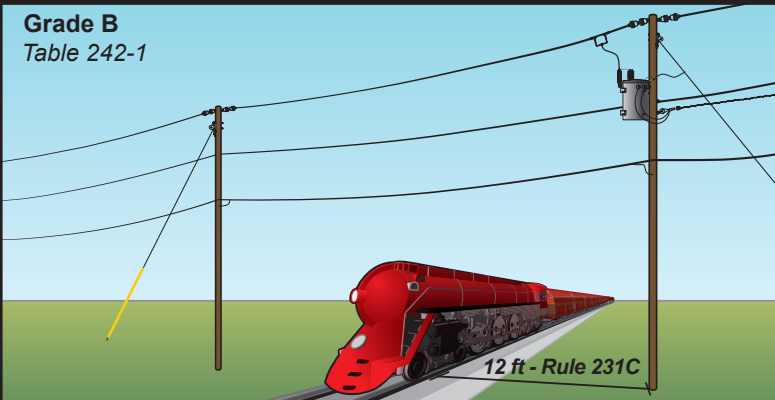


Application Guide for 2023 NESC Table 232-1 - see NESC for details and exceptions

Railroads*

Grade B
Table 242-1



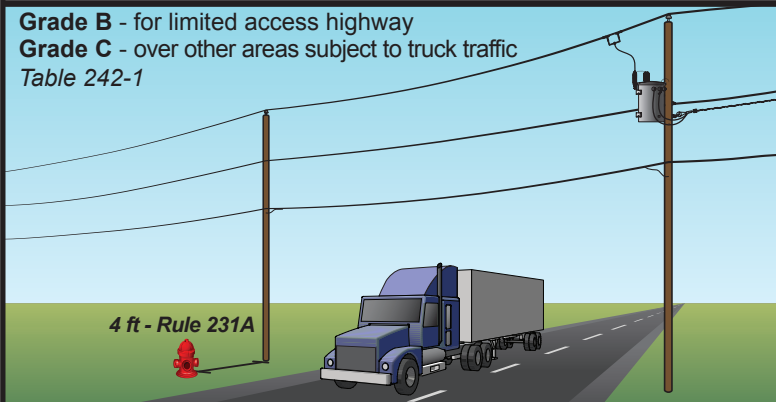
Vertical Clearance at Largest Vertical Sag Table 232-1

Neutral or Comm.	Span Guy	TPX	7.2/12.5 kV	14.4/25 kV	19.9/35 kV
23.5 ft	24.0 ft	26.5 ft			

*Railroad company may require greater clearance

Trucks Over 8 Feet*

Grade B - for limited access highway
Grade C - over other areas subject to truck traffic
Table 242-1



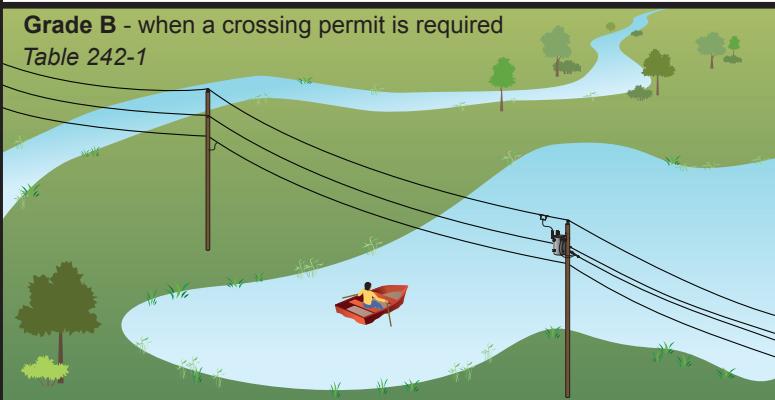
Vertical Clearance at Largest Vertical Sag Table 232-1

Neutral or Comm.	Span Guy	TPX	7.2/12.5 kV	14.4/25 kV	19.9/35 kV
15.5 ft	16.0 ft	18.5 ft			

