Town of Paradise Valley

Landscape Guidelines

September 26, 1996

TOWN OF PARADISE VALLEY

LANDSCAPING GUIDELINES

The following landscape planting guidelines were accepted by the Paradise Valley Town Council on September 26, 1996, to provide guidance to public and private property owners alike in the preservation and enhancement of the community's natural environment. The Town Council has directed the Town Staff to provide these guidelines to applicants for land division approval, special use permits, and building permits. The Council also directs that Staff utilize these landscaping guidelines for all Town projects.

GOAL: Tree-shaded streets and paths throughout the Town which enhance the natural desert, soften the impression given by the hard surfaces of the streets, and shield residents, homes and passersby from heat, pollution, and traffic; and to create ample massings of plantings to offset harmful pollutants and provide additional storage of carbon, greater production of oxygen and more efficient mitigation of air pollution.

LANDSCAPING

- 1. Planting of canopy trees in new developments, as well as along existing streets, should be required at a minimum of 30 foot intervals in the rights of way along the street, between the edge of the pavement and the adjacent path, between the path and the adjacent property line, or between the pavement and the adjacent property. Ironwood trees should make up at least 20 percent of such plantings. Similar plantings of shrubs at a minimum of 20 foot intervals should also be required. Tables #1 and #2 are partial, but representative, lists of indigenous and compatible trees. These lists have been carefully developed in order to recommend plants that are low water use, require minimum maintenance, and will still thrive and look attractive. Table 3 is a list of plants that are undesirable because of the allergens they produce. The Town Code already prohibits the planting of allergen producing non-sterile olive, and mulberry trees. There are other plants on the list that are not recommended. For example, oleanders are highly toxic when burned, poisonous when used as compost for vegetable and fruit gardens, use excessive water, grow out of control and obliterate the view from roadways when not pruned to the maximum allowed wall height. Palms and eucalyptus are not indigenous, are out of scale with the Sonoran Desert, partially block view corridors, become brittle, are fire hazards, can split and fall in a wind storm and have pollen irritants.¹
- 2. Where space or sightlines make trees impractical, native-shrubs, ground cover and wildflowers should be planted. A partial, but representative, list of recommended native species is attached.

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¹ See also Town Code Section 5-10-13

This list has also been carefully developed in order to recommend plants that are low water use, require minimum maintenance, and will still thrive and look attractive.

- 3. Where granite is used, it should be desert colored and 3/4" minimum size.
- 4. Developers should use informally sited, desert-compatible, trees and plants, and granite, ground covers or water elements in lieu of grass around the periphery. Where boulders are used, one-third (1/3) of the height should be buried for optimum effectiveness.
- 5. Whenever an application for special use permit approval or amendment is received, the holder of the special use permit should be encouraged to bring existing landscaping into closer conformance with these Guidelines.
- 6. As a safety precaution, spiny plants such as agave, yucca, fero cactus (barrels), and opuntia (prickly pear/cholla) must be planted and maintained at least six feet from pedestrian paths or roadways.

MAINTENANCE

- 1. Plant material which does not survive, and irrigation systems that fail, should be replaced within thirty (30) days of their demise, failure or removal.
- 2. All landscaping shall be maintained in order to enhance and improve the site and keep it in a healthy, neat, clean, weed-free condition.
- 3. Replacement or alteration of landscaping shall be of like size as that which is required herein, or which was removed or destroyed.
- 4. Plant material shall not be severely pruned so that the natural growth pattern or characteristic form is significantly altered.
- 5. Modification or removal of landscaping installed in conformance with these guidelines shall be approved in advance by the Town.

