

The Drought Tolerant Garden

LOS ANGELES COUNTY
HANDBOOK

MORE THAN 500 DROUGHT TOLERANT PLANTS, PLANT
DESIGNS, GARDENING HOW-TO, AND NURSERIES NEAR YOU!



Made possible by
The County of Los Angeles © 2012



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Written and Designed by



www.greengardensgroup.com



Photos top to bottom: 1-2, Marilee Kuhmann 3, Pamela Berstler

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What is a drought tolerant garden?

It's a garden filled with plants that can get by on rain-fall alone. When these plants are properly grouped according to soil, water and sunlight needs, they don't require any extra water. Sure, you say, that works in Pennsylvania, or Florida, or Oregon where it rains all the time. But this is Los Angeles County! We water here.

We don't have to irrigate. And we might not always be able to. Fresh water is a valuable resource and our local supply is not being replenished. We bring in most of our water from other places, and the cost of that is very expensive. We currently use at least half of our drinking water to irrigate our lawns and gardens.

By making our gardens more climate appropriate, we can have beautiful, lush gardens full of flowers, herbs, fruit, even grass and meadows, at a fraction of the water cost. We can enjoy our amazing climate and outdoor lifestyle, and spend less time and money taking care of our gardens. It's not difficult, but it does require some time and some work to transform your landscape into a drought tolerant garden.

In the pages that follow, we'll show you how to make this transformation! You will find a model plant design that you can adapt to your home, plant lists to help you shop for your garden, and all the information you need to get started. Now dig in!

five perfect plants

1. *Salvia spathacea*
Hummingbird Sage

2. *Verbena lilacina* 'De La Mina'
Lilac Verbena

3. *Vitis californica*
'Roger's Red'
Grape

4. *Heteromeles arbutifolia*
Toyon

5. *Galvezia* 'Firecracker'
Firecracker Island Bush
Snapdragon

Top photo: Marilee Kuhlmann Plants: 1-2. Marilee Kuhlmann 3. Andrew Takeuchi 4. Marilee Kuhlmann 5. Krissy Hoitt

Plan to work

Use the model plant design, plant list and guidelines in this handbook to select the plants for your garden and figure out how many you'll need. Bring your shopping list to your local nursery, and ask them to order what they don't have in stock. Start a Garden Journal to keep track of what you are planting, where and when. Use the Get To Know Your Garden section of this handbook to create your own site plan.

Work the plan

CLEAN. Remove any trash, weeds, dead plants, old furniture, etc.

EDIT. Decide which (if any) of your healthy plants will continue to thrive in your new drought tolerant garden, and remove everything else.

GRADE FOR RAIN. Move your soil around (see p. 9 & p. 32-33) to capture rainfall in your garden. After you've started planting, you don't want to be moving soil.

PREPARE YOUR SOIL. Remove unwanted lawn, do the soil tests (see p. 30) and follow the recommendations to build living soil (see p. 34-37).

LAY OUT YOUR PLAN. Get all your plants together and spread them out over the garden before you start digging. It's easier on you, and the plants, if you work out the layout before anything is put in the ground.

PLANT. Your investment will pay off (and your plants will thrive) if you follow the How-To guidelines in this handbook (see p. 38).

IRRIGATE WISELY. If you are installing a surface drip system, it is easiest to lay out after your plants are in the ground. If you are adjusting/updating your existing system, do any trenching before you plant, and fine tune sprinklers and emitters after planting.

MULCH. It's the secret to garden success. Don't forget this step.

TEND WITH LOVE. Water your new plants, weed the garden, and most importantly, watch for trouble. Your drought tolerant garden should require less care than a lawn. So, give your garden some love, but don't overwater or reach for the fertilizer!

Garden like a pro

When professionals transform a garden, they work differently than most home gardeners. Why? They can't afford to fail, so follow their lead for success.