*DOT may require greater clearance

Water - No Sailboats

Grade B - when a crossing permit is required
Table 242-1

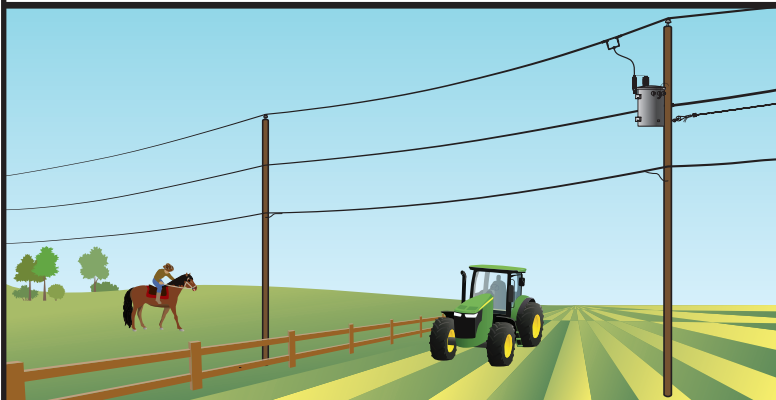


Vertical Clearance at Largest Vertical Sag Table 232-1

Neutral or Comm.	Span Guy	TPX	7.2/12.5 kV	14.4/25 kV	19.9/35 kV
14.0 ft	14.5 ft	17.0 ft			

*see NESC for sailboat clearances

Over fields, orchards, forest, etc.



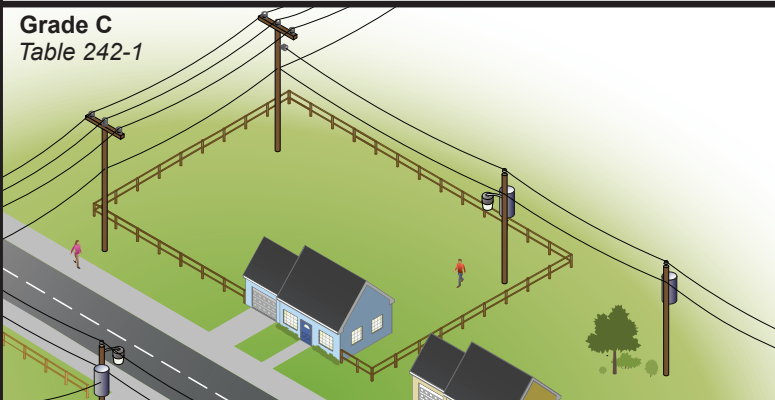
Vertical Clearance at Largest Vertical Sag Table 232-1

Neutral or Comm.	Span Guy	TPX	7.2/12.5 kV	14.4/25 kV	19.9/35 kV
15.5 ft	16.0 ft	18.5 ft			

*used by vehicles over 8 feet tall or riders on horses

Pedestrians Only*

Grade C
Table 242-1

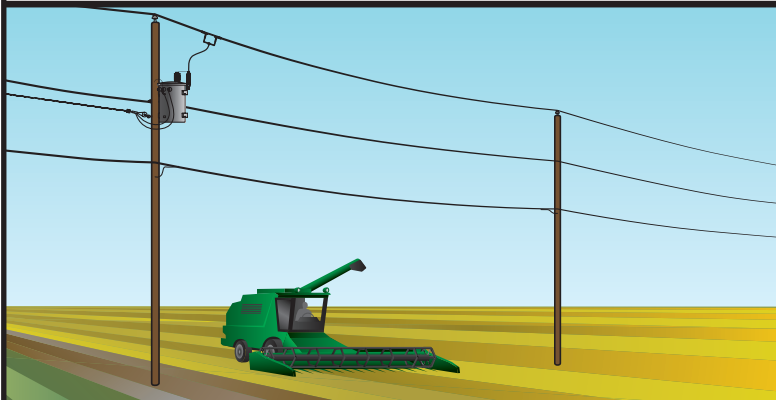


Vertical Clearance at Largest Vertical Sag Table 232-1

Neutral or Comm.	Span Guy	TPX	7.2/12.5 kV	14.4/25 kV	19.9/35 kV
9.5 ft	12.0 ft	14.5 ft			

*Not normally used by trucks or riders on horses (very steep hills, swamps, etc.)

