CLEARANCES FOR MULTIPLE DROP WIRE IN THE LIGHT LOADING AREA

CONTENTS PAGE

1. GENERAL

1.01 This section contains the recommended clearances for multiple drop wire installed in the light loading area. The values specified meet the requirements of the National Electrical Safety Code (Sixth Edition). They apply under conditions of 60°F with no wind or ice.

1.02 Multiple drop wire installed in the light loading area will not experience any permanent increase in sag unless the storm loading is quite severe. Hence there is no difference between "construction" and "maintenance" values of clearances above ground or rails. However, clearances crossing below foreign wires may be reduced as these wires do undergo permanent stretching in some cases. Construction clearances in these situations are, therefore, somewhat greater than maintenance clearances.

1.03 Multiple drop wire must be installed with relatively large sags. Because of this, it is generally advantageous to locate poles and wire runs so that the middle of the span will ***not*** be above the traveled part of public roads, alleys and driveways. This will generally be the case at crossings when the far edge of the road, alley, etc, is not more than 50 feet from the pole (measured along the wire route). Where this condition exists, it will generally be possible to base the height of pole attachment on something less than 100 per cent of the midspan sag. The following table shows the percentage of midspan sag to be used in determining the height of pole attachment when the 50-foot criterion applies. This procedure should be ignored for span lengths less than 145 feet.

SPAN LENGTH (Feet)	PER CENT OF MIDSPAN SAG
145-160	90
161-180	85
181-200	80
201-225	75
226-250	70
251-275	65
276-300	60

Example: A 275 foot span crosses a road. The midspan sag is 10 feet, the far edge of the road is within 50 feet of the pole and is 2 feet lower than the ground where the pole is located. The sag 50 feet from the pole will be 65 per cent of midspan or 6-1/2 feet. The minimum height of pole attachment is then 18 feet minus 2 feet plus 6-1/2 feet or 22-1/2 feet.

1.04 Clearances shown in this section should be used unless the detail plans show other values. This may occur when engineering forces recognize certain factors not allowed for in this section or to meet local regulations, ordinances, etc. Clearances for span lengths and voltages not shown in this section are an engineering responsibility and will be shown on the detail plans.

2. CLEARANCES ABOVE GROUND OR RAILS

(Normal or Minimum Sags)

SITUATION	REF	SPAN LENGTHS 300 FEET OR LESS Ft In.	
Crossing Above:			
Railroad Tracks			
Generally	—	27-0	Span lengths over 150 feet require a 10M supporting strand.
Special Case	Fig. 1	25-0	
Public Roads	—	18-0	
Public Alleys	—	15-0	
Resid Driveways	—	10-0	
Flat Roof Bldgs	—	8-0	
Peak Roof Bldgs & Billboards	—	2-0	
Neon Signs	—	4-0	
Waterways	—		Must be shown on detail plans.
Running Along:			
Public Roads			
Major Overhang	Fig. 2	18-0	
Minor Overhang	Fig. 2		
Urban	—	18-0	
Rural (Lt Traffic)	—	14-0	
No Overhang			
Back of Obst	Fig. 3	8-0	
Not Back of Obst	Fig. 4	13-0	
Public Alleys	—	15-0	

