



BOERNE ISD TREE PLANTING & LANDSCAPING GUIDELINES

From time to time campus and district officials receive requests by PTO’s and other organizations to provide landscaping and campus beautification projects. The information contained in this document is a guideline that provides recommendations for such projects and material that are considered suitable for public school facilities (source Alamo Forest Partnership, SAWS, and CPS Energy).

When choosing the right tree **FOR BISD CAMPUSES**, remember the following *Five S’s*:

- **Specific** — the purpose of the new tree, i.e. shade, privacy, color, etc. Always choose a species that corresponds to our landscape need.
- **Site** — the matching of plant biological requirements to the physical conditions of the site. For example, plants preferring acidic soil must be planted in acidic soil. According to the *Trees for the San Antonio Region* guide, avoid planting trees that:
 - Will block traffic signs or street corners;
 - Are too close together;
 - Block transformer doors;
 - Are within three feet of clearance around the sides and back of a transformer; or
 - Are too close to sidewalks or pavement
- **Space** — describes the need for adequate room above (both vertically and horizontally) and below ground for future growth. Canopy trees ought not to be planted under utility lines. Instead they should be planted 20 feet away from the lines. Utility-friendly understory trees are can be planted five feet away from the lines and eight feet away from the poles. Follow these guidelines for proper tree spacing:

Tree Size	Distance from Building
Small	10 feet
Medium	15 feet
Large	20 feet

Structure — refers to an individual specimen’s physical attributes, such as a straight and well tapered trunk, well distributed branches along the entire trunk, branches smaller than the main trunk, 50% or more of the branches originate in the lower 2/3’s of the trunk, or significant wounds on the branches or trunk.

Standards — the proper height and root ball proportions as defined in the American Standards for Nursery Stock. Of the standards mentioned within the manual, the most important one is the standard concerning root ball size. With the exception of very large diameter root balls, minimum root ball diameter should equal or exceed a ratio of 12” for each inch trunk caliper. Above all else, purchase a quality specimen and examine it carefully before you make the purchase.

As written and compiled by Jenna Terrez (CPS) and Mark Peterson (SAWS)



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Additionally, BISD requires that landscaping plant materials – in particular Canopy Trees – are varieties that are not considered self-pruning. BISD also requires that tree varieties with deciduous foliage be placed in such a manner as to not cause issues with our roof and gutter system maintenance program.

Planting Process

Current research indicates that the ideal habitat for a newly planted tree is a planting area that is three to five times the diameter of the root ball and has been loosened and mixed by shovel or rototiller. Feeder roots, some as fine as human hair, quickly exploit this moist, aerated soil, providing the tree with the water and minerals it requires to grow. A planting area constructed thusly bears a striking resemblance to the natural forest ecosystem. In other words, the prudent planter attempts to mimic what the tree loves best.

ALWAYS REMEMBER TO PLAN ANY LANDSCAPING INITIATIVE IN CONJUNCTION WITH CAMPUS ADMINISTRATION AND BISD MAINTENANCE DEPARTMENT – it is the district's preference that planting preparation be overseen by BISD Maintenance Grounds Dept. Smaller, less involved projects – i.e. classroom projects, Boy Scout project, etc., may still require BISD Maintenance approval before work commences.

The following steps attempt to recreate this ideal habitat:

1. Mark out a planting area two to five times the diameter of the root ball.
2. Using a shovel or rototiller, cultivate the soil to the depth of the tree's root ball. If the site proves unsuitable for this action, dig a hole at least twice the diameter of the root ball. The bigger the hole, the better!
3. Add and mix well a small (no more than 20% of total soil volume) amount of compost to the planting area.
4. Dig a shallow hole in the center of the prepared area only as deep as the root ball.
5. Place the root ball in the hole in such a manner as to ensure the root ball top is level with the surface of the surrounding soil. If the site has poor drainage or limited soil depth, then the root ball may be raised two or three inches above the surrounding soil.
6. Cut all wires and rope securing the burlap around the root ball and pull the burlap or wire at least half way down the root ball, preferably all the way.
7. For containerized trees, check to see if encircling roots are present. If so, gently separate and spread them into the planting hole. If they are too large to spread then cut them.
8. Backfill with the original soil using water instead of feet to settle the soil. Do not put any soil on top of the root ball!
9. Apply no more than eight ounces of a slow-release fertilizer (preferably organic) to the planting area.
10. Apply three to four inches of wood chip mulch over the entire planting area. If possible, place one inch of compost between the mulch and soil. Do not put mulch within three inches of the tree trunk.
11. Stake only if necessary. Support ties should be placed between 1/3 and 1/2 of the total tree height.
12. Prune only dead, diseased, broken, or rubbing branches.