PARKING

1. The parking areas and outdoor lighting of any property which is regulated by a special use permit should be screened from view by a dense combination of trees, walls, earth berms,

- and/or bushes on all perimeters. Such plantings should be a minimum of six feet deep, two feet high, and contain one canopy desert tree at least every 30 feet in addition to the shrubs.
- 2. Parking spaces should be interspersed with islands planted with desert shrubs and canopy trees. The planted areas should total 25% of the interior of the parking area to provide for shade and to minimize the heat island effect and visual pollution.
- 3. There should be a minimum of one canopy tree per ten parking spaces. The trees should be large enough when planted to have established a mature shade canopy in three years. No parking space should be more than 50 feet from a canopy tree. Every group of parking spaces should be interrupted by planting. Long, skinny planted areas are the least satisfactory visually.
- 4. Because parking lots of impermeable materials such as asphalt or concrete are hostile environments for trees and other plants, where possible, trees should be surrounded by 300 square feet of permeable space, such as stabilized granite or grates (no impervious material should be permitted under any tree dripline), and protected by intermittent curbs or bumpers for maximum effectiveness. Parking lot surfaces should be contoured in such a way that sheet flow drains into the planted areas.
- 5. When the entire parking lot surface is permeable, some deviation from these standards may be considered.

RECREATIONAL PATHS AND CURBS

- 1. Where curbs are required they should be ribbon or rolled, desert colored concrete (Davis' San Diego Buff: 1 1/2 lbs. # 5237 per bag of type 1-2 Portland Cement), salt finish. If water control or some other circumstance indicate a vertical curb is preferable, then it must be specifically recommended by staff to the Planning Commission.
- 2. Recreational paths shall be six feet wide, desert colored concrete (Davis' San Diego Buff: 1.5 pounds No. 5237 per bag of type 1-2 Portland Cement), salt finish, slightly meandering and laid out on site by a landscape architect to assure a random appearance and usable planter space between the path and the road. For user safety, paths-must be as far from the road as the right of way permits, and grades, or slope should not exceed 1:20 in order to comply with accessibility guidelines. Transitions from ramps to paths or streets should be flush and free of abrupt changes, and comply with the Americans with Disabilities Act.
- 3. In areas where paths abut lots and/or residences, provisions should be made to install sleeves for water/irrigation purposes.

RIGHTS-OF-WAY

- 1. Benches under trees at bus stops should be considered when a development or lot split is on a major arterial street with a bus route.
- 2. If requests for roadway abandonment are granted, the Town should expect compensation in kind from the benefiting property owners in the form of additional plantings, extended recreational paths, shaded benches at existing or potential bus stops, water features, drinking fountains, etc.
- 3. Existing plantings on Town rights-of-way often include oleanders. Strictly enforced pruning of height and width is essential to maintain accessible rights of way and view corridors.

UTILITIES

Where practical, exterior transformers, utility pads, cable television and telephone boxes should be screened with walls and/or vegetation. If visible off-site, such facilities must be painted the same color as any adjacent wall, or a desert compatible color such as Frazee's "Asteroid".

Table 1

LOW WATER USE DESERT PLANTS RECOMMENDED FOR LANDSCAPING - INCLUDING BUT NOT LIMITED TO:

1. TREES

*	Acacia smallii	sweet acacia
	Acacia schaffneri	twisted acacia
	Acacaia stenophylla	shoe string acacia
	Acacia willardiana	palo blanco
*	Celtis pallida	desert hackberry
*	Cercidium floridum	blue palo verde
*	Cercidium microphyllum	little-leaf palo verde
	Cercidium praecox	palo brea
*	Chilopsis linearis	desert willow
*	Lysiloma thornberi	fern of the desert
*	Olneya tesota	ironwood
	Parkinsonia aculeata	Mexican palo verde
	Pithecellobium flexicaule	Texas ebony
	Prosopis juliflora	Native mesquite
*	Prosopis velutina	velvet mesquite
	Sophora secundiflora	Texas mountain laurel
*	Prosopis Glandulosa	honey mesquite