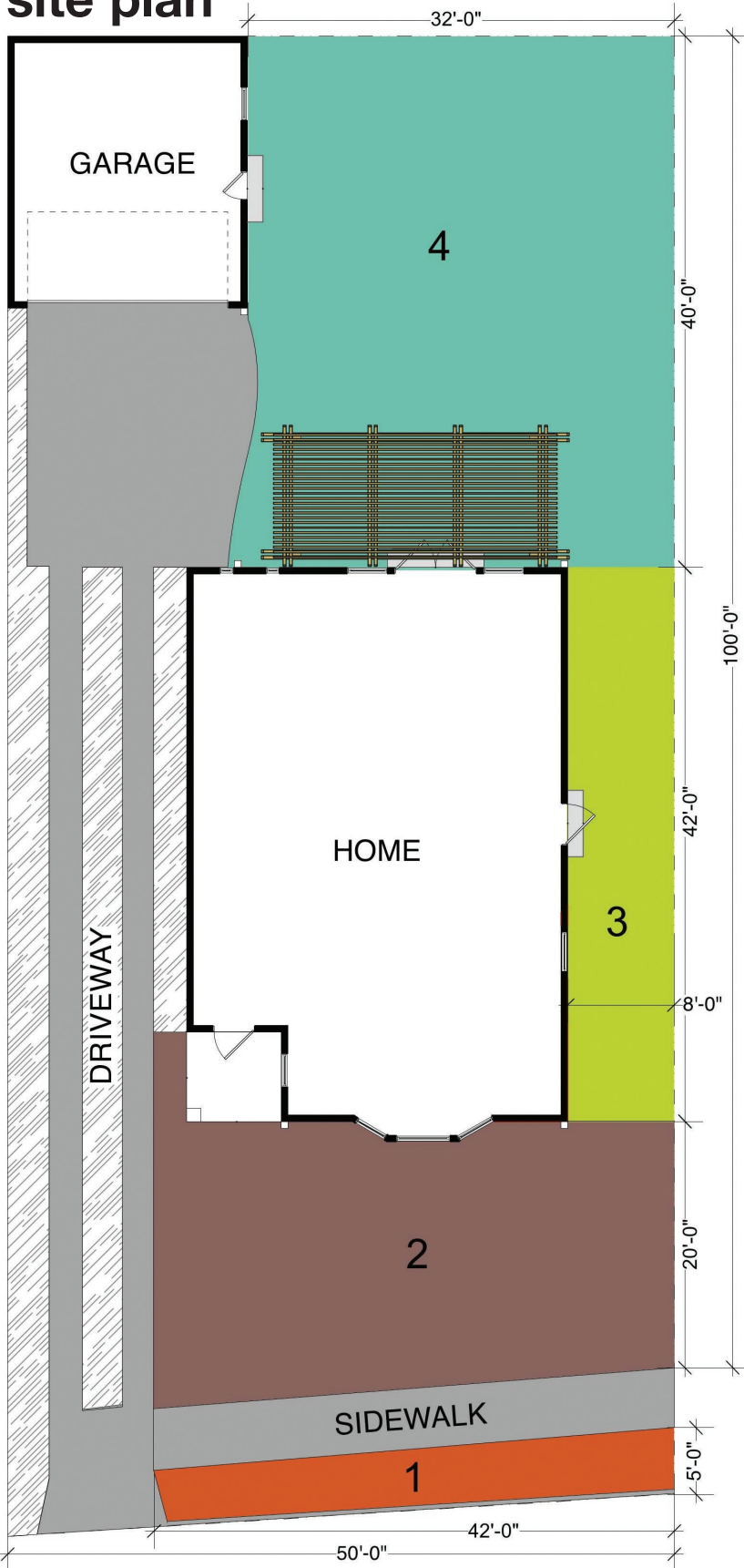
PLANT only in the cooler, wetter season (Fall through Spring). LA climate-adapted plants, especially the natives, are much happier if you plant them between November and March. This gets them settled and watered by the rains before the Summer heat convinces them to take a Summer siesta.

CHANGE one section at a time, but plan to tackle it all eventually. Home gardeners often haphazardly add a plant here and there, and end up mixing together plants with different needs. Instead, pick one section (or more) of your garden that you can completely remodel. After your whole garden is converted, and growing, you can fill in a few plants here and there every Winter.

need help?

Professionals are standing by, eager to help. Garden Designers and Landscape Architects can help redesign your garden, or just coach you through the process, and Landscape Contractors can do the work. If you work with a gardener, make sure they understand what you're doing and why. Many professional gardeners are new to drought-tolerant gardening, and their good intentions can quickly destroy your drought tolerant garden. To find contact information for professional help (see *Resources and Index* p. 46).

site plan



How do you use this handbook?

Think of the model plant design as a basic recipe (for cookies, say) and make it your own by adding or subtracting items (chocolate chips? walnuts? sprinkles?).

FIND your community on the LA Climate Zone Map, then find the plant list for that zone.

LOOK at your garden, and at the model plant design. Go to the Get To Know Your Garden section of this handbook and use the site evaluation tools to adapt the model to fit your particular site.

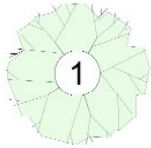
PICK a site section (e.g. Parkway), and choose the plants from your zone that fit the section. We've included a shopping list for you to fill out (see p. 48)!

For example, look at the Groundcover options and choose just one plant type to keep it simple. Or go a bit crazy and try them all! Take your shopping list to your local nursery. They can order whatever plants they don't have in stock.