Oversized Vehicles - greater than 14 feet in height



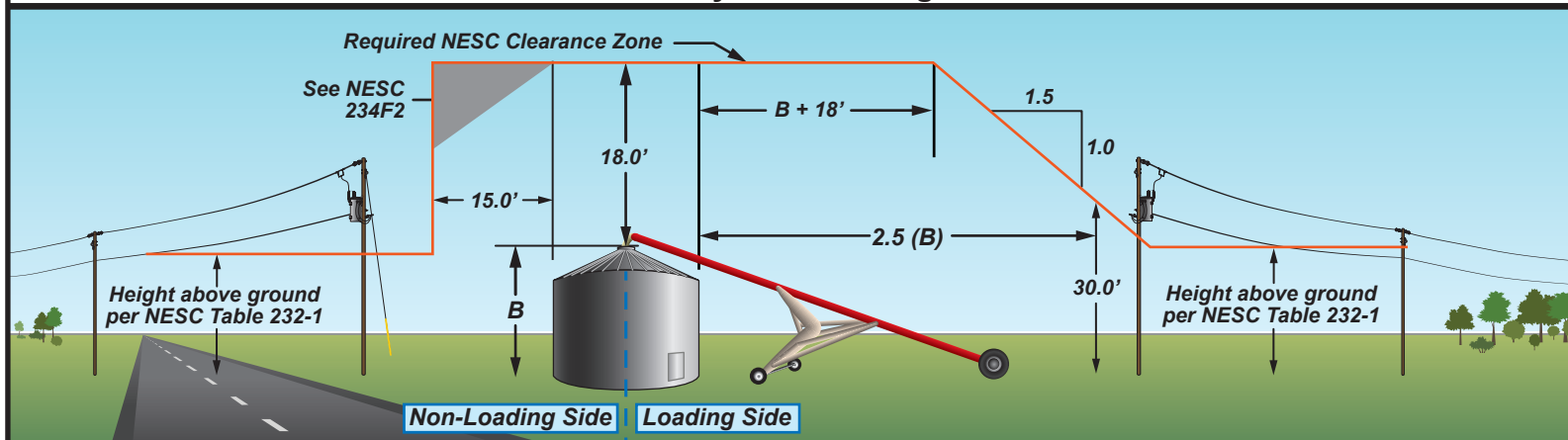
Vertical Clearance at Largest Vertical Sag Table 232-1

Neutral or Comm.	Span Guy	TPX	7.2/12.5 kV	14.4/25 kV	19.9/35 kV
X + 1.5 ft	X + 2 ft	X + 4.5 ft			

X = Known Height of oversized vehicle

Application Guide for 2023 NESC - see NESC for details and exceptions

Clearance Over* or Near Grain Bins Loaded by Portable Auger NESC 234F2



B = Vertical height to highest filling or probing port

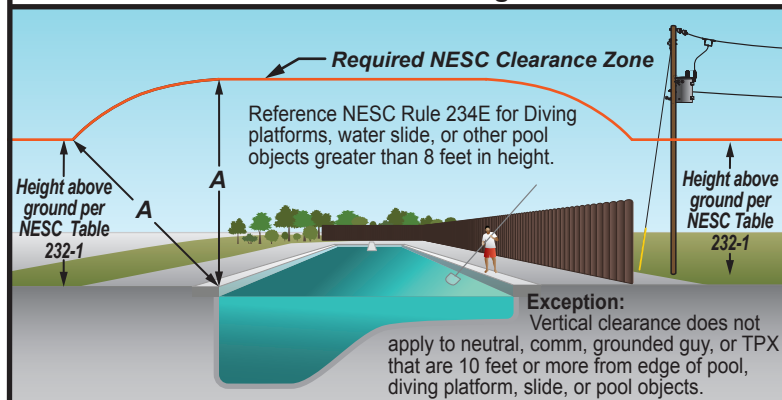
Note: If $B > 12$ feet, vertical height of conductors is 30 feet at a distance equal to 2.5 times B