2. SHRUBS

*	Atiplex lentiformis	quail bush
*	Baccharis sarothroides	desert broom
	Caesalpinia gilliesii	yellow bird of paradise
	Caesalpinia pulcherrima	red bird of paradise
	Calliandra californica	Baja fairyduster
*	Calliandra eriophylla	fairyduster
	Cassia artemisioides	feathery cassia
	Cassia nemophila	desert cassia
	Cassia sturtii	
*	Cordia parvifolia	little-leaf cordia
*	Dodonaea viscosa	hopbush
*	Encelia farinosa	brittlebush
*	Fouquieria splendens	ocotillo
*	Justicia californica	chuparosa
	Justicia ovata	red firecracker
	Justicia spicigera	hummingbird bush
*	Larrea tridentata	creosote
	Leucophyllum frutescens	Texas ranger

Leucophyllum laevigatum	cenizo
Salvia greggii	autumn sage
Tecoma stans	Arizona yellow bells
Vauquelinia californica	Arizona rosewood

3. GROUNDCOVERS

	Acacia redolens	trailing acacia
*	Dalea greggii	trailing smoke bush
	Lantana montevidensis	trailing lantana
	Santolina virens	
	Santolina chamaecyparissus	lavender cotton
	Verbena tenuisecta	verbena
	Verbena tenera (V. pulchella)	

4. VINES

	Antigonon leptopus	queen's wreath
	Mascagnia macroptera	yellow orchid vine
	Merremia aurea	yellow morning glory vine, yuca

5. PERENNIAL WILDFLOWERS

*	Baileya multiradiata	desert marigold
*	Melampodium leucanthum	blackfoot daisy
	Nierembergia violacea	purple cups
	Oenothera speciosa	evening primrose
	Pennisetum setaceum	fountain grass
*	Penstemon parryi	beardtongue
*	Penstemon eatoni	beardtongue
*	Sphaeralcea ambigua	globe mallow

6. SUCCULENTS

	Agave americana	century plant
*	Agave murpheyi	
	Agave vilmoriniana	octopus agave
	Aloe vera	aloe vera
*	Carnegiea gigantea	saguaro
*	Dasylirion wheeleri	desert spoon
*	Echinocereus engelmannii	hedgehog cactus
*	Ferocactus spp.	barrel cactus
	Hesperaloe parviflora	red yucca
*	Nolina microcarpa	beargrass
*	Opuntia basilaris	beavertail prickly pear
	Opuntia engelmannii	prickly pear

	Opuntia ficus-indica	Indian fig prickly pear
*	Opuntia santa-rita	purple prickly pear
	Portulacaria afra	elephant food
*	Yucca baccata	banana yucca
*	Yucca elata	soaptree yucca

^{*} Arizona native

Table 2 (TO BE USED IN TOWN RIGHT OF WAY)

LOW WATER USE DESERT TREES, SHRUBS AND GROUND COVER BY PLANTING AREA

1. For planting areas as small as 3 -4 square feet:

A. Tree species

	Botanical name	Common Name
*	Acacia minuta/acacia farnesiana	sweet acacia
*	Acacia willardian	palo blanco
	Chilopsis linearis	desert willow
	Lysiloma thornberi	desert fern tree

B. Shrubs and ground covers

	Ambrosia deltoidea	
	Atriplex canescens	saltbush
	Baileya multiradiata	desert marigold
	Cassia wislizeni	shrubby senna
	Dyssodia pentachaeta	dyssodia
*	Echinocereus engelmannii	strawberry hedgehog
	Encelia farinosa	brittlebush
	Erigeron divergens	fleabane daisy
	Eschscholtzia mexicana	mexican goldpoppy
*	Ferocactus wislizeni	fishhook barrel
	Gaillardia arizonica	arizona blanketflower
	Hesperaloe pariflora	red yucca
	Lupinus sparsiflorus-	deser\ lupine
	Sphaeralcea ambigua	desert globemallow
*	Mammillaria sp	Pincushion cactus
	Melampodium leucanthum	blackfoot daisy
	Oenothera berlandieri	mexican evening -primrose
	Thamnosma montana	turpentine bush
	Viguiera multiflora	golden eye
	Verbena peruviana	peruvian verbena

