(305) 295-1000
1001 James Street
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Key West, FL 33040-6100
www.KeysEnergy.com

UTILITY BOARD OF THE CITY OF KEY WEST

September 24, 2024

Planning Director
City of Key West
PO Box 1409
Key West, Florida 33040

RE: DEVELOPMENT REVIEW COMMITTEE KEYS ENERGY SERVICES COMMENTS FOR MEETING OF SEPTEMBER 26, 2024

Dear Planning Director:

Keys Energy Services (KEYS) received the Development Review Committee Agenda for September 26, 2024. KEYS reviewed the items that will be discussed at the City's Development Review Committee meeting.

Below are KEYS' comments:

LOCATION: Major Development Plan - 907 Caroline Street
COMMENT: KEYS has no objection to the Major Development Plan request. There needs to be clearances maintained from the building; horizontally to KEYS' neutral 5' feet, and from KEYS' primary 7.5' feet. The vertical clearance for primary 7.5' is horizontally, and 13.5' vertically, per the National Electrical Safety Code rule 232. The OSHA clearance for cranes is 20' feet. Please see the attached language.

LOCATION: Easement - 920 Caroline Street
COMMENT: KEYS has no objection to the Easement request.

LOCATION: Conditional Use - 804 Caroline Street
COMMENT: KEYS has no objection to the Conditional Use request.

LOCATION: Conditional Use - 1 Duval Street
COMMENT: KEYS has no objection to the Conditional Use request.

LOCATION: Transfer of a Transient Unit License - 1004 Eaton Street
COMMENT: KEYS has no objection to the Transfer of a Transient Unit License request.

LOCATION: Major Development Plan - 3101 N. Roosevelt Boulevard
COMMENT: KEYS has no objection to the Major Development Plan request. KEYS will provide high voltage underground per KEYS policies and tariffs. KEYS will need to have a full set of plans and a project review form to ensure adequate power is supplied for the new project and the existing customers.

LOCATION: Major Development Plan and Landscape Waiver - 0 Duval Street
COMMENT: KEYS has no objection to the Major Development Plan and Landscape Waiver request. KEYS has very limited access to the existing power transformers and recommends that it be relocated from the existing location. If the applicant requires it to be upgraded, then a pad-mounted transformer will need to be installed, and all secondaries will need to be upgraded to the new location. This will be at the owner's expense.

LOCATION: Development Plan - 715 and 811 Seminole Avenue
COMMENT: KEYS has no objection to the Development Plan request. KEYS will provide high voltage underground per KEYS policies and tariffs. KEYS will need to have a full set of plans and a project review form to ensure adequate power is supplied for the new project and the existing customers.

LOCATION: Major Development Plan - 3200 N. Roosevelt Boulevard
COMMENT: KEYS has no objection to the Major Development Plan request. The Developer will need to work with KEYS to determine clear locations for the pad-mounted transformers and high voltage underground per KEYS policies and tariffs. KEYS will need to have a full set of plans and a project review form to ensure adequate power is supplied for the new project and the existing customers.

Thank you for giving KEYS the opportunity to participate in the City's review process. If you have any questions, please call me at 305.295.1055.

Best regards,

Matthew Alfonso
Supervisor of Engineering
Matthew.Alfonso@KeysEnergy.com

MA/cdc

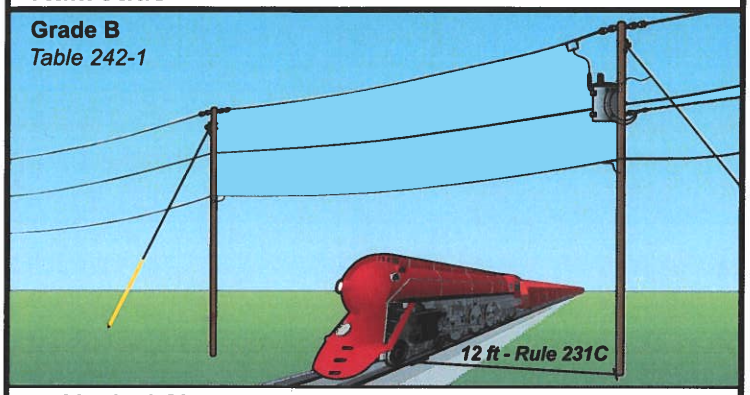
Attachment

Copied via electronic mail:
L. Tejeda, General Manager & CEO
D. Sabino, AGM & Director of Engineering & Control
E. Zarate, Director of Customer Services

