

## **Lowcountry Resource Conservation and Development Project**

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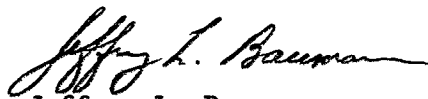
Mr. Joseph Sistare, Jr.  
Alcoa South Carolina, Inc.  
P.O. Box 819  
Beaufort, S. C. 29902

Dear Mr. Sistare,

Jim Tison and I enjoyed our visit with you on Dataw Island near Frogmore, S.C. As I mentioned during our visit, I am sending you a set of guidelines that may be helpful to you in the construction of home developments. These may save you some future problems with trees you would want to save.

If I can be of any further assistance to you, please don't hesitate to call on me. I can be reached through the Clemson Extension Office in Beaufort or you can call me direct in Walterboro.

Sincerely,



Jeffrey L. Baumann  
RC&D Forester  
S.C. Forestry Commission

## GUIDELINES

In constructing home developments:

1. The least damage to existing trees is created when:
  - a) Roads are planned, laid out, and constructed, with as few cuts and fills as possible, well in advance of house construction.
  - b) Soil levels around remaining trees are not altered by grade cuts or fills nor by stockpiles of soil excavated from cellars or other diggings.
  - c) Damage by construction equipment to roots or boles of remaining trees is prevented. Passage of heavy equipment compacts the soil and changes the root habitat, so roots may die. Injury to part of the bole may cause only long-term damage, as from heartwood rots, but becomes important over an extended period.
2. Proper treatment may save affected trees. If die-back starts, remove a portion of the crown, as by topping, and if stem sprouts develop, thin and manage the sprouts to form attractive crowns.

In making fills for roadways or home site:

1. Use sufficient culverts properly spaced so that drainage in the adjoining soils is modified as little as possible, neither impounding water in wet periods nor increasing the drainage rate so that water tables are lowered.
2. Dredging of channels is inadvisable in many wooded swamps, because in porous soils the water levels may be lowered throughout the swamp.
3. Maintain culverts in good working condition.

In making road or grade cuts.

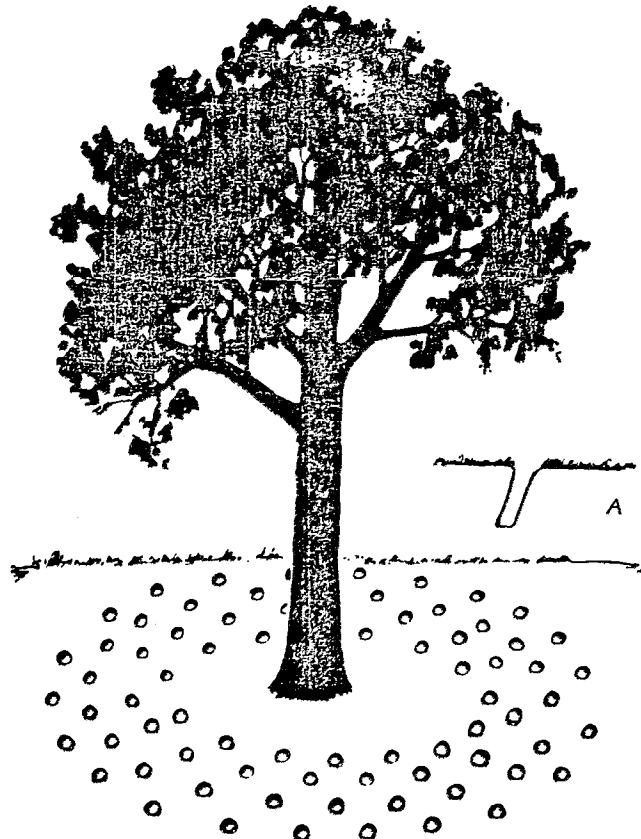
1. Remove trees back from the cut for a distance of 1 foot for each foot of depth of cut (10 feet back for a 10-foot cut).

2. On minor grade cuts, such as the grading of a short slope between house yards and a green belt, an alternative is to mulch the cut and the area under affected trees (as with wood chips) and to fertilize and water these trees.

In installing underground utility lines.

1. Use tunneling as soon as roots an inch in diameter are encountered, except that in the vicinity of trees less than 6 inches in trunk diameter. In this case either tunnel under the entire crown length or locate the trench outside of their crown cover.
2. Near old and large trees take great care, trying especially not to disturb soil-moisture relations.
3. If a root system is reduced, reduce the crown by a similar proportion.
4. Fertilize and water affected trees to aid their recovery. Watering is especially important, if feasible.

Fig. 4-1. Fertilization of shade trees, showing the location of the holes to which fertilizers are added. The holes should be 18 inches deep, about 2 feet apart, and slanted toward the tree, as shown in diagram A.