2. For planting areas as small as 4 -6 square feet, inclusive of Section 1 above:

A. Tree species

*	Cercidium floridum	blue paloverde
*	Pithecelobium flexicaule	texas ebony
*	Pithecelobium mexicanum	mexican ebony
*	Prosopis velutina	velvet mesquite

B. Shrubs and ground covers:

	Asclepias subulata	desert milkweed
	Caesalpinia gilliesii	mexican bird-of-paradise
	Calliandra eriophylla	pink fairy duster
	Dalea frutescens; dalea versicolor	dalea, black dalea
*	Dasylirion wheeleri	desert spoon
	Justicia brandegeana	shrimp plant
	Justicia ovata	chuparosa
	Justicia spicigera	desert honeysuckle
	Larrea tridentata	creosotebush
*	Opuntia basilaris	beavertail prickly-pear
*	Opuntia violaceae	purple prickly-pear
	Penstemon sp	Red penstemon

3. For planting areas larger than 6 square feet, inclusive of Sections 1-2 above:

A. Trees

*	Acacia constricta	whitehorn	
*	Carnegiea gigantea	saguaro	
*	Cercidium floridum	blue paloverde	
*	Cercidium microphyllum	foothills paloverde	
*	Olneya tesota	desert ironwood	
*	Opuntia ficus-indica	indian fig	
*	Prosopis glandulosa	honey mesquite	
*	Prosopis juliflora	arizona mesquite	

B. Shrub and ground cover species

Celtis pallida	desert hackberry
Dalea pulchra	sweet dalea
Dodonaea viscosa	hopbush
Ephedra sp	Mormon tea
Justicia californica	chuparosa
Leucophyllum frutescens	texas ranger
Leucophyllum lavigatum	chihuahuan sage
Rhus ovata	sugar bush
Ruellia peninsularis	firecracker bush
Simmondsia chinensis	jojoba
Sophora secundiflora	mescal bean
Tecoma stans	yellow bells

^{*} a plant with thorns/spines that can be a hazard in a pedestrian pathway.

Table 3

PLANTS COMMONLY SOLD IN LOCAL NURSERIES THAT SHOULD BE AVOIDED BECAUSE OF THE WIND-BORNE ALLERGENS THEY PRODUCE

People who suffer from respiratory allergies would be wise to avoid planting very many wind-borne pollen plants in their home gardens or near their bedroom windows. However, if a plant has a short flowering period it will not cause as much discomfort as a plant with a long flowering period.

1. Trees

Eucalyptus microtheca, Eucalyptus leucoxylon, and other eucalyptus trees

Fraxinus velutina, Arizona ash

Morus alba, mulberry

*Olea europa, olive tree

Pinus eldarica, mondel pine, and Pinus halepensis, aleppo pine, and other pines

Populus fremonti, Fremont cottonwood, and all male cottonwoods

*Rhus lancea, African sumac

Tamarix aphylly, Tamarix africana, Tamarix parviflora, etc. tamarisk or salt cedar

2. Shrubs

Ambrosia deltoidea, bursage Atriplex canescens, four wing saltbush, and Atriplex lentiformis, quail bush Ligustrum lucidum, Chinese privet, and Ligustrum japonicum, Japanese privet

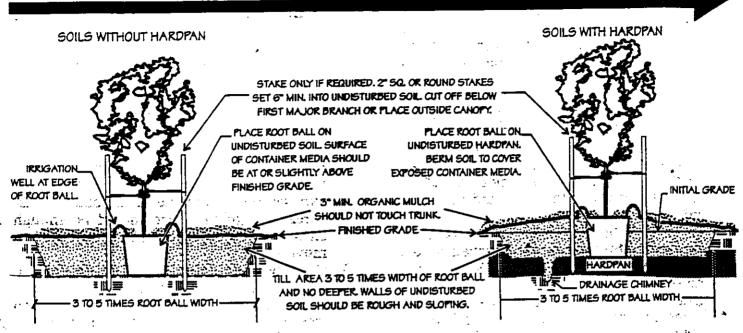
3. Groundcovers

*Cynodon dactylon, Bermuda grass

Note: * indicates those with the longest pollen production times.

