

**BELL SYSTEM PRACTICES**  
**Outside Plant Construction**  
**and Maintenance**

**SECTION G56.137.1**  
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**AT&T Co Standard**

**BURIED CABLE**  
**LOWERING AERIAL CABLE**

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**1. GENERAL**

1.01 This section describes methods of removing aerial cable from a pole line and lowering it to the ground in preparation for wrapping. The materials and methods used in wrapping the cable in preparation for burial are described in G56.137.2.

1.02 Two general methods are described:

(a) The strand is left in place, the rings are removed and the cable is lowered to the ground with the aid of a Cable Lowering Guide.

(b) Strand, cable and rings are lowered intact and supported temporarily on the poles within working distance of the ground for inspection and repair. Thereafter the rings are removed and the cable is guided into position to be wrapped.

1.03 The method described under (a) requires less handling of the cable and is faster. It can be employed where the cable sheath is in good condition and few repairs are required. On older cables requiring considerable inspection and repair, handling the cable as described in (b) affords more convenient conditions for carrying out this work.

## 2. USE OF GAS PRESSURE

2.01 In preparation for lowering an aerial cable, consideration should be given to applying gas pressure, if the cable is not already under pressure. The introduction of gas at 1000 to 2000-foot intervals will facilitate inspection by permitting suspected sheath defects to be checked by soaping prior to wrapping. If desired, a temporary gas plug can be made at the two extremities of the section of cable being lowered to ensure adequate pressure for flash testing over the entire section. The gas plugs should be by-passed on completion of the job.

## 3. DISPOSITION OF SLACK

3.01 Where the work consists of extending an existing underground section, it will, of course, usually be unnecessary to cut slack into the cable. The riser cable at the present underground pole will simply be worked ahead to the new underground pole. If slack is necessary it should be cut in at the point where lowering is started.

3.02 Where the work consists of lowering an aerial section in a route the balance of which is underground, there will, of course, be an excess of cable. This should be worked ahead from the starting point and disposed of in a buried loop at the far end, if practicable. If space limitations prevent this, the slack should be cut out.

3.03 When an underground dip is being created in an aerial section, all required slack should be cut in at the starting point. If the cable is being lowered by itself, the slack required at the far end will move along automatically as the cable leaves the strand. If strand, rings and cable are to be lowered intact, the slack required at the far end should be pulled through the rings to that point before lowering is started.

## 4. LOWERING CABLE

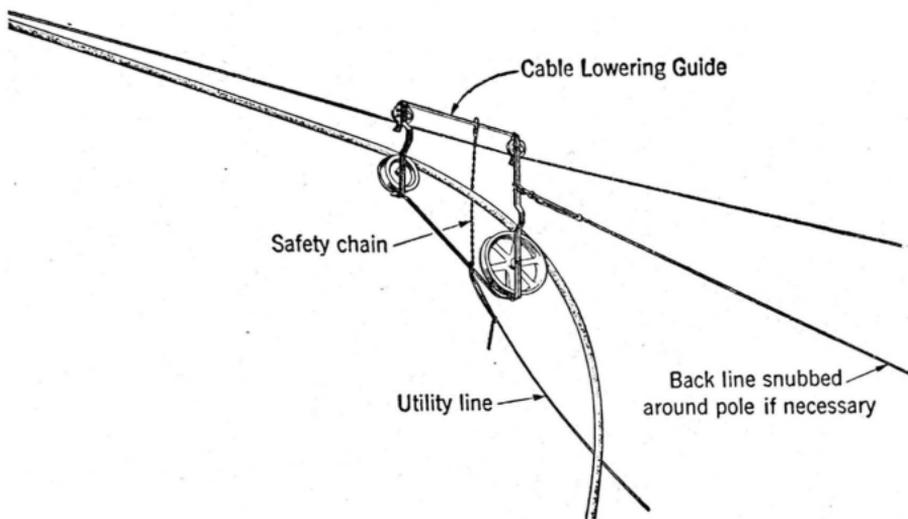
### Lowering Cable by Itself

4.01 If the cable is to be lowered leaving the strand in place, the work of lowering will be facilitated if three out of every four rings can be removed throughout the entire section before the actual lowering begins. The work of lowering can then proceed as follows:

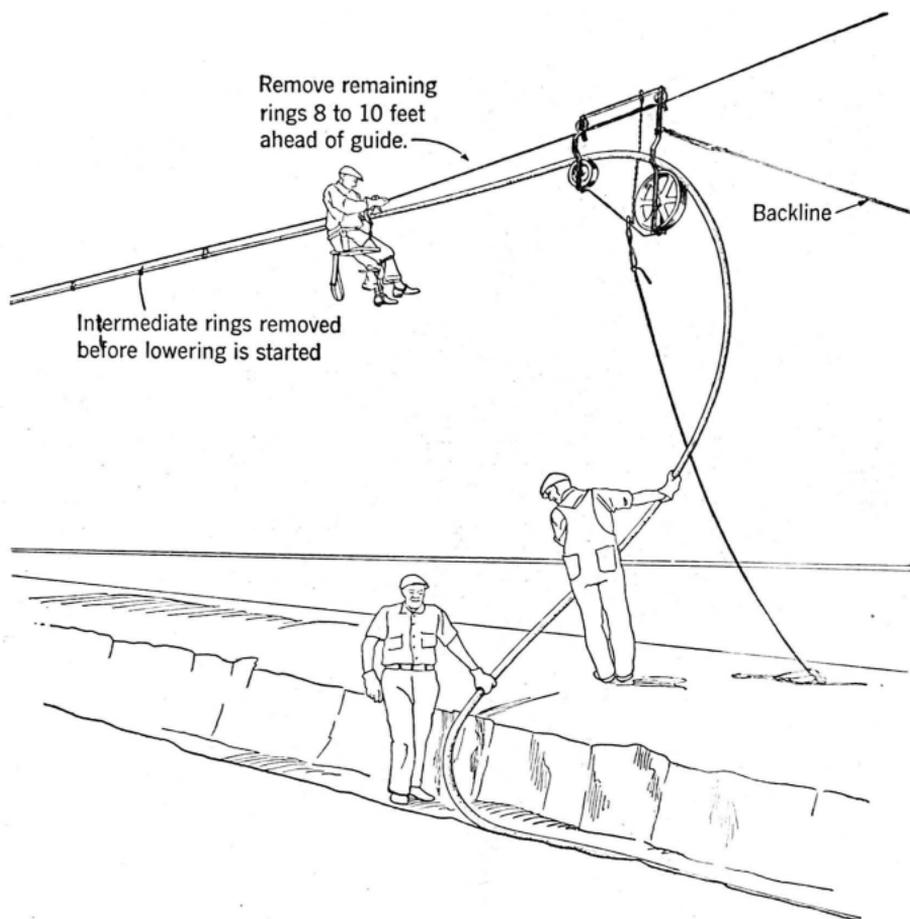
- (1) Remove several rings at the starting pole and support the cable temporarily until the Cable Lowering Guide can be hung on the strand.
- (2) The weight of the cable on the guide will cause the guide to roll forward by itself. To control this move-

ment, attach a back line to the guide as shown and snub it around a pole or other convenient point, if necessary.

- (3) Transfer the cable to the sheaves of the guide and snap the safety chain in place.



- (4) One man rides the strand and removes the remaining rings, always keeping about 8 to 10 feet ahead of the guide. Two men on the ground roll the bight of cable along the ground, as shown, either by the side of the trench, into the trench or to a position to be picked up by the underrunning carriage, while the snubbing line is slowly released. The cable should not be lowered into the trench if the trench bed is wet, as this will necessitate drying the sheath before the cable can be wrapped.