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Pruning Trees

According to the *Trees for the San Antonio Region* guide, pruning is not recommended until after a tree has overcome transplant process and has a self-supporting root system. Prune to remove dangerous hazards for the tree's health, such as dead, diseased, or dying branches. This will also help prevent future hazards, such as narrow branch angles or rubbing branches. Follow these effective pruning tips:

1. Consult with a certified arborist before pruning.
2. Never prune any trees close to high voltage electric lines.
3. Follow the *Ten Pruning Commandments*:
4. Always have a reason to prune—if in doubt, then don't take it out.
5. All pruning is done at a bud or branch regardless of whether you are shortening a branch, removing seeds, or reducing tree height.
6. Prune to improve tree strength and safety. Reduce trunk and limb breakage by eliminating multiple trunks of equal size and narrow branch junctures that look like "V"s.
7. Prune to improve tree health by removing the dead, diseased, and dying branches and any branch where light or wind cannot penetrate.
8. Always maintain the upper two thirds of the tree in branches and foliage.
9. Never remove more than 25% of the canopy during one pruning cycle.
10. Never top a tree!
11. Never leave a stub or remove the branch collar by a flush cut.
12. Always paint tree wounds on oaks within 30 minutes. This is not necessary for any other tree species.
13. Always disinfect pruning tools between trees to prevent the spread of disease.

Source: "*Trees for the San Antonio Region*" guide


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Recommended Trees for BISD CAMPUSES

Canopy Trees

Common Name	Scientific Name	Foliage	Mature Height, Spread	Comments
<u>Cypress, Arizona</u>	<i>Cupressus arizonica</i>	Evergreen	Medium, 15 feet +	Fast growing; full sun, well drained soils; conical form; blue-gray foliage color; tolerant of dry conditions.
Cypress, Montezuma	<i>Taxodium mucronatum</i>	Semi-evergreen	Large, 40 feet +	Fast growing; conical form as young; feather foliage.
Elm, Cedar	<i>Ulmus crassifolia</i>	Deciduous	Large, 30 feet +	Moderate growing; bright green new foliage in spring, yellow fall color; adaptable to a wide range of sites.
Maple, Uvalde Bigtooth	<i>Acer grandidentatum</i>	Deciduous	Medium, 30 feet +	Moderate growing; fall color; requires well drained soils; protect from afternoon sun to reduce leaf scorch.
<u>Oak, Chinkapin</u>	<i>Quercus muehlenbergi</i>	Deciduous	Medium, 45 feet +	Prefers well drained soils; round-topped, with lance-shape foliage and attractive light-colored bark; wildlife food source; highly palatable acorns.
<u>Oak, Live</u>	<i>Quercus virginiana</i> var. <i>fusiformis</i>	Semi-evergreen	Large, 45 feet +	Can be moderate growing with appropriate care; spreading canopy. Caution: Must always paint wounds to prevent Oak Wilt disease.
Oak, Mexican White Live	<i>Quercus polymorpha</i>	Semi-evergreen	Large, 35 feet +	Fast growing with appropriate care, moderate acorn producer. Few, if any, pest problems.
Oak, Texas Red	<i>Quercus buckleyi</i>	Deciduous	Large, 35 feet +	Fast growing; "oak leaf" characteristic; fall color; good shade tree; requires minimal pruning.
Sycamore, Mexican	<i>Platanus mexicana</i>	Deciduous	Large, 45 feet +	Fast growing; resistant to insects; attractive foliage and minimal pruning.