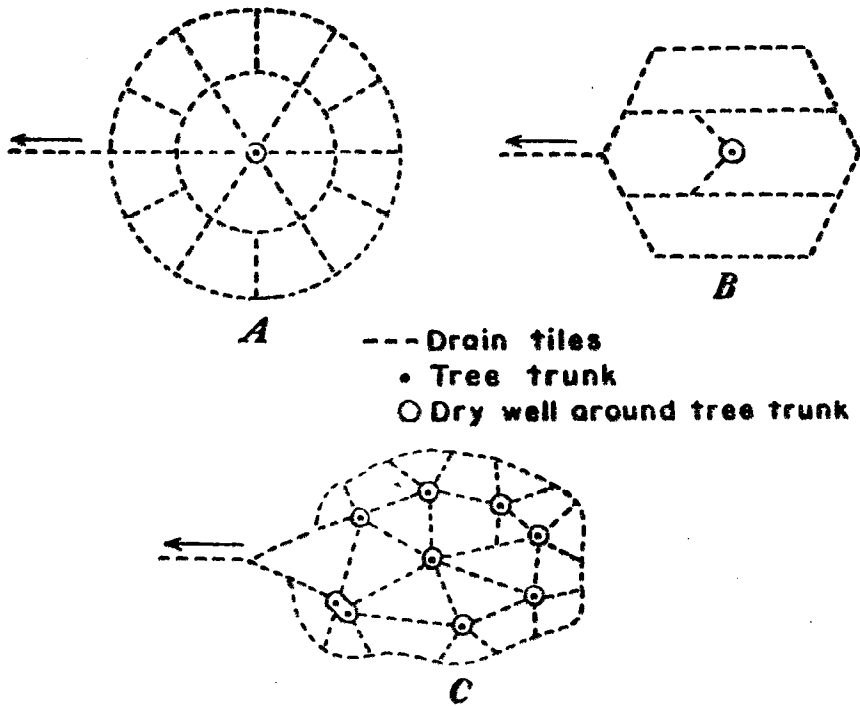


FIGURE 4.—Arrangement of drain tiles on original surface of ground where fill is to be made. Tiles are placed so as to drain in direction indicated by arrows. A, Tiles laid in lines radiating from tree trunk and connected to drain off water at outlet. Center of pattern only may serve for small tree; for larger tree, additional drainage may be provided by extending tiling as indicated. B, Parallel lines of tiles sometimes may be used advantageously. C, Suggested arrangement of tile drains for group of trees.

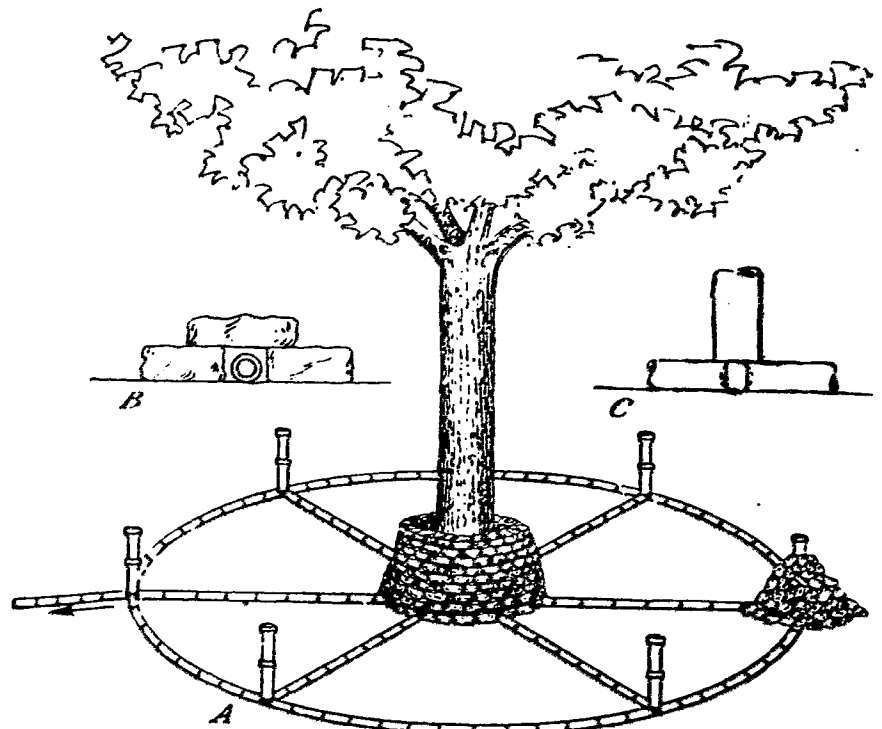


FIGURE 5.—Preliminary steps in constructing a fill: Dry well around tree trunk to permit air and water circulation. Tiles on ground sloped so as to drain away from trunk and off roots, as indicated by arrow. A, Vertical bell tiles connected with drain will permit additional air circulation; one on extreme right is held erect by loose stones. B, Protecting arch of stones placed over drain tiles to prevent breakage. C, Vertical tile resting on ends of horizontal tiles that are spaced to allow circulation.

