

BELL SYSTEM PRACTICES
Outside Plant Construction
and Maintenance

SECTION G10.205.3
Issue 3, August, 1957
AT&TCo Standard

PRECAUTIONS

UNDERGROUND AND BURIED WORK

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1. GENERAL

1.01 This section has been reissued to include additional instructions on gas and buried electric line hazards.

2. BURIED AND SUBSURFACE WORK

2.01 Buried cable placing frequently involves the use of heavy equipment not normally used in other phases of telephone work. Work operations should be conducted in accordance with standard practices covering this type of work and in such a manner as to minimize the accident hazard to both employees and the public.

2.02 All open manholes, trenches, excavations, holes, etc., shall be protected with guards, barricades, covers, flags or other suitable warning devices at all times as covered in other sections in the G10 division. Where traffic conditions warrant, it is preferable to provide more protection than may appear necessary rather than to underprotect.

2.03 Prior to commencing digging operations, determine the location or route of foreign underground plant in the immediate vicinity or along the route of work. Make every effort to avoid exposing or making contact with the underground plant belonging to other utilities, municipalities, etc. In general a **pipe locator** as described in another section of the Practices should be used ahead of trenching, plowing, or pipe pushing operations in urban areas.

2.04 The use of shoring is advisable in all extensive excavations when there is any doubt regarding the stability or holding quality of the walls.

3. GAS AND ELECTRIC LINE HAZARDS

3.01 When foreign objects are encountered while digging, plowing, trenching, or pipe pushing, stop operations immediately. Expose and investigate them with caution. Do not cut, chop through, or break off underground obstructions without first determining if they serve a useful purpose. Under no circumstances should underground electrical plant or pipe line (gas or other) be disturbed.

3.02 If a gas line should be broken or damaged:

- (a) Leave the hole open to allow gas to dissipate into atmosphere.
- (b) Warn residents and the public in the vicinity.
- (c) Notify local Fire Department.
- (d) Notify local Gas Company.
- (e) Keep the public clear of the area until condition is cleared.
- (f) Notify your supervisor.

3.03 If an electric line should be broken or damaged:

- (a) Barricade location until condition has been cleared.
- (b) Notify the local Electric Company.
- (c) Keep the public clear of the hazardous area.
- (d) Notify your supervisor.

3.04 If a pipe line, other than gas, should be broken or damaged:

- (a) If a liquid is noticed which appears to be volatile, such as gasoline, follow instructions in Paragraph 3.02.
- (b) Notify the Utility, Municipality, etc., that it belongs to.
- (c) Notify your supervisor.

4. UNDERGROUND WORK

4.01 Manholes shall be tested for the presence of combustible gases and carbon monoxide prior to entrance. Oxygen deficiency tests must be made if conditions indicate that a deficiency of oxygen in the manhole atmosphere may exist. Detailed instructions regarding the methods of testing manhole atmosphere are contained in other sections of the Practices. Manholes with contaminated atmosphere or oxygen deficiency must be ventilated as recommended in other sections of the

Practices. When a protective covering, such as a tarpaulin, tent, etc., is required to permit work in manholes, test to make sure that conditions are safe and, if necessary, ventilate in an approved manner.

4.02 Exercise caution when entering and leaving manholes particularly those located on traveled thoroughfares. Always use a ladder when entering or leaving manholes. Keep hands free of materials or tools when ascending or descending ladders.

4.03 **Flames shall not be used in or near manholes. Furnaces, kerosene lanterns, and other open flames shall be kept at least 10 feet from the manhole opening.**

4.04 Use standard platform supports and planks or approved substitutes for erecting working platforms in manholes. Platform planks should have adequate strength to support all loads to which they may be subjected, including the extreme loads incurred during cable bending and racking operations.

4.05 In so far as practicable, employees should not remain in manholes during cable placing and removal operations when the pulling equipment is in operation. However, if it is necessary to stay in a manhole during certain work operations, the employee should stand well clear of the pulling equipment under tension and outside the angle formed by the pulling line. Provide adequate warning devices to safeguard the public and prevent interference with work operations.

4.06 Use only standard or approved lighting in manholes. Locate switches, or batteries if used, and make all connections for electric lights outside of the manhole. Protect electric light bulbs from damage with approved guards.