

SECTION 27

SMALL WIND ENERGY SYSTEMS

27.1 CODE COMPLIANCE REQUIRED:

No Small Wind Energy System (SWES) shall be erected, constructed, maintained or operated in a zoning district except in conformance with the following regulations:

27.2 STANDARDS FOR ROOF-MOUNTED SMALL WIND ENERGY SYSTEMS

- A. *Number for Residential Districts Except R4:* A maximum of one rotor per principal structure is permitted on a lot.
- B. *Number for All Non-Residential Districts and the R4 District:* At least one rotor, with a maximum of three rotors per acre of building footprint, is permitted per lot, given the required setbacks and provided the lot meets the minimum area for the zoning district.
- C. *Number in Combination with Ground-Mounted SWES:* Roof-mounted SWES's may be used in combination with ground-mounted SWES's (see Section 27.3-B) to the extent that the combined number of rotors does not exceed the greater maximum number allowed under either standard (generally the ground-mounted standard), given the required setbacks and other standards.
- D. *Rotor Diameter/Rotor Height Limit:* The rotor diameter of a horizontal axis SWES and the rotor height of a vertical axis SWES shall be no more than 7.5 feet.
- E. *Height Limit and Ground Clearance:* As measured to the rotor hub, top of the tower, or tip of the blade in its vertical position, whichever is higher, a roof-mounted SWES may extend to the higher of 15 feet above the height limit for the principal structure or 15 feet above the highest point of the roof structure. (See illustration A.)

The distance between the ground and any blades shall be no less than 20 feet, measured at the lowest point of the blade in its vertical position. The distance between the floor of any unenclosed accessory structure, such as a deck or balcony, and any blades, shall be no less than 20 feet, measured as above. (See illustration B.)

- F. *Location:* The SWES and its support structure shall not be attached to or mounted upon any building appurtenance, such as a chimney. The SWES shall not be mounted or attached to any outside wall of a building.

The distance from all lot lines to the pole of a roof-mounted SWES shall be not less than two-thirds of the height of the SWES, measured from where the SWES meets the outside surface of the roof to the rotor hub, top of the tower, or tip of the blade in its vertical position, whichever is higher. (See illustrations C & D.)

The distance from any power line or third party transmission line to the pole of a roof-mounted SWES shall be not less than 110% of the height of the SWES, measured from where the SWES meets the outside surface of the roof to the rotor hub, top of the tower, or tip of the blade in its vertical position, whichever is higher.

On flat roofs, the support structure shall be set back from the side(s) of the building facing a street at least one-third of the depth of the roof as it faces the street(s). (See illustration E.) On pitched roofs, no more than 50 percent of the support structure shall be mounted to any portion of the roof facing any street.

27.3 STANDARDS FOR GROUND-MOUNTED SMALL WIND ENERGY SYSTEMS¹

- A. *Number for Conditional Use:* At least one rotor, with a maximum of one rotor per acre of lot area, up to an ultimate maximum number of 15, is permitted per lot, given the required setbacks and other standards, and provided the lot meets the minimum area for the zoning district.
- B. *Number in Combination with Roof-Mounted SWES:* Ground-mounted SWES's may be used in combination with roof-mounted SWES's (see Section 27.2-C) to the extent that the combined number of rotors does not exceed the greater maximum number allowed under either standard (generally the ground-mounted standard), given the required setbacks and other standards.
- C. *Rotor Diameter/Rotor Height Limit:* The rotor diameter of a horizontal axis SWES and the rotor height of a vertical axis SWES shall be no more

than 13 feet.

- D. *Height Limit and Ground Clearance:* The maximum height for a ground-mounted SWES shall be 30 feet above the height limit for the principal structure, measured from the ground to the rotor hub, top of the tower, or tip of the blade in its vertical position, whichever is higher.

The distance between the ground and any blades shall be no less than 20 feet, measured at the lowest point of the blade in its vertical position. The distance between the floor of any unenclosed accessory structure, such as a deck or balcony, and any blades, shall be no less than 20 feet, measured as above.

- E. *Location:* The distance from all lot lines or any building, structure, power line or third party transmission line to any support base of a ground-mounted SWES shall be not less than 110% of the height of the SWES, measured from the ground to the rotor hub, top of the tower, or tip of the blade in its vertical position, whichever is higher.

No part of the SWES shall be located within the required front yard building setback. No part of the SWES shall be located within or extend over any easement. No part of the SWES shall extend over property lines.

- F. *Pole/tower Access:* By design, the support base of a ground-mounted SWES shall not be climbable for a distance of 12 feet from the ground.

¹By conditional use permit only.

