

Chapter 5

Measures to Make the Structure Suitable for Planting

5-1. General

Certain structural measures can be taken to make floodwalls, levees, and embankment dams suitable for planting. These measures are summarized below.

5-2. Overbuilt Areas

After establishing the minimum levee or embankment section required to satisfy stability requirements (as determined by the design engineer), additional material can be added to the basic levee section to provide an area to support plantings. The dimensions of the overbuilt areas necessary to support the planned plantings should be determined by the landscape architect in consultation with the design engineer (see Figure 2-1). Overbuilt areas must include adequate consideration of the internal drainage system for the main structure. In urban and other high-use areas where it is desirable to overbuild the landside of the levee structure, additional right-of-way width may be necessary to accommodate the resulting longer and flatter slopes.

5-3. Berms

Berms are sometimes provided on dams and levees for seepage control, stability, and other purposes. Shrubs and small trees may be planted on berms if they are on a section of berm that has been overbuilt to a sufficient depth to preclude root penetration of the root-free zone, if they do not interfere with the embankment drainage system, and if the density of plantings on the structure does not inhibit inspection.

5-4. Additional Soil Cover at Floodwall Toe

Where soil depths over the toe of floodwalls are too shallow to allow planting, additional soil cover may be added if such action would not be detrimental to the structure (see Figure 3-1).

5-5. Plant Containers

Where appropriate, permanent plant containers should be considered as part of the structure design. Use of containerized plants should be highly selective and should be considered only when normal planting (directly into soil areas) cannot be used. During the design process, the initial cost and the ability to maintain this type of planting should weigh heavily in the decision to use containers. The type of plant selected for containers should not exceed the mature height of a small flowering tree.