WIRE CROSSING RAILROAD TRACKS - SPECIAL CASE

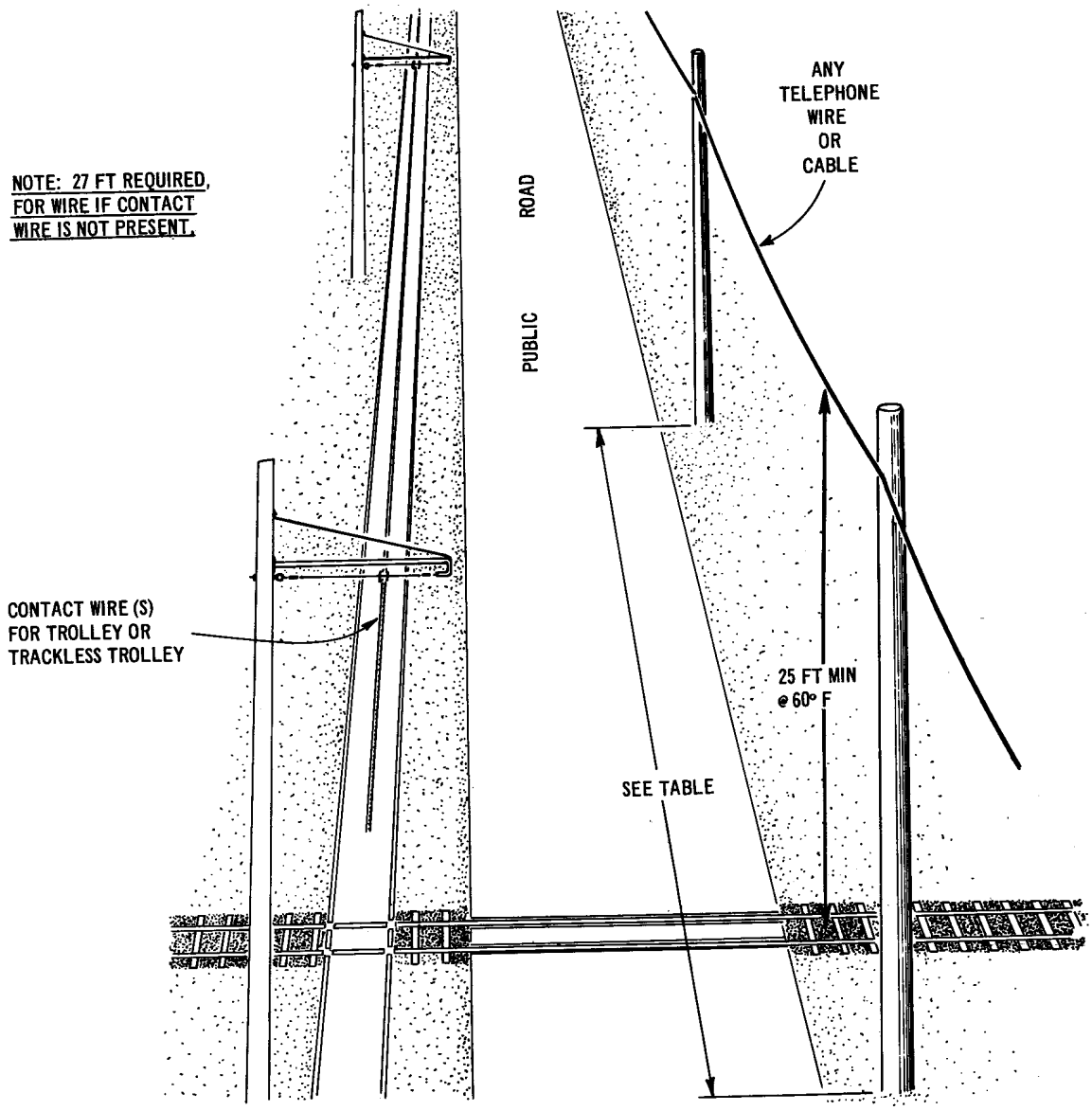

Fig. 1

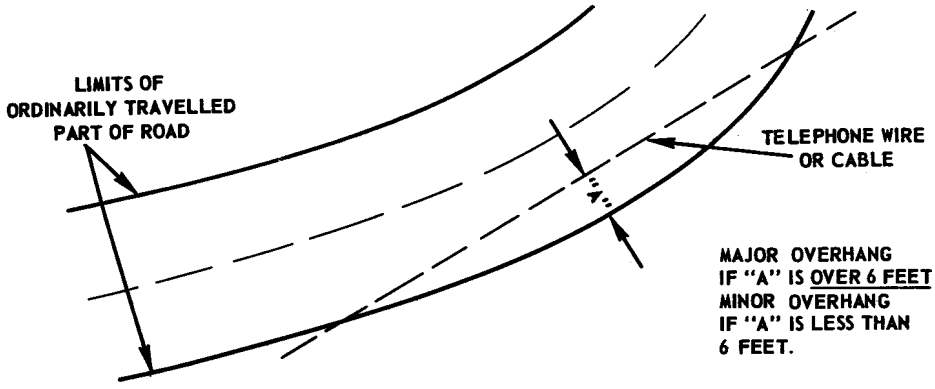

Fig. 2