*Largest vertical sag

Non-Loading Side is when use of portable auger is limited by:

1. Permanent building/structure
2. Physical obstruction
3. Public road or other right of way
4. Designation or agreement

Clearance Over* or Near Swimming Pools NESC 234E1

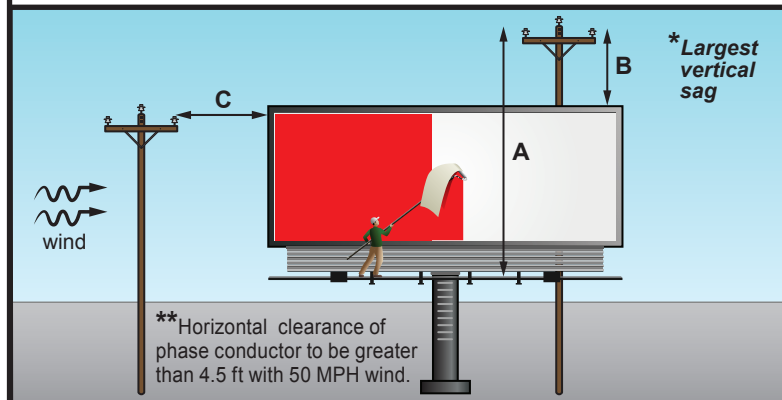


Neutral	TPX	7.2/12.5 kV	14.4/25 kV	19.9/35 kV
22.0 ft	22.5 ft	25.0 ft		

*Largest vertical sag

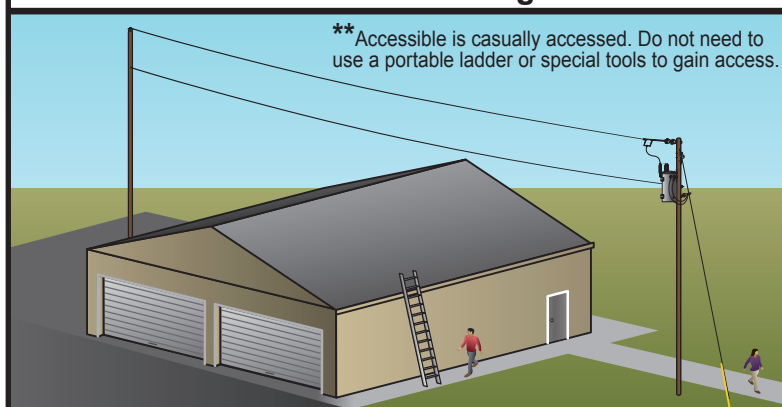
Aboveground pool with deck or ladder, clearance is from highest point upon which people can stand.

Clearance Over* or Near Billboards NES C 234C



	Neutral	TPX	7.2/12.5kV	14.4/25kV	19.9/35kV
A -Where personnel walk	9.5 ft	10.0 ft	14.5 ft		
B - Other Surface	3.0 ft	3.5 ft	8.0 ft		
C - Horizontal**	4.5 ft	5.0 ft	7.5 ft		

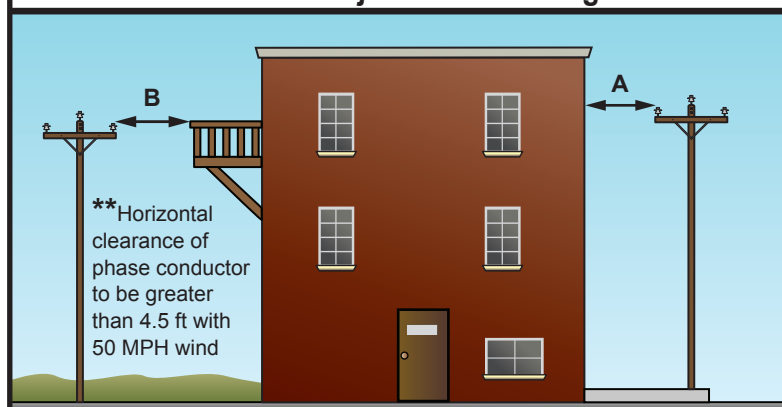
Vertical Clearance Over* Buildings NESC 234C



