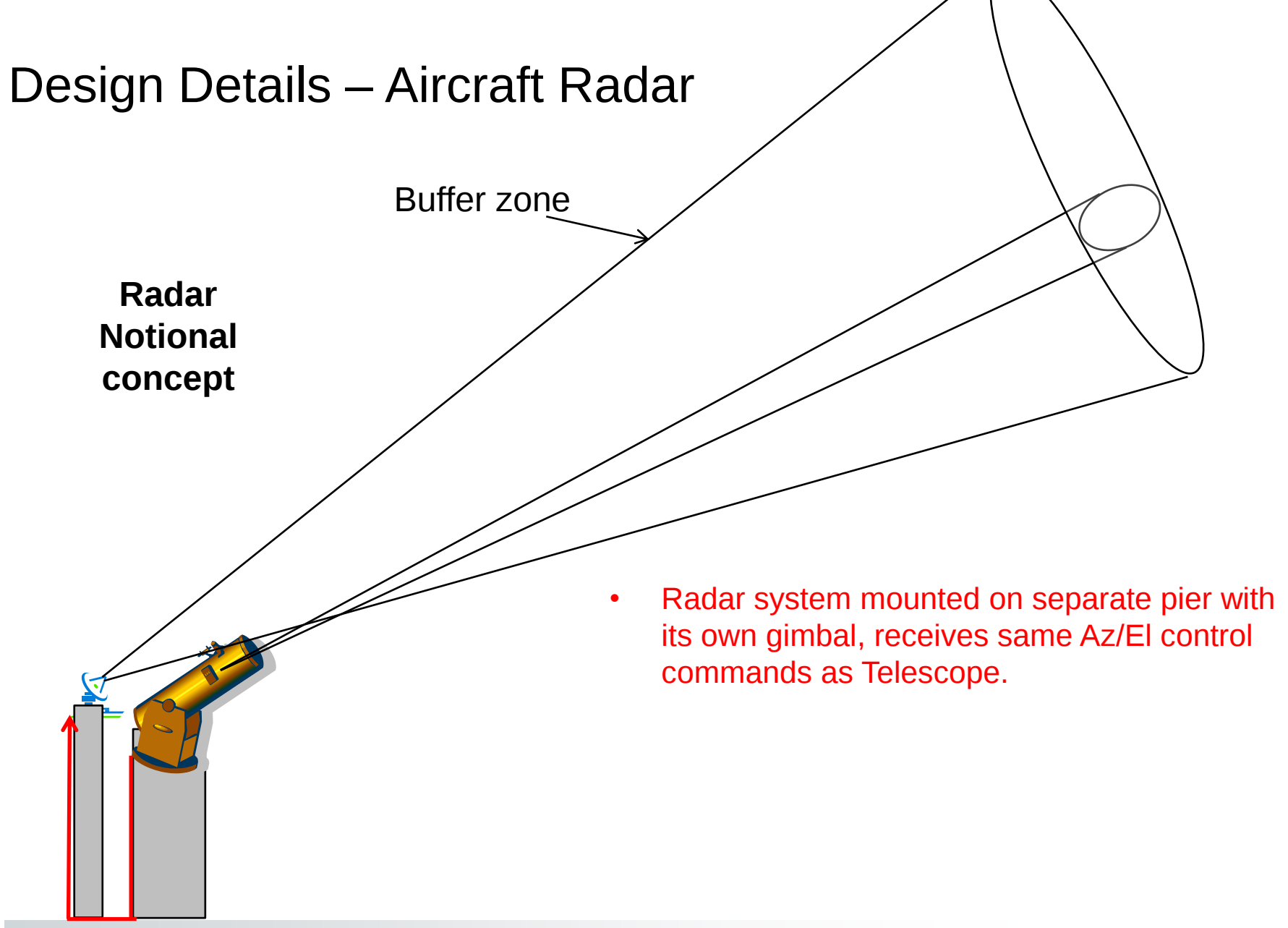


Facility Overview – Panoramic Photo

- Photo taken from approximate position of RADAR on Mt Wilson. Area has several antennas and observatories that are over 100 feet tall.



Design Details – Aircraft Radar



Design Details – Aircraft Radar

- Key specs of selected radar system
 - *Telephonics RDR-1600 modified to have highest gain and best noise factor.*
 - *Pulsed X-band radar operating at 9.38 GHz*
 - *24 – inch circular phased array antenna with 3x dB gain*
 - *200 Hz Pulse repetition rate*
 - *2.35 microsecond Pulse width*
 - *10 kW Transmit Power.*
 - *35 lbs*