27.4 APPEARANCE STANDARDS

- A. *Advertising, Illumination Prohibited:* No signs, advertising, or logos shall be permitted on or attached to any SWES. No mark of any other kind shall be permitted on, and no illumination shall be allowed of, any SWES.
- B. *Color:* All SWES's must be monochromatic, non-reflective and neutral in color.
- C. *Acceptable Style:* When more than one is located on a property, the SWES's shall be uniform in style and color.

SWES's that visually appear to be substantially similar in appearance to the following shall be permitted:

Horizontal axis: Blades or airfoils with a singular perpendicular connection to a main rotor shaft that runs horizontally. Blades rotate like a propeller or fan with no ring or diffuser circling the tips of the blades.

Vertical axis: Helical blades or airfoils or a single set of vertical blades connected at no more than two horizontal planes to a main rotor shaft that runs vertically. Blades rotate around the shaft like an eggbeater or an upended paddle wheel.

Mounting structure: Monopole. No trusses, tripods, guy wires, guy towers or frame outside the blades of the SWES.

27.5 AIRPORT HAZARD ZONING LIMITATIONS

Notwithstanding the above standards, no SWES shall be erected or operate in a manner contrary to Chapter 26 of the Municipal Code of the Village of Lake in the Hills, "Airport Hazard Zoning Regulation," or Federal Aviation Administration (FAA) regulations.

27.6 NON-INTERFERENCE WITH TELECOMMUNICATIONS

No SWES shall operate in a manner contrary to the regulations of the Federal Communications Commission (FCC), Federal Aviation Administration (FAA) or other regulating body governing interference with microwave, television, radio or navigation signals.

27.7 DISUSE/DISMANTLING

Any SWES that fails to comply with any law or ordinance of the Village of Lake in the Hills, shall cease operating immediately upon receipt of notice of such non-compliance and shall be brought into compliance within 30 days of the mailing of such notice or shall be dismantled.

Any SWES that fails to comply with the above notice or ceases to operate for any three consecutive months in a residential district or six consecutive months in any other district will be declared abandoned. A notice to that effect shall be sent by certified mail to the property owner.

At the property owner's expense, an abandoned SWES shall be dismantled and removed from the property on which it is located and the property shall be restored to its original condition within 30 days from the date of mailing the notice of abandonment.