RUNNING ALONG PUBLIC ROADS - BACK OF DITCHES ETC.
(NO OVERHANG)

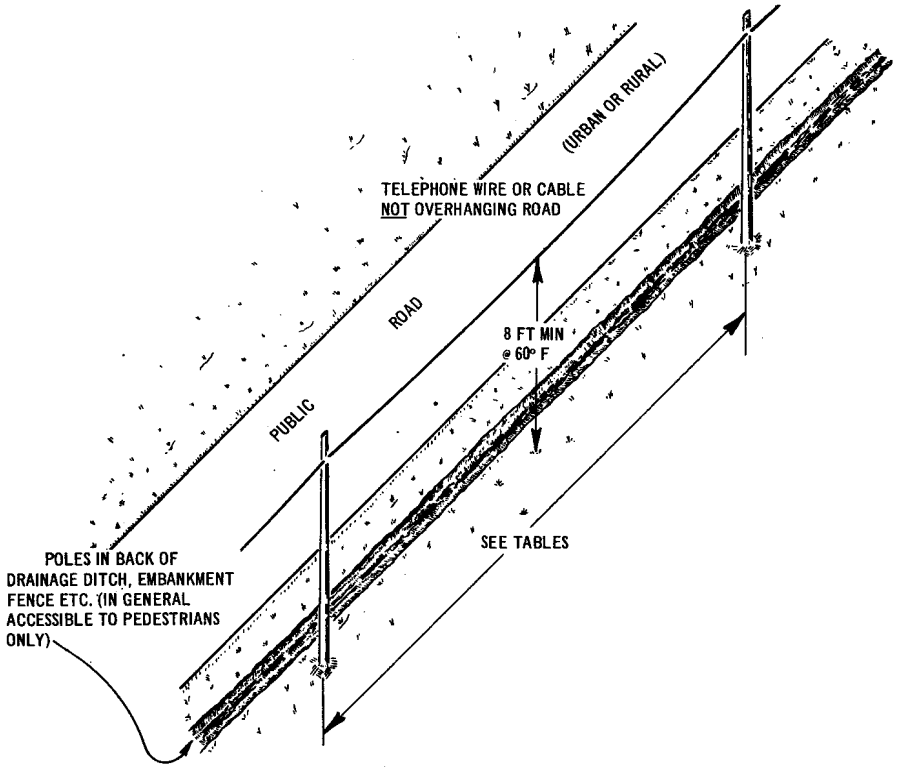

FIG. 3

RUNNING ALONG, BUT NOT OVERHANGING PUBLIC ROADS
(NOT BACK OF OBSTRUCTION)

