

BELL SYSTEM PRACTICES
Outside Plant Construction
and Maintenance

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BURIED CABLE

TRENCHING

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1. LOCATION

1.01 Buried cables will usually be located along highways, on private right-of-way, along or near rear property lines, or in space between the curb and sidewalk. Service cables will generally extend across the subscriber's premises from terminals to the buildings to be served.

1.02 Buried cable should be located in as direct a route as practicable and where the possibilities of its being disturbed are a minimum. Along roadways the cable should, if possible, be located so that future surfacing and widening operations will not extend over it. Care should be taken to locate the route so that it will not interfere with natural drainage and so that such drainage will not seriously affect the depth of covering over the cable.

1.03 The location for the cable should be so selected that it will take as direct a route as practicable, without damaging the roots of trees, shrubs, or other vegetation on the premises.

1.04 The route should be such that it will be reasonably free from future excavations which might subject the cable to mechanical damage. Possible future locations of sign posts, poles, water plugs, etc., should be avoided.

2. METHOD OF TRENCHING

2.01 The method of trenching preparatory to placing buried cable will depend on the soil conditions, the topography of the ground, the route, and the apparatus available. The trench may be dug either by machinery or by hand, or the cable may be placed by a specially designed plow. In general the plow will be used for the longer cables, machine trenching for the shorter cables and hand trenching for very short sections such as laterals and service cables.

2.02 The trench should be as narrow as practicable to avoid unnecessary handling of earth. When the trench is dug by hand, the operations may be facilitated by the use of an agricultural or grading plow to excavate the top portion of the trench.

2.03 When the route of the cable passes under shrubs, sidewalks, paved streets, etc., it may often be found advantageous to push or drive a pipe instead of opening a trench. The pipe may be removed after the cable is placed unless the mechanical protection of the pipe is required.

2.04 When it is necessary to remove pavement the paving material should be kept separate from other excavated materials so that it may be reused if practicable. Do not remove more pavement than is necessary.

3. DEPTH OF CABLE

3.01 Buried cable should ordinarily be installed so that a coverage of 12 to 30 inches will be obtained. In fields the coverage should be adequate to permit agricultural operations to be carried on without disturbing the cable. Where solid rock is encountered within 6 inches of the surface, the cable should be placed so that a coverage of at least 12 inches will be obtained. Where it appears impracticable to provide this coverage it should be reported to the supervisor. The bottom of the trench should be reasonably smooth or a cushion of fine soil or sand should be placed around the cable.

3.02 When crossing roads, highways, streets, alleys and railroads the depth of the cable should be such as to minimize the possibility of mechanical damage due to road grading or ditching activities and the usual maintenance work along the highway or railroad right-of-way. In all such cases the cable shall be at least 30 inches below the base of rails of street railway tracks and 42 inches below the base of rails of steam or electric railroads.

3.03 When crossing unimproved roads, streets and alleys that may later be paved or hard surfaced, the trench should, where practicable, be so located and of such depth, that proper coverage for the cable will remain after the permanent grade has been established or other improvements have been made. In general the depth of placing at such points will be shown on the detail plans.

4. SPLICE POINT EXCAVATIONS

4.01 At splice locations it will be necessary to provide an excavation sufficient in size for the splicing operations specified on the detail plans. These excavations may be made at the time of the other trenching operations or they may be considered a separate part of the project. The types of splicing pits that may be used are shown in the section covering buried cable splicing.