PART TWO

1

Principle 1: Plant the Easy Places First

This principle should inform the very first design sketches and will influence the aesthetic form of the project. More than any other principle, this one is dependent on understanding the information found throughout this book. Planting the easy places first almost always reduces the cost of construction and maintenance. It is less expensive and more sustainable to plant trees in large areas of good soil than in small spaces confined by paving and compacted soil, walls, and curbs. Designers should take into account the information gathered in the soil assessment, and avoid designs that force trees into restrictive soil conditions when better locations are available (see Part 1, Chapter Seven). All too often, we see landscapes built with trees in small holes adjacent to better, but unused, spots.

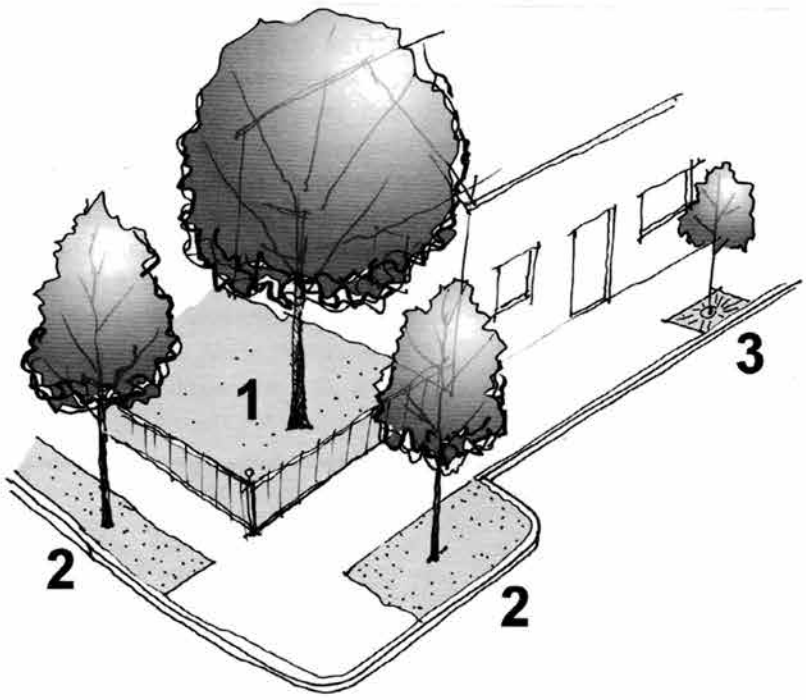

Figure 2.1.1. Plant the easy places first: Tree 1 is in an easy location, while location 2 is easier than location 3.

Figure 2.1.2. Easy vs. difficult planting places:

a, b, and c. Three trees at the same property in easy to increasingly difficult places.

d. Designer failing to achieve matched trees in easy and difficult places. What argument was made to plant the trees in the tree grates? Could the design have been changed to widen the planter in this large plaza to incorporate all the trees in an easy planting space?

FINDING THE EASY PLACES

Identify areas of soil with the least compaction and soil disturbance—places where existing plants, lawns, and mature trees are vigorous—as places to locate new trees. Soil not covered by pavement can be improved at lower cost than soil under pavement. Existing mineral soil may only need to be loosened and supplemented with organic matter.

Understand that soil conditions will change during construction. The good soil that was there during the design phase will likely be compacted and changed by contractor activity. If the design calls for protecting the soil, confirm that the contractor is following the requirements. Make alternative soil plans if conditions change. Note where soil disturbance is likely to occur during construction, and avoid areas that will become compacted or disturbed. Ensure that the soil is in good condition at the end of construction (see Principles 3 and 4).

At sites without good soil, designers can still respect this principle by designing easier places. Cluster trees in areas of contiguous soil volume. Simplify the design of pavement-to-tree relationships, with tree soil areas consolidated and distinctly separate from paved areas. Avoid surrounding individual trees with pavement (see Principle 2).

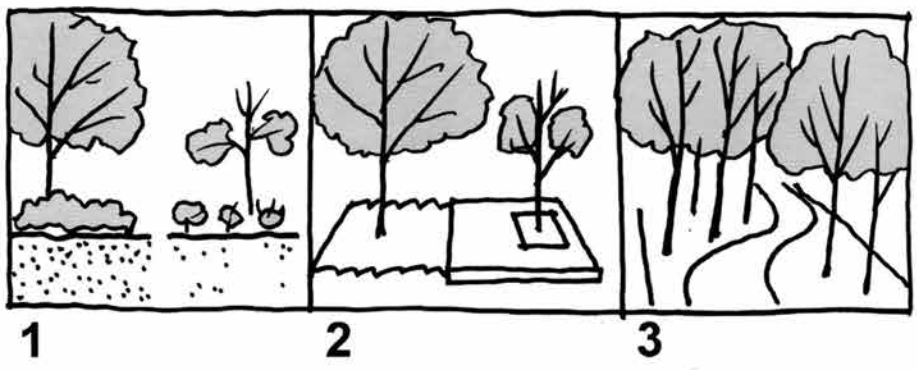

Figure 2.1.3. Finding and designing easier places.