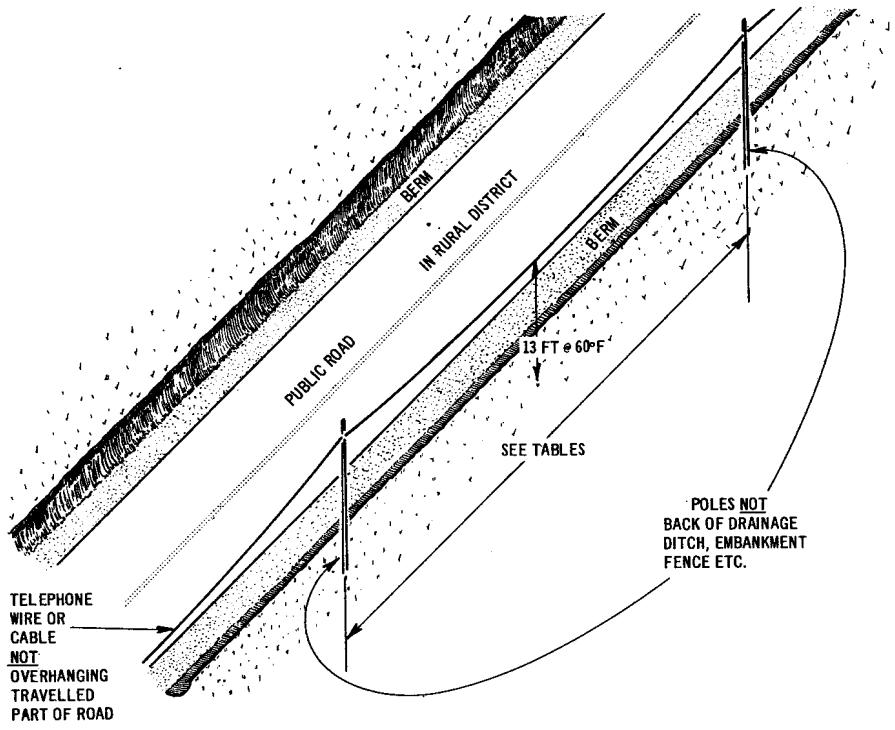

FIG. 4

3. CLEARANCES CROSSING BELOW POWER WIRES AND CABLES

KIND OF POWER FACILITY	CONSTRUCTION[3] CLEARANCES FOR POWER SPAN LENGTHS OF		
	150-LESS	151-250	251-350
	ft in.	ft in.	ft in.
300 volts[1] or less			
Service wires or cables	2-0	2-3	2-6
Line wires	2-0	2-3	2-6
If within 6 feet of telephone pole[4] (See Section 620-210-012)	4-0	4-3	4-6
301-750 volts[1] — phase wires	4-0	4-3	4-6
751-8700 volts[1] — phase wires	4-0	4-3	4-6
If within 6 feet of telephone pole[4] (See Section 620-210-012)	6-0	6-3	6-6
8701-50,000 volts[1] — phase wires	6-0	6-3	6-6
Grounded neutrals — systems of:			
Up to 22,000 volts to ground	2-0	2-3	2-6
Over 22,000 volts to ground	Same as associated phase wires.		
Other neutrals	Same as associated phase wires.		
Grounded metal sheath cables or any cable lashed to grounded strand, any voltage	2-0	2-0	2-0
Spacer cable[2]			
300 volts[1] or less	2-0	2-0	2-0
If within 6 feet of telephone pole[4]	4-0	4-0	4-0
301-750 volts[1]	4-0	4-0	4-0
751-8700 volts[1]	4-0	4-0	4-0
If within 6 feet of telephone pole[4]	6-0	6-0	6-0
8701-50,000 volts[1]	6-0	6-0	6-0

1. Voltage to ground if power circuit is grounded; voltage between wires if not.
2. Illustrated in Section 620-216-013.
3. Maintenance clearances for all span lengths up to 350 feet are the same as construction clearances for span lengths of 150 feet or less.
4. Every effort should be made to avoid these situations and establish a common pole crossing instead.

4. MISCELLANEOUS CLEARANCES

Multiple Drop Wire Above:

Power service drops or wires of 300 volts or less, foreign guys, foreign communications cable, trolley span wires.

SPAN LENGTH OF MULTIPLE DROP WIRE (NORMAL OR MINIMUM SAGS)	CLEARANCE IN FEET, INCHES CONSTRUCTION OR MAINTENANCE
300-less	2-0
Trolley contact wires 750 volts-less	
300-less*	4-0

Multiple Drop Wire Below:

Foreign guys or communication cables ⌀	
Any span length	2-0
Neon signs	
Any span length	4-0

Multiple Drop Wire Alongside:

Neon signs	
Any span length	2-0

* Place wire guard at point of crossing.

⌀ Span length of foreign cable not over 350 feet.