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

Railroads*

Grade B
Table 242-1



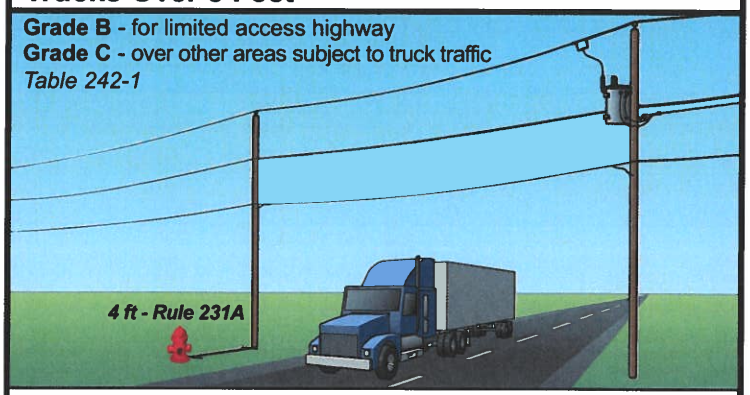
Vertical Clearance at Largest Vertical Sag *Table 232-1*

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



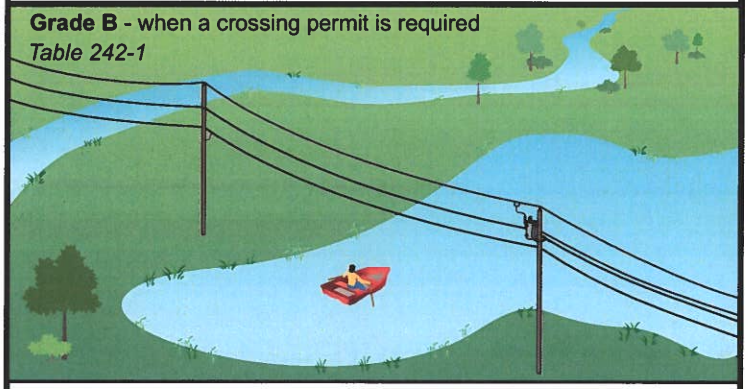
Vertical Clearance at Largest Vertical Sag *Table 232-1*

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

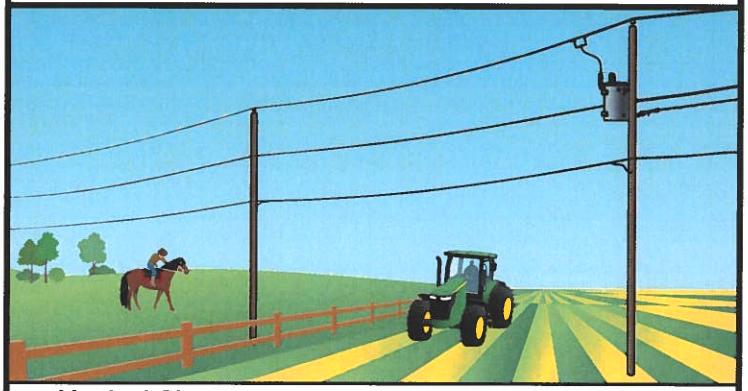


Vertical Clearance at Largest Vertical Sag *Table 232-1*

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.