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Understory Trees

Common Name	Scientific Name	Foliage	Mature Height, Spread	Comments
Anacacho Orchid Tree	<i>Bauhinia congesta</i>	Deciduous	Small, 10 feet	Does best in full sun; fragrant white flower clusters in spring.
Anacahuita/Wild Olive	<i>Cordia boissieri</i>	Evergreen	Small, 10 feet	Large white flowers most of summer; pale yellow fruit; cold sensitive but will re-sprout quickly. Also known as Mexican Olive.
Crape/Crepe Myrtle	<i>Lagerstroemia indica</i>	Deciduous	Small, 5-20 feet	Non-native well adapted to our region; choice of flower colors from white to purple; some varieties can grow to medium height range.
Desert Willow	<i>Chilopsis linearis</i>	Deciduous	Small, 15 feet	Fast growing; very drought tolerant; large white, pink or purple trumpet-shaped flowers; attract hummingbirds, butterflies, and bumblebees.
<u>Sophora, Texas Mountain Laurel</u>	<i>Sophora secundiflora</i>	Evergreen	Small, 18 feet	Fragrant, purple clusters in early spring. Very drought tolerant. Caution: Fruit is poisonous when chewed.
Holly, Yaupon	<i>Ilex vomitoria</i>	Evergreen	Small, 10 feet	Sun or shade; red berries (females only); evergreen foliage; provides food & Shelter for birds.
Goldenball Leadtree	<i>Leucaena retusa</i>	Deciduous	Small, 12 feet	Fast growing; feathery foliage; small golden yellow (fuzzy balls) blossoms in spring.
Oak, Lacey	<i>Quercus laceyi</i>	Deciduous	Medium, 30 feet	Moderate growing, blue-gray foliage and usually yellow fall color. Rated as a "Texas SuperStar" by the Texas Cooperative Extension Service.
Redbud, Mexican or Texas	<i>Cercis canadensis</i> var. <i>mexicana</i> or <i>texensis</i>	Deciduous	Small, 12 feet	Pink-red blossoms in early spring; yellow fall foliage; glossy and wavy leaves; more drought tolerant than Eastern species. Note: Do not select Eastern Species.



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OTHER LANDSCAPING GUIDELINES

A fine publication for determining plant materials in our region of Texas is found at -

<http://www.gardenstylesanantonio.com/find-plant/>

It is still best to consult with a professional landscaper and or master gardener, but in general it is important to be mindful that landscaping on BISD school grounds requires a safety mindset and therefore plant materials that involve thorns and or hazards to our student population are to be avoided. The following are additional guidelines to consider:

- Native xeric plant materials—Select native and/or xeric plants that thrive in local conditions and reduce watering usage.
- Select plant materials with a similar character, growth habit, and light requirements as those being replaced.
- Maintenance—Maintain existing landscape features. Do not introduce landscape elements that will obscure and / or are located as to retain moisture on walls or foundations (e.g., dense foundation plantings or vines) or as to cause damage.
- ROCKS OR HARDSCAPE
 - Impervious surfaces —Do not introduce large pavers, asphalt, or other impervious surfaces where they were not historically located.
 - Pervious and semi-pervious surfaces—New pervious hardscapes should be limited to areas that are not highly visible, and should not be used as wholesale replacement for plantings. If used, small plantings should be incorporated into the design.
 - Rock mulch and gravel - Do not use rock mulch or gravel as a wholesale replacement for lawn area. If used, plantings should be incorporated into the design.
- MULCH
 - Organic mulch – Organic mulch should not be used as a wholesale replacement for plant material. Organic mulch with appropriate plantings should be incorporated in areas where appropriate such as beneath a tree canopy.
 - Inorganic mulch – Inorganic mulch should not be used in highly-visible areas and should never be used as a wholesale replacement for plant material. Inorganic mulch with appropriate plantings should be incorporated in areas where appropriate such as along a foundation wall where moisture retention is discouraged.