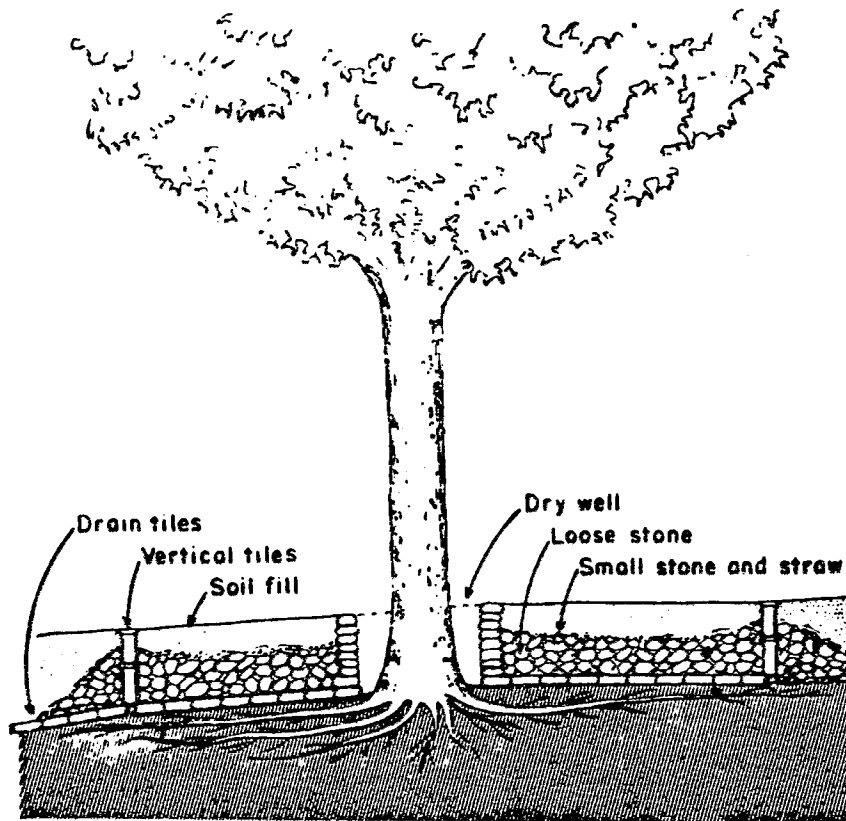


FIGURE 6.—Cross section of completed dry well and fill.

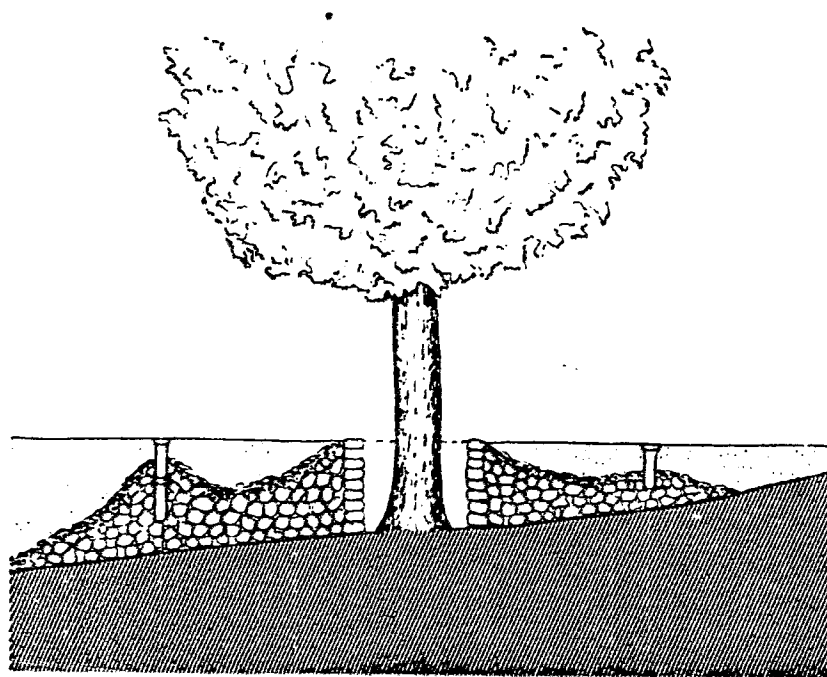


FIGURE 8.—Cross section of fill constructed on well-drained slope. Adequate drainage sometimes may be obtained through using loose stones without tile drains, but vertical bell tiles will increase air circulation.