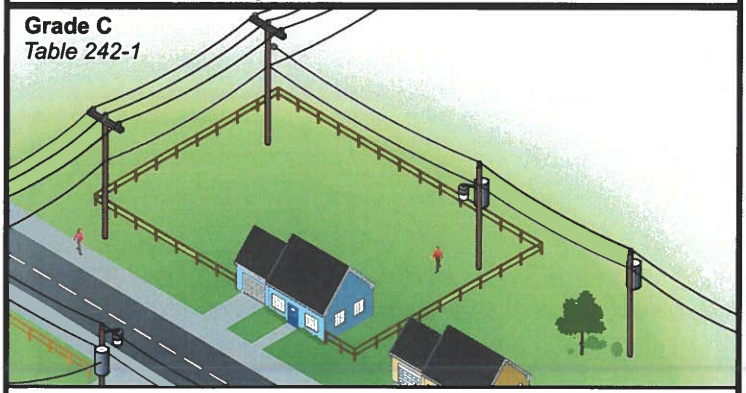
Vertical Clearance at Largest Vertical Sag *Table 232-1*

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

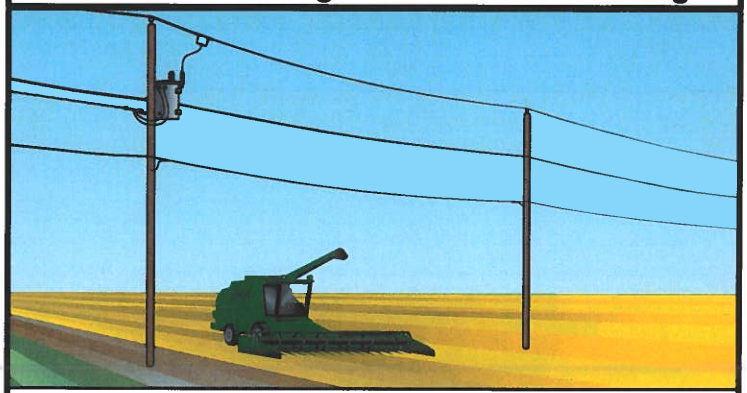


Vertical Clearance at Largest Vertical Sag *Table 232-1*

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

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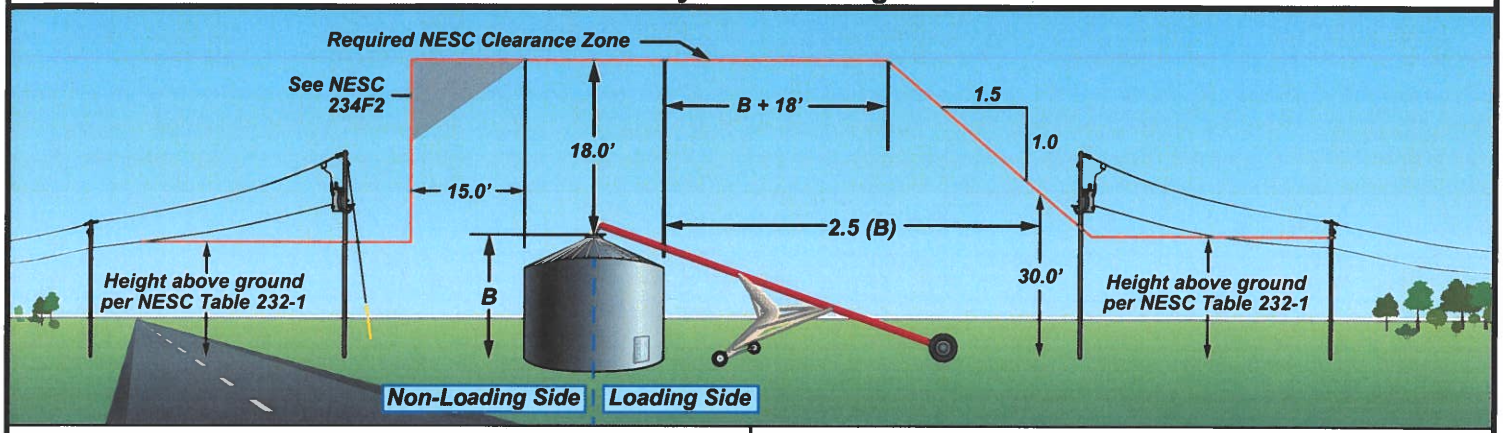
Application Guide for 2023 NESC - *see NESC for details and exceptions*