Roof	Neutral	TPX	7.2/12.5kV	14.4/25kV	19.9/35kV
Accessible**	9.5 ft	10.0 ft	14.5 ft		
Non-Accessible	3.0 ft	3.5 ft	12.5 ft		

*Largest vertical sag

Horizontal Clearance Adjacent to Buildings NESC 234C

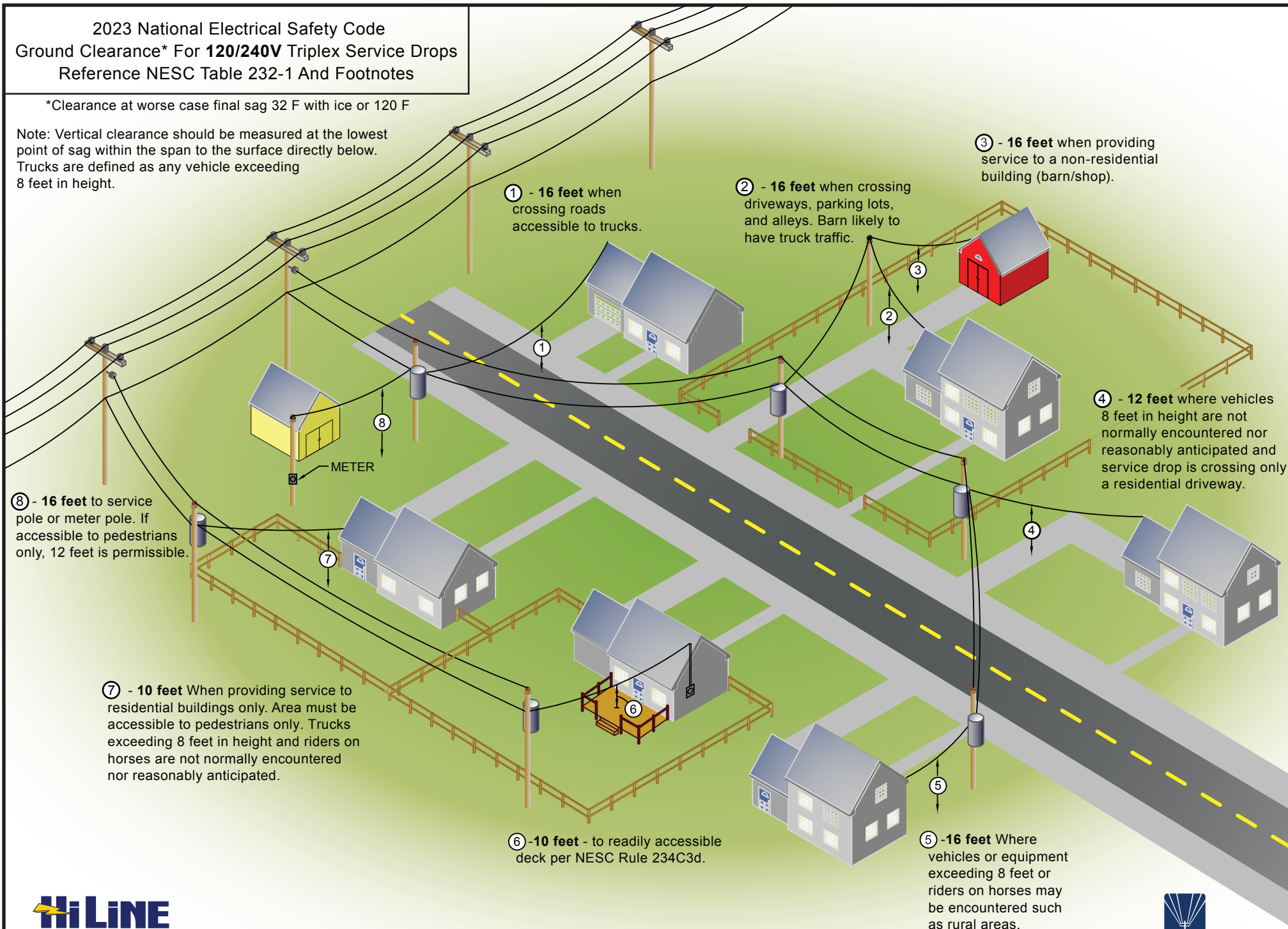


	Neutral	TPX	7.2/12.5kV	14.4/25kV	19.9/35kV
A-To Walls**	4.5 ft	5.0 ft	7.5 ft		
B - Accessible Areas**	4.5 ft	5.0 ft	7.5 ft		