27.8 ILLUSTRATIONS

ILLUSTRATION A

HEIGHT LIMIT – ROOF-MOUNTED SWES

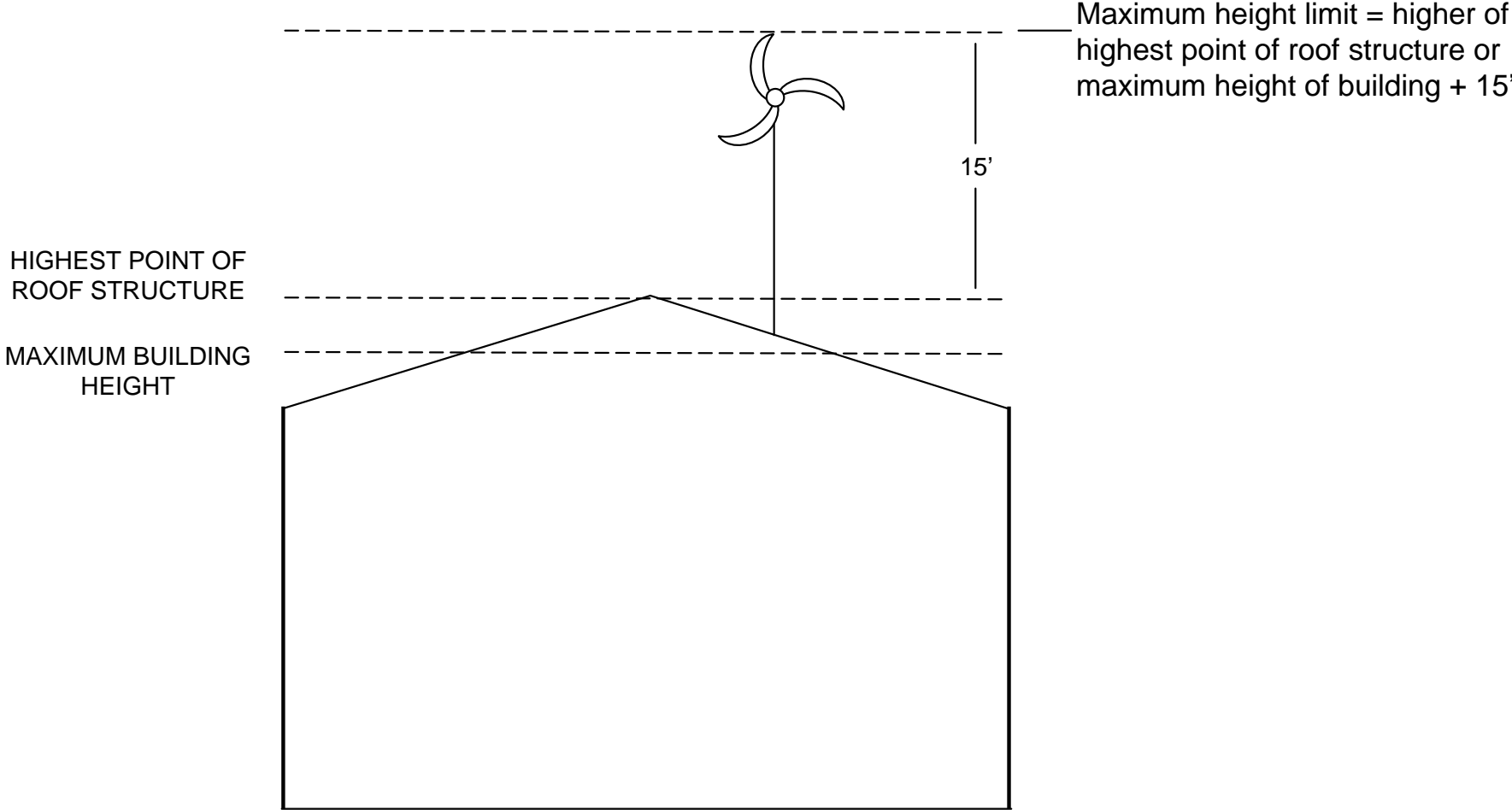


ILLUSTRATION B

GROUND CLEARANCE – ROOF-MOUNTED SWES