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



B = Vertical height to highest filling or probing port

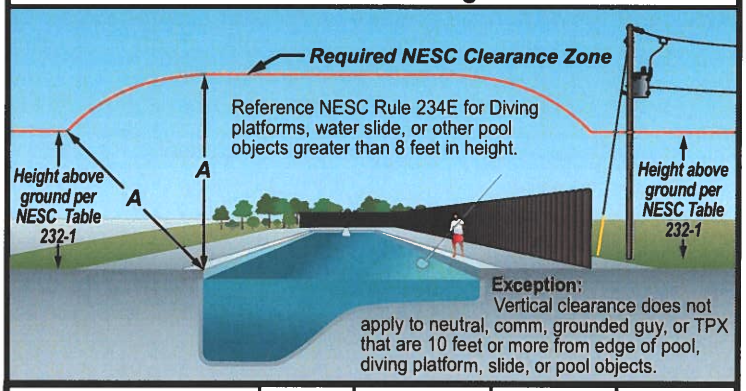
Note: If B > 12 feet, vertical height of conductors is 30 feet at a distance equal to 2.5 times B

*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

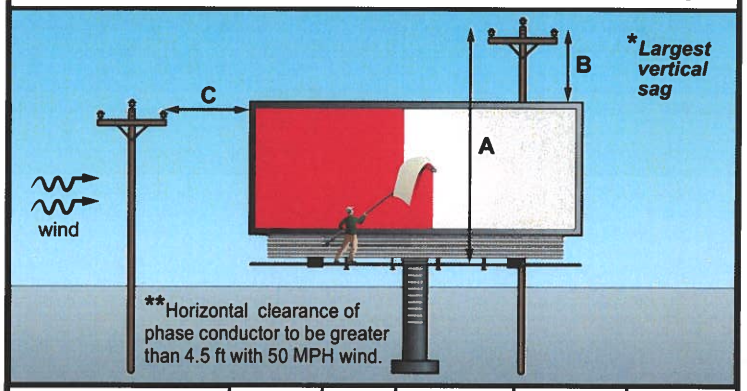


Neutral	TPX	7.2/12.5 kV	14.4/25 kV	19.9/35 kV
22.0 ft	22.5 ft	25.0 ft		

*Largest vertical sag

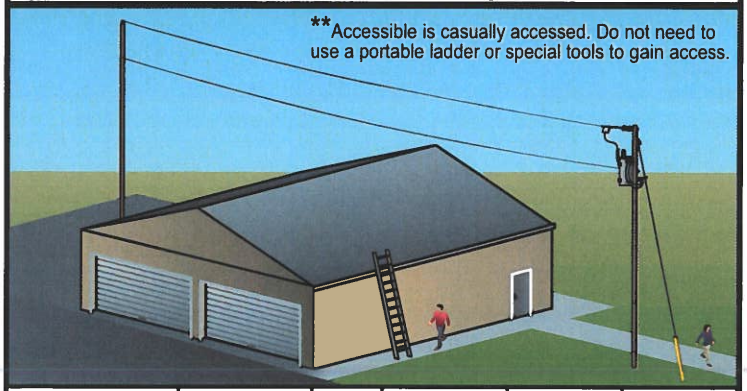
Aboveground pool with deck or ladder, clearance is from highest point upon which people can stand.

Clearance Over* or Near Billboards NESC 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		

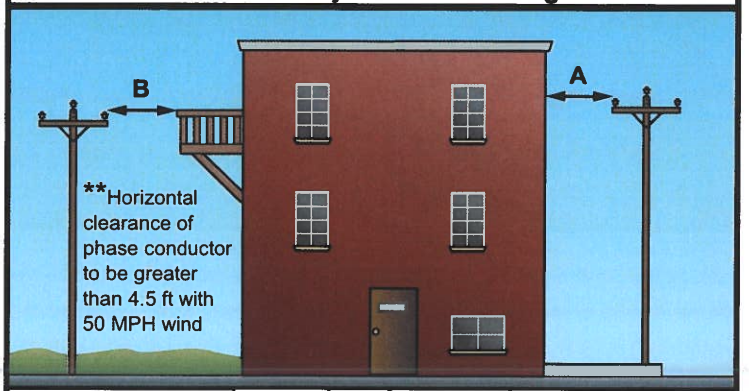
Vertical Clearance Over* Buildings NESC 234C