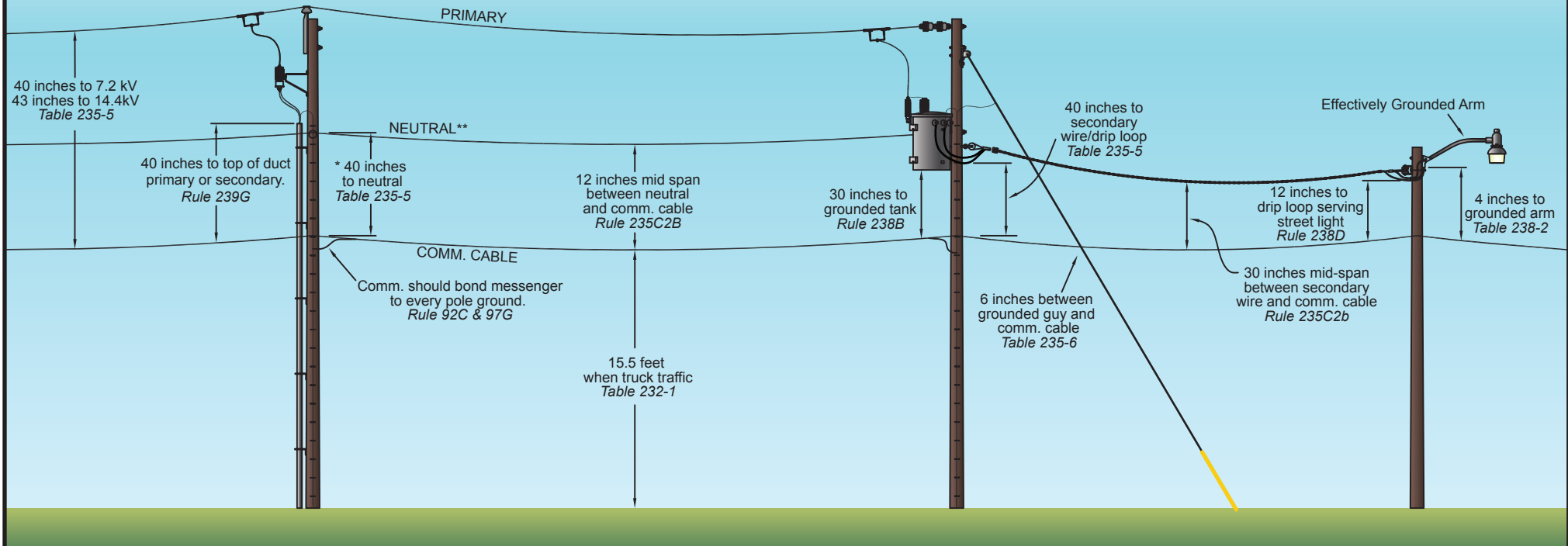
2023 National Electrical Safety Code
Ground Clearance* For **120/240V** Triplex Service Drops
Reference NESC Table 232-1 And Footnotes

*Clearance at worse case final sag 32 F with ice or 120 F

Note: Vertical clearance should be measured at the lowest point of sag within the span to the surface directly below. Trucks are defined as any vehicle exceeding 8 feet in height.



Summary of 2023 NESC Clearances to Communication Cables - see NESC for details and exceptions



* 30 inches is allowed if the communication messenger is bonded to the neutral throughout the service area. *Table 235-5*

** Fiber Optic Cables in the supply space (*Rule 224A*) will have the same required clearance to communication cables in the communication space as a multi-grounded neutral (*Rule 235C*)

A communication worker safety zone is vertical space between lines/facilities in the supply space and lines/facilities in the communication space *Rule 235C4 & 238E*