1. Plant in places where existing vegetation is healthier.
2. Plant in larger soil areas, avoid confined spaces.
3. Cluster trees separated from paving.

a

b

Figure 2.1.4. Protect soil resources.
a. "Cow path" compaction caused by a design that failed to reflect pedestrian movement.
b. Curbs control pedestrian compaction in the planting space.

PROTECTING SOIL RESOURCES

Respect the circulation of people and vehicles at the site, and avoid designs where tree-rooting space is likely to be compacted. Low curbs or fences between planting soil and walks are effective to keep pedestrians on paths. Make walk alignments as direct as possible. People will always try to take the shortest path, even if that is through a turf or planting area. Predict where vehicles may use turf areas as temporary parking. Develop strategies to prevent the resulting compaction, using turf reinforcement, barriers, or soil aeration (see Principle 4).

DESIGN IMPACTS

Even slight changes to soil conditions will affect tree growth. Design symmetrical planting areas if symmetry of canopy growth is desired. This includes symmetry of plan configuration, grading, drainage, and soil improvement. Do not design formal rows or grids of trees where some trees are in large beds and some are in restricted spaces. They will always grow at different rates. No matter how much soil under pavements is improved (see Principle 6), it will not produce the same tree growth as a similar soil exposed to the sky.

Planting the easy places first will often result in planting fewer trees. Traditional design theory often relies on tightly spaced geometries that look pleasant and inviting

Figure 2.1.5. Trees in easy (right) and difficult (left) places will never grow at the same rate and already show differences in growth after just a few years. This designer added grates around the street-side trees, making an already difficult place even more difficult for the tree.

Figure 2.1.6. A single tree in an easy place can have greater impact than a row of declining trees in difficult places.

on the plan sketch, but ignore the reality of site conditions. Placing trees in the easy places improves the chance of producing large, healthy trees, and fewer trees may be required to achieve a cooling canopy. Avoid the temptation to fill gaps in difficult places with additional trees for the sole purpose of creating a particular visual rhythm, unless sufficient project resources exist to improve the growing conditions.

TREES AND TURF

Planting trees in the easy places often means planting in turf areas. When planted together, trees and lawn are in fierce competition. Many turf grasses secrete chemicals into the soil that are harmful to the roots of other plants as a defense mechanism to slow the growth of larger plants that would block out the sun. Turf also forms thick root mats that absorb available water and nutrients from the soil before they can reach the tree roots. In nature, tree seedlings overcome these defenses by quickly producing large root systems to compete with the grass. Nursery-grown trees, however, arrive as stressed plants with small root systems and large crowns. The grass has all the advantage, and a tree planted in lawn often declines or takes years to recover.

When a tree must be planted in turf, give the tree a better chance by installing a 6- to 10-foot-diameter mulched area around it, and arrange to keep that area weed free for a period of three to five years to increase the tree's recovery rate. This mulch should be well-aged or composted to a dark brown color. Avoid fresh bark mulches.

Once a tree produces enough shade, the grass declines. Too often, people then begin their own chemical offensive to keep their lawn perfect, at great cost to the tree. If a vigorous lawn under trees is important, keep the spacing between trees wide, 50 feet or more, to allow light to come through. As the trees mature, more water will be needed to keep the lawn green in dry periods. If narrower spacing is desired, select trees with open canopies or require canopy thinning as the trees mature.

a b c

Figure 2.1.7. Trees in mulch grow better than trees with lawn close to the trunk.

a. Large mulch ring around specimen tree in lawn.

b. Tightly spaced trees in mulch beds.

c. Tightly spaced tree originally planted with lawn ground cover, now mulched due to tree shade and root competition.

SUMMARY

- Plant large trees in areas of large soil resources.
- Separate planting areas from paved areas.
- Cluster trees in areas of contiguous soil volume.
- Recognize that restricted soil volumes lead to smaller trees.
- Design symmetrical soil areas if uniform trees are desired. Avoid designing formal rows or grids of trees where some trees are in large beds and some are in restricted spaces.
- Ensure that soil is in good condition at the end of construction.
- Avoid designs where tree-rooting space may become compacted. Design curbs and fences along planting areas. Make walking path alignments as direct as possible.
- Keep lawn 3 to 5 feet from the trunks of newly planted trees until the tree is established.
- Avoid designing lawns under the canopies of large, closely spaced trees.

REFERENCES

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