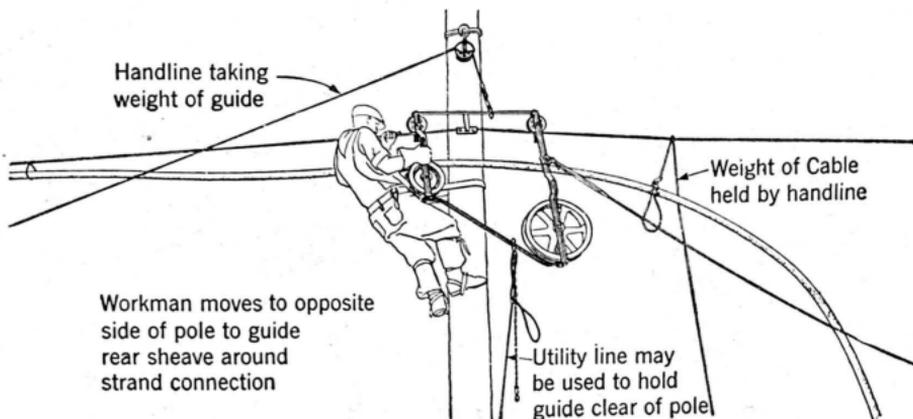


(5) As the cable is lowered, the two men on the ground inspect the cable and mark for closer examination and repair, if necessary, any suspected ring cuts, wiped joints, kinks or other likely points of weakness.

4.02 The guide will pass sleeves, but care should be exercised to avoid sharp bends near the joints as the cable leaves the lower sheave.

4.03 As the lowering approaches a pole, a handline is thrown over the strand and attached to the cable. The guide is then moved ahead to the pole and in so doing the weight of the cable is transferred to the handline held from the ground.

4.04 A second handline is then run through a sheave attached to the pole at a point above the strand and tied to the guide at the ring provided for this purpose. The safety chain is unclamped and the guide freed from the cable. With the help of the handline held from the ground the guide is raised to clear the strand and is moved around the pole.



4.05 When the guide is in position on the far side of the pole, the handline on the cable is eased off until the weight of the cable rests on the sheaves of the guide. Both lines are then removed and the safety chain snapped in place.

### Lowering Strand, Rings and Cable

4.06 When the cable structure is to be lowered intact for inspection and repair prior to unringing, the strand connection should be removed from the pole by taking the weight of the structure off the connection, using the line from a pole derrick or by means of blocks lashed to the pole above the strand.

4.07 Strand, cable and rings (or lashing) should be lowered to within about 4 feet of the ground at the pole. At each pole drive a 1/2-inch x 4-1/2-inch or 1/2-inch x 6-1/2-inch drive screw into the pole through the center hole of the suspension clamp.

4.08 Inspect the cable and make any necessary repairs. The cable may then be placed over the trench in position for wrapping or fed directly to the underrunning carriage as the rings are removed.

## 5. LOADING COIL CASES

5.01 Aerial cable sections containing single loading coil cases or H fixtures should be lowered as a unit while maintaining the relative positions of the strand, cable, stubs and cases. Individual cases can be handled by providing a framework to suspend the case from the strand and maintain their separation during lowering.

5.02 H fixtures can be handled as a unit by cutting through the poles below the channels and leaving the upper portions of the poles as bracing for the strand, cable and stubs. The fixture can be lowered to the ground or other location by means of pole derricks or by means of A fixtures erected over the aerial structure.

5.03 If loading coil cases are to be lowered into a manhole, the construction of the manhole should be carried only to completion of the walls and floor, leaving the roof to be placed after the cases have been lowered. Slots should be left in the end walls to admit the cable into the manhole.

5.04 If no manhole is provided for the cases, the stubs and cases should be suitably protected and disposed of in the manner employed with buried cable.

5.05 Methods of protecting aerial loading coil cases to convert them for underground or buried use are included in G74.450.