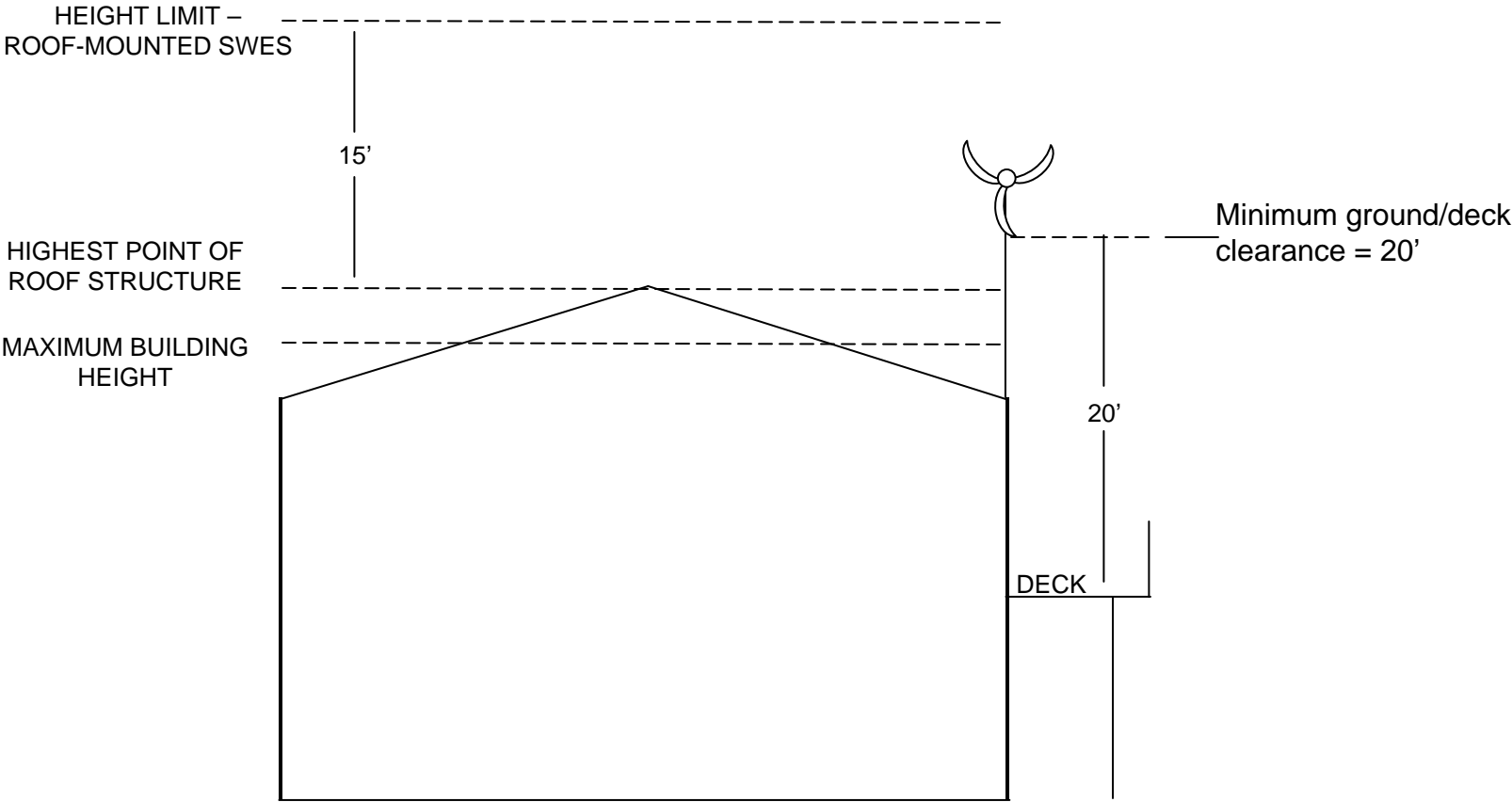


ILLUSTRATION C

LOT LINE SETBACK – ROOF-MOUNTED SWES

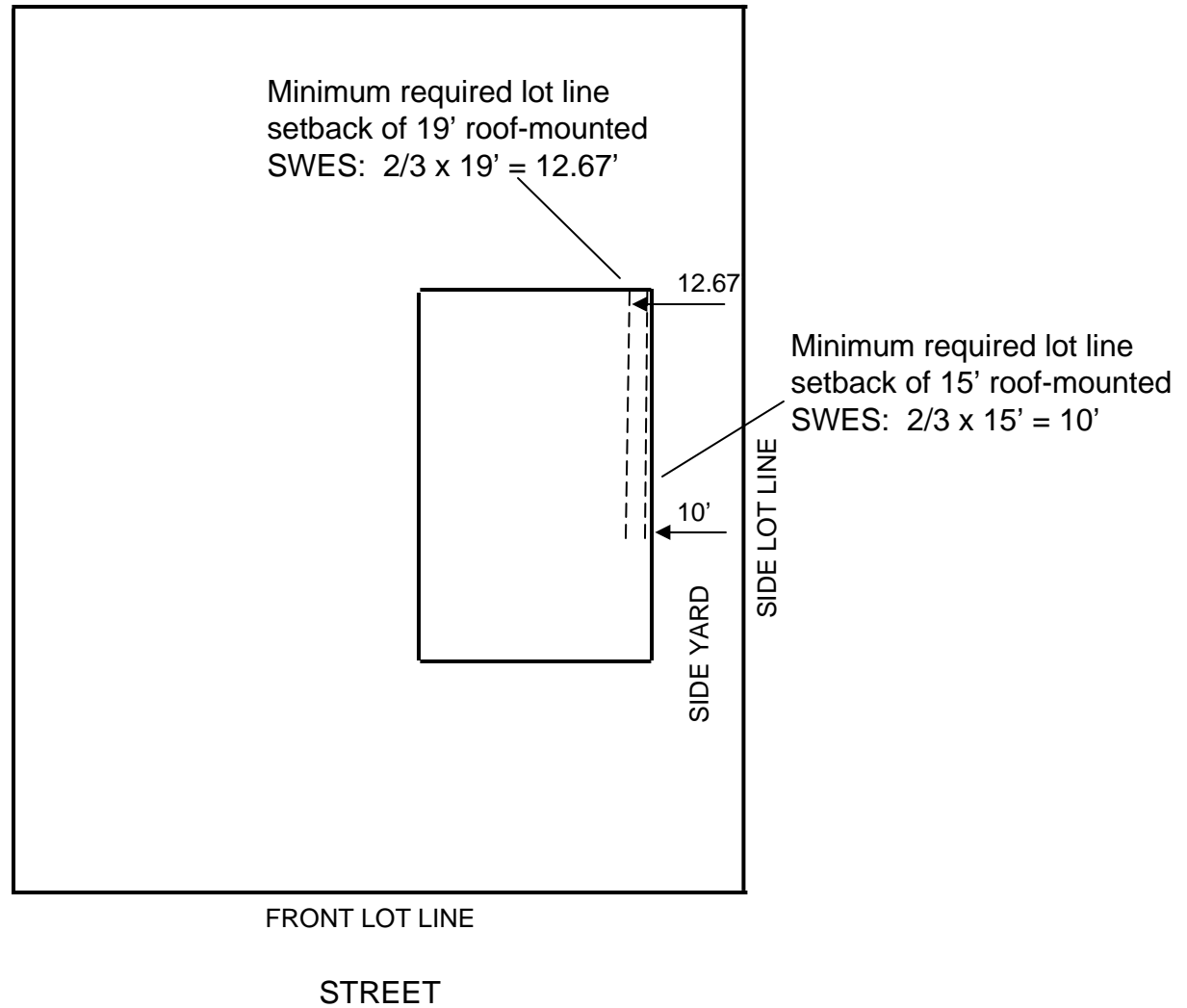