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		

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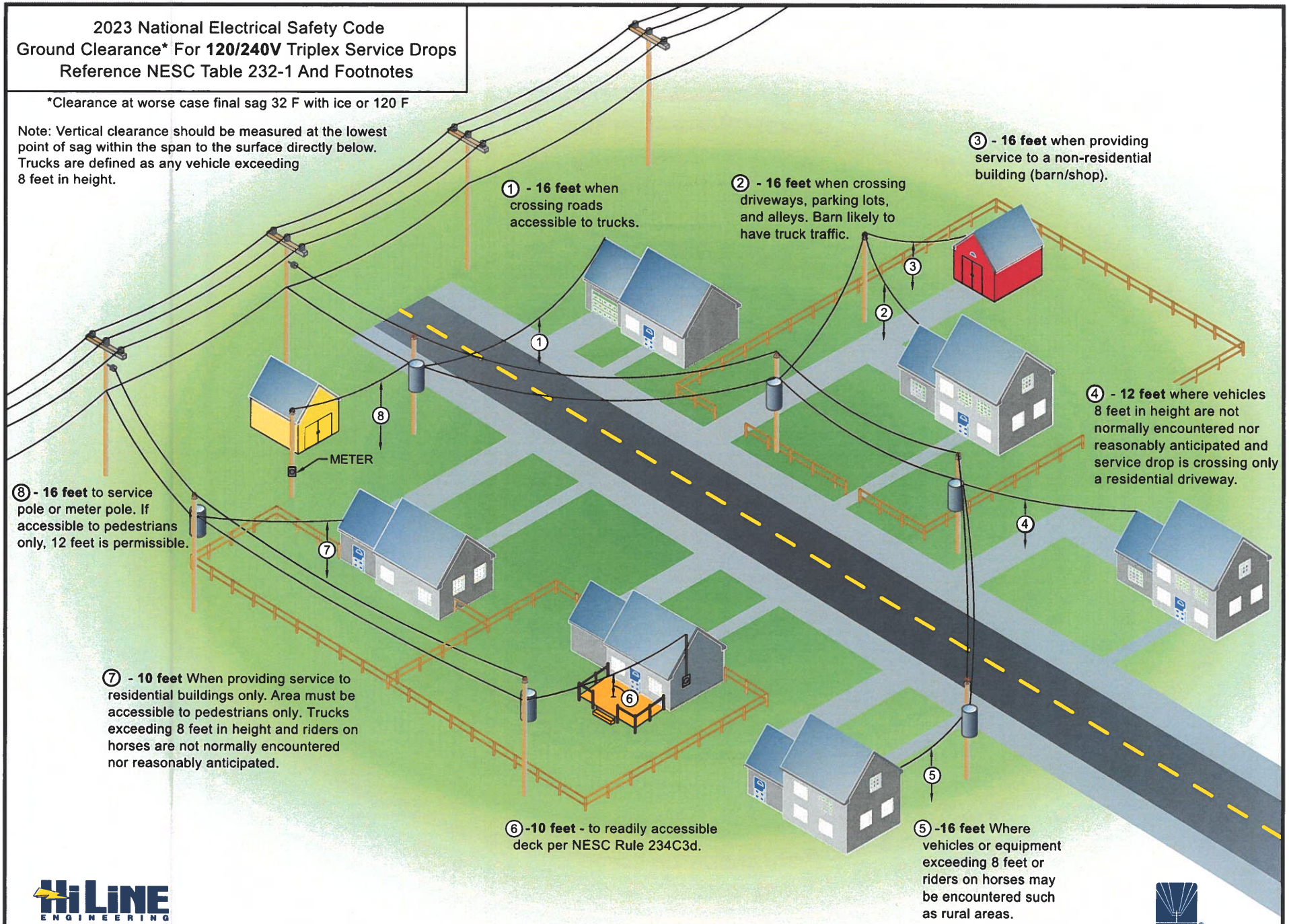
FEDERATED RURAL ELECTRIC INSURANCE EXCHANGE

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.



① - **16 feet** when crossing roads accessible to trucks.

② - **16 feet** when crossing driveways, parking lots, and alleys. Barn likely to have truck traffic.

③ - **16 feet** when providing service to a non-residential building (barn/shop).