University of Arizona Cooperative Extension

Planting Specifications: Container Trees & Shrubs



Introduction

The majority of tree and shrub roots lie in the top 2 feet of soil and extend 1.5 to four times the width of the canopy. Planting practices that encourage the development of this root system can reduce the establishment phase and enhance plant stability. These practices are characterized by shallow, wide planting holes, no organic amendments in the backfill, an organic surface mulch, and proper staking of trees.

Materials -

- 1. Soil: Native soil should be reasonably free of construction materials and other debris. Cultivate compacted soils to a depth of 8 to 10 inches. Ideally soil should be 18 to 24 inches deep. Soil imported to increase depth or to achieve other objectives should be free of diseases, pests, weeds, debris, and should be similar in texture to native soil.
- 2. Soil Amendments: Do not add organic amendments to the backfill. Sulfur,

fertilizers, and other amendments, if used, should be broadcast over the planting area before cultivating.

3. Plant Materials: See Selecting Plants (Landscape Plants No. ###).

4. Tree Stakes and Ties: Wood stakes should be 2 inches in diameter or 2 inches square. Construct ties of 1/2 inch garden hose and No. 12 to 14 gauge galvanized wire.

 Mulch: Suitable organic mulch materials include ground bark, wood chips, and compost.

Drainage Test

- 1. Test drainage by digging a hole 1 foot deep or so. Fill with water several times during the day. Drainage is poor if water is still standing 24 hours after the last filling.
- 2. Chimney holes may improve poor drainage due to a shallow, thin hardpan. Place drainage chimney beside, not beneath, root ball to avoid problems due to excess water (see illustration, above right).
- 3. Adding soil to increase rooting depth can also improve drainage. Use soil similar in

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Planting Trees

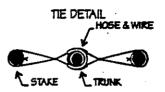
- 1. Mark a circular area three to five times the diameter of the root ball. Till this area to a depth no deeper than the root ball. Walls of the undisturbed soil should be rough and sloping. Dig a hole in the center of the tilled area slightly wider and no deeper than the root ball.
- 2. Always handle the plant by the container or the root ball. Remove the plant from the container with minimal disturbance to the root ball. Score the root ball to cut any circling roots and to disturb the mediabackfill interface. Make a vertical cut 1/4 to 1/2 inch deep four times around the sides and twice across the bottom.
- 3. The top of the root ball should be level with or slightly above the finished grade. Backfill with unamended soil. Do not pack the soil.
- 4. Remove the nursery stake. Do not prune unnecessarily. Remove only broken or infected branches, and double leaders using clean, sharp bypass pruners. Do not cover wounds with sealant or paint. Remove trunk sprouts gradually over several years.
- 5. Form an irrigation well, if used, at the edge of the root ball to ensure that irrigations wet the container media. Irrigate the plant and the entire tilled area. Apply enough water to thoroughly wet the soil to the depth of the root ball. This will remove air pockets without compacting the soil.
- 6. Mulch the entire tilled area with 3 to 4 inches of organic material. Do not let mulch contact the trunk. If planting in a lawn, keep the tilled area free of grass.

Staking Trees

- 1. Do not stake trees unnecessarily. If staking is required, use two stakes only. Place them outside the root ball and irrigation well at right angles to the prevailing wind. Make sure stakes penetrate undisturbed soil at least 6 inches.
- 2. To determine tie height, hold trunk with one hand and bend canopy to one side. If canopy does not return to an upright position, move up the trunk and try again. Find lowest point on trunk at which the canopy will return to an upright position. Place ties about 6 inches above this point.

