

BELL SYSTEM PRACTICES
Outside Plant Construction
and Maintenance

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BLOCK AND HOUSE CABLE

LOCATING CABLE RUN

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1. GENERAL

1.01 This section is issued to provide information in addition to that provided by the detail plans, for use in locating block and house cable runs.

2. DETAIL PLANS AND PERMITS

2.01 Detail plans, furnished by the Plant Engineer, will ordinarily indicate the layout of the block or building, detailed cable and terminal pair information, wiring information, precautions for protecting exposed cables, the proposed locations of cable, splices and terminals, the type of construction to be used, for example, cable on strand or cable attached to walls and ceilings and the necessary information concerning existing cable and terminals.

2.02 All required permits should accompany the detail plans and should be kept available for immediate reference.

2.03 Special right-of-way requirements, such as "keep offs," inspection by the property owner or tenant, etc., will be indicated on the detail plans or permits.

3. PRELIMINARY SURVEY

3.01 Before measuring for cable the detail plans should be examined carefully and a preliminary survey made of the proposed cable run.

3.02 The block layout should be compared with that shown on the detail plans to make certain that recent changes have not made a revision of the plans or additional right-of-way necessary. Any such changes should be reported to your supervisor so that appropriate action may be taken promptly.

3.03 Before starting work, the representative in charge of the property should be consulted in regard to the manner in which the work is to be done.

4. SELECTION OF DEFINITE LOCATION FOR CABLE

4.01 **Cables on Outside Building Walls.** In addition to the information provided in the detail plans, the following suggestions should be followed.

- (a) Locate runs so that the placing work may be performed safely.
- (b) Locate runs where the appearance is least objectionable. Preferably on rear or side walls.
- (c) Locate all cable runs so as to use a minimum amount of cable. Avoid diagonal runs.
- (d) As far as practicable, select the run so that the grade will not change and which will require a minimum number of bends.
- (e) Locate cable so that it is least exposed to mechanical injury. Be sure to avoid loading platforms where material is stacked at considerable height and may injure the cable if not placed high enough. Where such is the case provide mechanical protection.
- (f) Do not attach cable to those portions of buildings which require repair or renewal, or on walls which are likely to be built against. Locate runs preferably on masonry walls rather than wood structures.
- (g) Do not locate vertical cable runs less than 24 inches from projecting corners. Locate vertical runs, whenever practicable, in the inside angle formed by intersecting walls.
- (h) On blank walls locate cables not less than 8 feet from ground. Consideration should be given to cable runs in alleys, narrow streets or similar locations used by motor vehicles particularly truck trailers. In such cases the cable should be located so as to clear the topmost part of such

vehicles with sufficient clearance to avoid any damage to the cable.

(i) Locate cable runs so that as few obstructions as practicable are encountered. Avoid leaders or down spouts, pipes, electrical wire runs, fire escapes, fire escape ladders, ladder-counterweights and similar structures.

(j) On masonry walls preference should be given to the smoother mounting surfaces, such as brick, avoiding rough stone and concrete.

4.02 Cable in Basements. The suggestions in Paragraph 4.01 apply, also, to cable runs in basements. In addition, the following precautions should be considered.

(a) Avoid coal bins, ash pits, coal or freight chutes, gratings or other similar locations where the possibilities of mechanical injury to cable are greater.

(b) Avoid placing cables over boilers, near fire boxes, uncovered steam pipes, steam exhausts, gas or gasoline engines, as the insulation may char and damage may result to polyethylene cable sheaths which soften at moderately high temperatures.

(c) Avoid locations where, or near which, it is known that inflammable material is or will be stored.

(d) Attach cable to walls and ceilings in preference to partitions since the latter are likely to be less permanent.

4.03 Cable within the finished portions of buildings. When it is necessary to place cable exposed to view within the finished portions of buildings and when appearance is a factor, the following suggestions should be kept in mind.

(a) Locate cable on walls at ceiling, baseboard level or corners.

(b) Take advantage of moldings, beams, columns, etc., as aids in concealment.

5. SELECTION OF SPLICE LOCATIONS

5.01 In addition to the information provided in the detail plans, the following recommendations should be kept in mind in locating splices.

(a) Do not locate splices over doorways.

(b) Locate splices so that the work may be done in a safe manner.

(c) Use vertical splices only when horizontal splices can not be made.

- (d) Do not locate splices, particularly wrapped splices, near steam exhausts, boilers, uncovered steam pipes or other sources of heat as high temperatures will damage the wrapping and wire insulation.
- (e) Avoid locations where the appearance of a splice would be objectionable.
- (f) Locate a splice so that branches or stubs will parallel the main cable for at least 6 inches before entering the splice.
- (g) Select locations which will leave sufficient clearance from obstructions so that the sleeve may be slipped.

6. SELECTION OF TERMINAL LOCATIONS

- 6.01 Locate terminals in accordance with the detail plans. If the specified location appears unsatisfactory from an installation viewpoint or is considered to offer potential right-of-way or maintenance difficulties, notify your supervisor in order that a satisfactory location may be selected.
- 6.02 Further information as to the locating of terminals is covered in the G61. group of Bell System Practices.

7. CABLE IN CONDUIT, RACEWAYS, SHAFTS, ETC.

- 7.01 When conduit, raceway or under floor duct systems have been provided for cable, the engineer shall furnish with the detail plans a schematic drawing indicating the system layout. The schematic will designate specific conduits, raceways or ducts which are to contain specific cables.
- 7.02 Many local building codes prohibit the running of cable in elevator shafts. However where the use of elevator shafts is permissible, adequate conduit facilities should be provided so as to eliminate any necessity for telephone workmen to enter the shaft.
- 7.03 Where a riser cable is placed in conduit in an elevator shaft, splicing work should be done outside the shaft.