④ - **12 feet** where vehicles 8 feet in height are not normally encountered nor reasonably anticipated and service drop is crossing only a residential driveway.

⑤ -**16 feet** Where vehicles or equipment exceeding 8 feet or riders on horses may be encountered such as rural areas.

⑥ -**10 feet** - to readily accessible deck per NESC Rule 234C3d.

⑦ - **10 feet** When providing service to residential buildings only. Area must be accessible to pedestrians only. Trucks exceeding 8 feet in height and riders on horses are not normally encountered nor reasonably anticipated.

⑧ - **16 feet** to service pole or meter pole. If accessible to pedestrians only, 12 feet is permissible.

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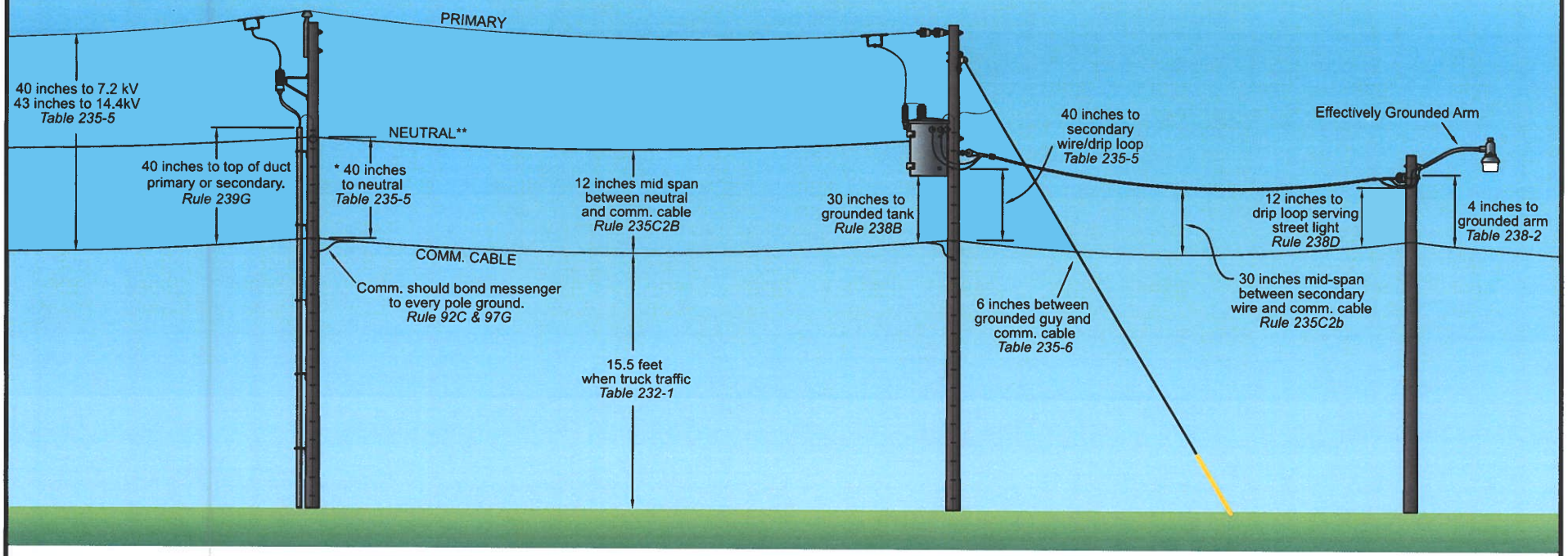
FEDERATED RURAL ELECTRIC INSURANCE EXCHANGE

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*

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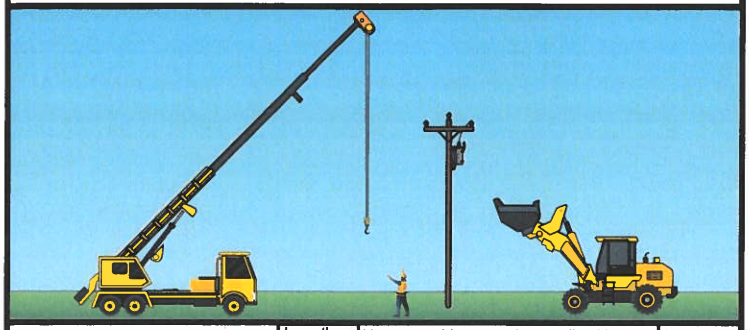
FEDERATED RURAL ELECTRIC INSURANCE EXCHANGE