Use one set of ties only.

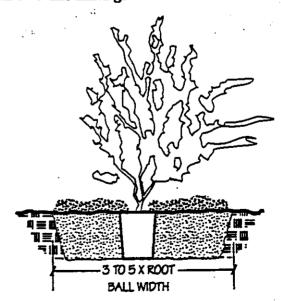
3. Protect trunk from tie wire by enclosing the wires in garden hose. The garden hose should be just long enough to loop around the trunk. Twist wires to keep the garden hose from moving along the wire. The trunk should not move inside the garden hose loop.



- 4. Fasten wires to stake so the cut ends are between the stake and the tree, not exposed on the outside of the stake. Twist wires to tighten. There should be enough slack to allow the trunk and garden hose to move as a unit.
- 5. Cut the stakes off below the canopy to prevent wounds to branches.
- Inspect and loosen wires periodically as the tree grows. Remove stakes as soon as possible.

Planting Shrubs

Follow same procedures as for planting trees. Be sure the plant crown is at or above the final grade to avoid crown rots.



8/96
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Landscape Checklist

Right of	f way		-
☐ Yes	☐ No	\square N.A.	Are recommended trees and shrubs being used?
☐ Yes	\square No	\square N.A.	Are desert trees provided at least 3 per 100 feet
☐ Yes	□ No	□ N.A.	Do Ironwoods compose 20% of plantings?
☐ Yes	\square No	□ N.A.	Are shrubs provided at least 5 per 100 feet
☐ Yes	□ No	□ N.A.	If granite is used, is it desert colored and 3/4" minimum size?
☐ Yes	☐ No	□ N.A.	If boulders are used, are they buried to 1/3 their height?
☐ Yes	\square No	□ N.A.	Are provisions made for maintenance and irrigation?
☐ Yes	\square No	□ N.A.	Are utility structures screened with appropriate material and color?
☐ Yes	\square No	□ N.A.	Is existing vegetation identified?
☐ Yes	\square No	□ N.A.	Are existing plants that need to be removed planned for relocation?
Parking	2		
`	•	□ N.A.	Are parking areas screened by plantings, walls or earth berms, with plantings a minimum of 6' deep, 2' high, and containing one canopy desert tree at least every 30'?
☐ Yes	□ No	□ N.A.	Are parking areas interspersed with landscaped islands totaling 25% of parking area?
☐ Yes	□ No	□ N.A.	Is there a minimum of one canopy tree per ten parking spaces?
☐ Yes	□ No	□ N.A.	Are there any parking spaces farther than 50' from a canopy tree?
☐ Yes	□ No	□ N.A.	Are trees surrounded by 300 sq. ft. of permeable space?
Recrea	tion Pat	t h s	
☐ Yes	□ No	□ N.A.	Are desert color curbs ribboned or rolled?
☐ Yes	□ No	□ N.A.	Is the rec path 6' wide, desert colored, salt finish and meandering?
☐ Yes	□ No	□ N.A.	Is the rec path a maximum distance from the road?
☐ Yes	□ No	□ N.A.	Is the landscape architect identified that will lay out the rec path?
Washe	s		
☐ Yes	□ No	□ N.A.	Are natural washes identified by size, location, depth, and flow?
☐ Yes	□ No	□ N.A.	Are they pristine or altered; how are they treated?
Genera	ıl		
☐ Yes	□ No	□ N.A.	Are total numbers of each type of plant listed?
☐ Yes	□ No	□ N.A.	Are the trees at least 15 gallon?
☐ Yes	□ No	□ N.A.	Are the planting instructions correct?
☐ Yes	□ No	□ N.A.	Are existing plants identified by size and type?

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