ILLUSTRATION D

LOT LINE SETBACK – ROOF-MOUNTED SWES

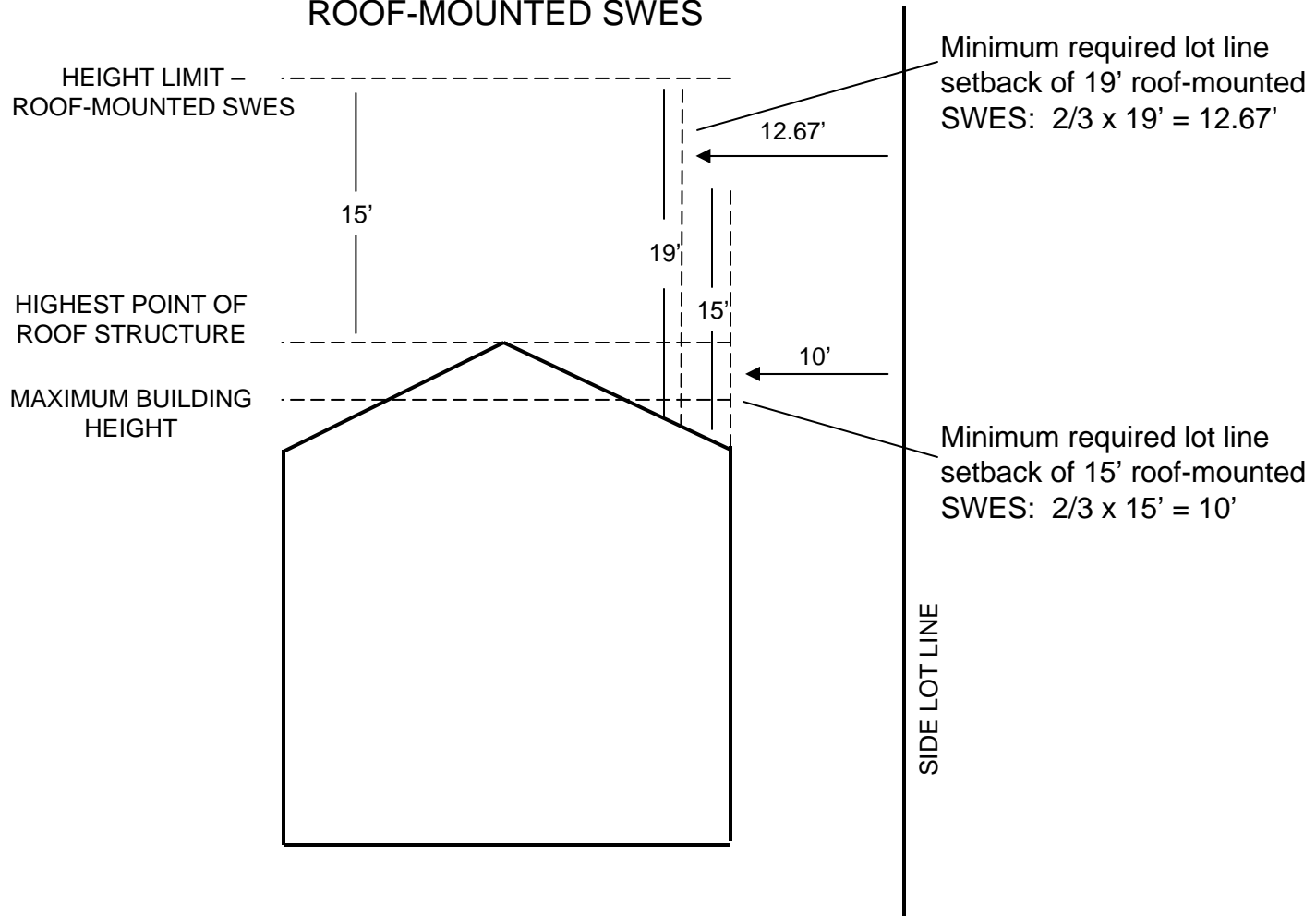


ILLUSTRATION E

ROOF SETBACK – FLAT ROOFS