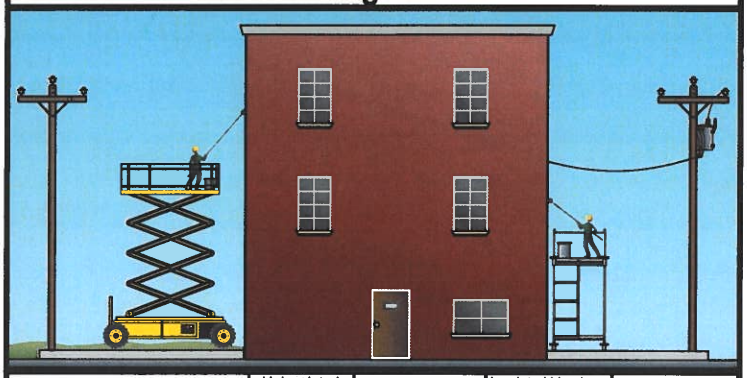
Guide for Operation of Equipment Near Power Lines and Customer Owned Poles to Power Lines - *see NESC and OSHA for details and exceptions*

Crane / Derrick Transmission Clearance



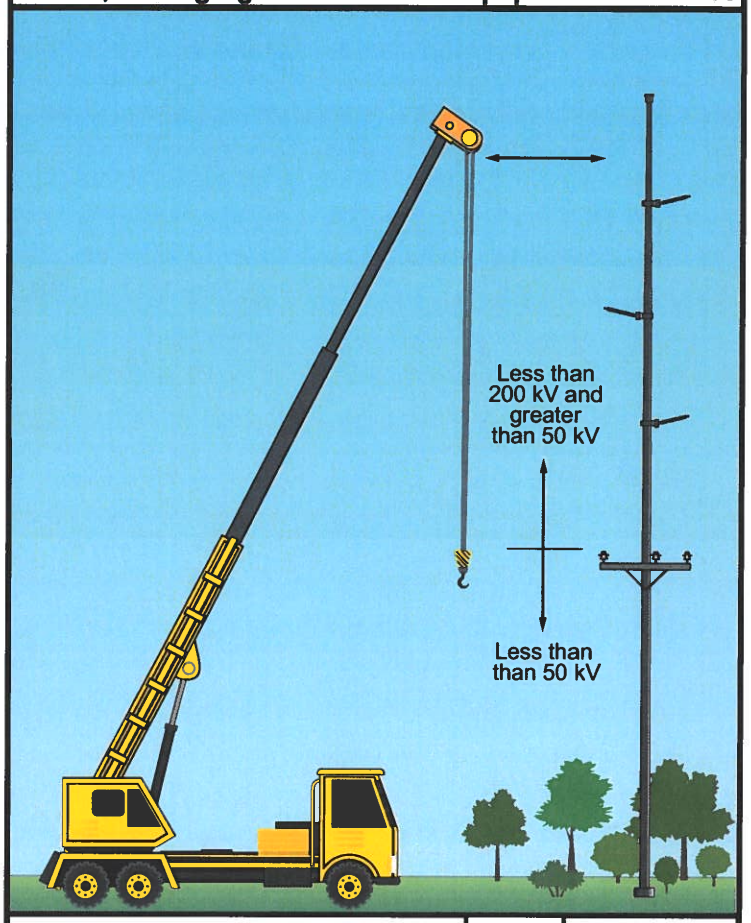
Crane / Derrick	Less than 50kV	Heavy machinery equipment (backhoes, front-end loaders, bulldozer, dump trucks)	Less than 50kV
Must Contact Electric Utility if maximum working radius in the work zone. *See OSHA 1926.1408 (a) (2)*	20 feet	Horizontal Minimum Clearance from. *See OSHA 1926.600 (a) (6)*	10 feet
Minimum Approach Distance, ONLY if Specific Controls in Place. *See OSHA 1926.1408 (a) (2) (iii)*	10 feet	Vertical Minimum Clearance from. *See OSHA 1926.600 (a) (6)*	10 feet

Scissor Lift & Scaffolding Clearance



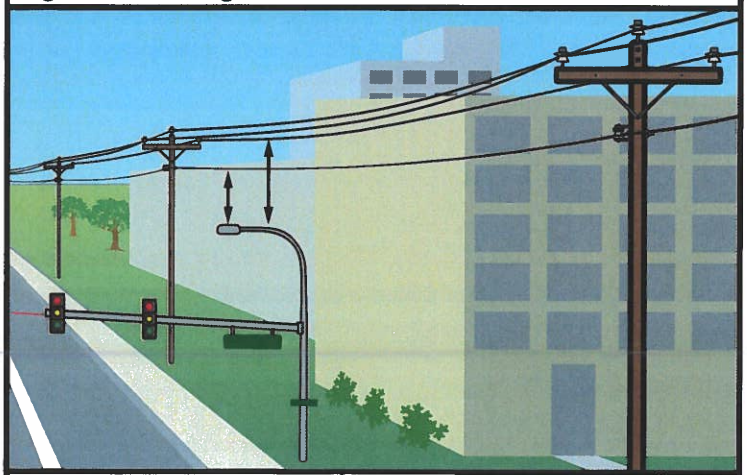
	Uninsulated Neutral Conductor	Insulated Line less than 300 Volts	Insulated Line less than 300 Volts to 750 volts	Uninsulated Lines 750 volts to 25 kV
Distance from Scaffold *See OSHA 1926.451 (f) (4)*	10 feet	3 feet	10 feet	10 feet
Worker or any conductive object *See OSHA 1910.333 (c) (3) (i) (B)*	Avoid Contact	1 feet	1 feet	2 feet

Crane, drilling rig & Mechanized Equipment Clearance



	Less than 50kV	Less than 200kV and Greater than 50
Must Contact Electric Utility if maximum working radius in the work zone. *See OSHA 1926.1408 (a) (2)*	20 feet	20 feet
Minimum Approach Distance, ONLY if Specific Controls in Place. *See OSHA 1926.1408 (a) (2) (iii)*	10 feet	15 feet

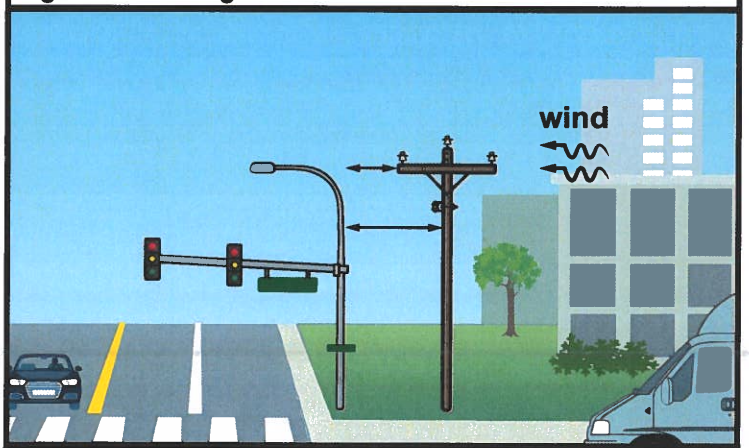
Light / Traffic Signal Pole - Vertical



	Neutral	Triplex	750 volts to 25kV
Vertical - NESC 234B2	3 feet	3 feet	4.5 feet

** OSHA Minimum Clearances (typ. 10 ft.) apply when working on Light / Traffic Signal Pole See OSHA 1910.333 (c) (3) (i) (B)*

Light / Traffic Signal Pole - Horizontal



	Neutral	Triplex	750 volts to 25kV
Horizontal - NESC 234B1	3 feet	3 feet	5 feet
Horizontal 50MPH Wind - NESC 234B1	3 feet	3 feet	4.5 feet

** OSHA Minimum Clearances (typ. 10 ft.) apply when working on Light / Traffic Signal Pole See OSHA 1910.333 (c) (3) (i) (B)*

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