Don't forget to read all the how-to notes before you start planting. A truly drought tolerant garden isn't difficult to plant or maintain. In fact, it's a lot easier to take care of and uses a LOT fewer resources (money, water, time) than your old garden. But we have a few new rules to get your drought tolerant garden growing.

site sections	
1	parkway
2	front yard
3	side yard
4	backyard

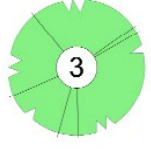
plant legend



1. STREET TREE
Shade trees approved by your city to plant between the street and the sidewalk.



2. SHADE TREE
Medium to large trees with dense canopies that provide shade during hot summers.



3. SMALL TREE
Small to medium trees that shade your patio but not your whole garden.



4. VINE
Climbing vines can cover fences, walls and arbors, giving shade, flowers and sometimes fruit.



5. PERENNIAL
Flowering plants, evergreen or dying back and regrowing every spring.



6. GROUNDCOVER
Low, spreading plants that are a living mulch for your soil.



7. SWALE PLANT
Plants that survive winter flooding and dry summers with no extra water.



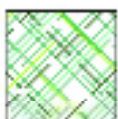
8. GRASSES
Medium and large clumping grasses that add texture, movement and color to your garden.



9. HEDGE/PRIVACY
Large shrubs and small trees to plant in a row for privacy and screening.

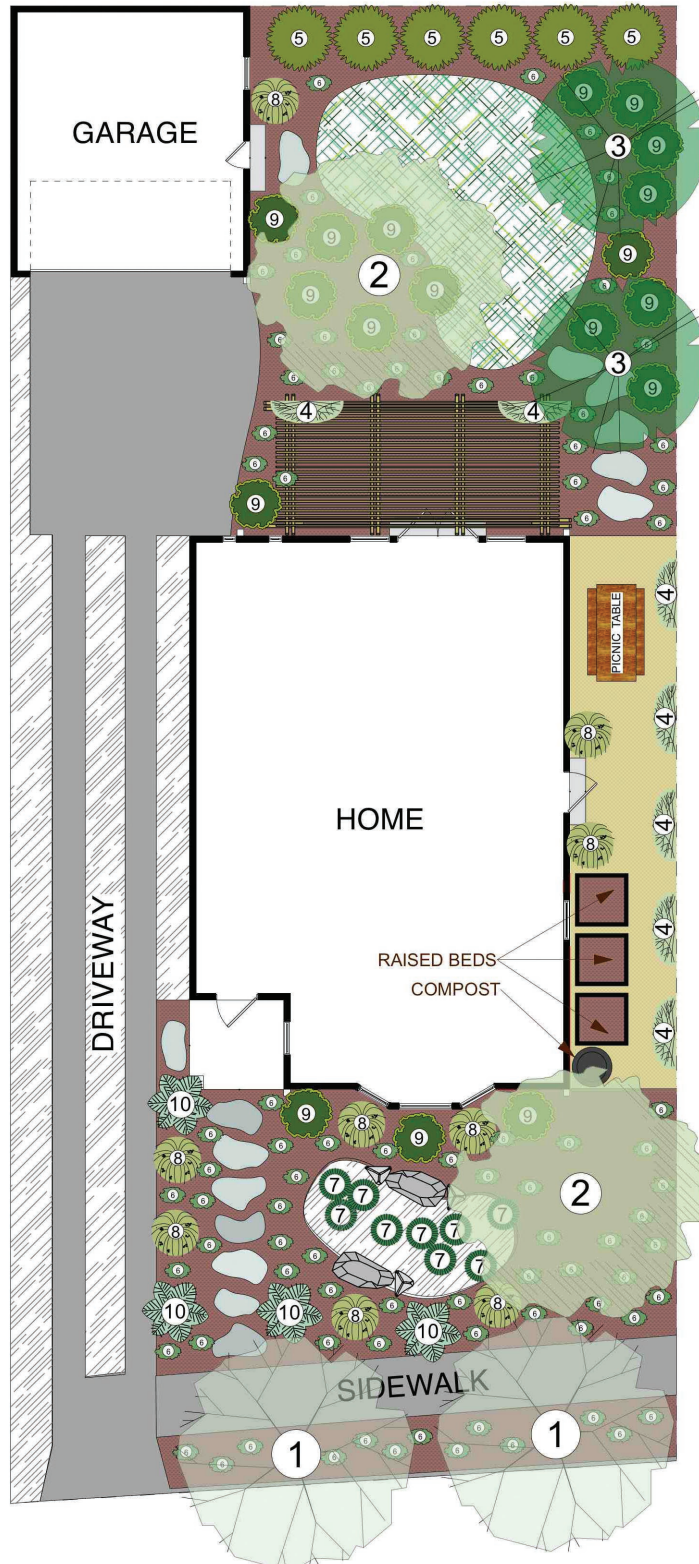


10. FOCAL PLANT
Architectural, sculptural plants that look good all year and add visual interest.



11. MEADOW
Low grasses and grasslike plants. Use these for a drought tolerant lawn. Mowable, too.

plant design



materials legend

 gravel

 decomposed granite (DG)

 mulch



boulders

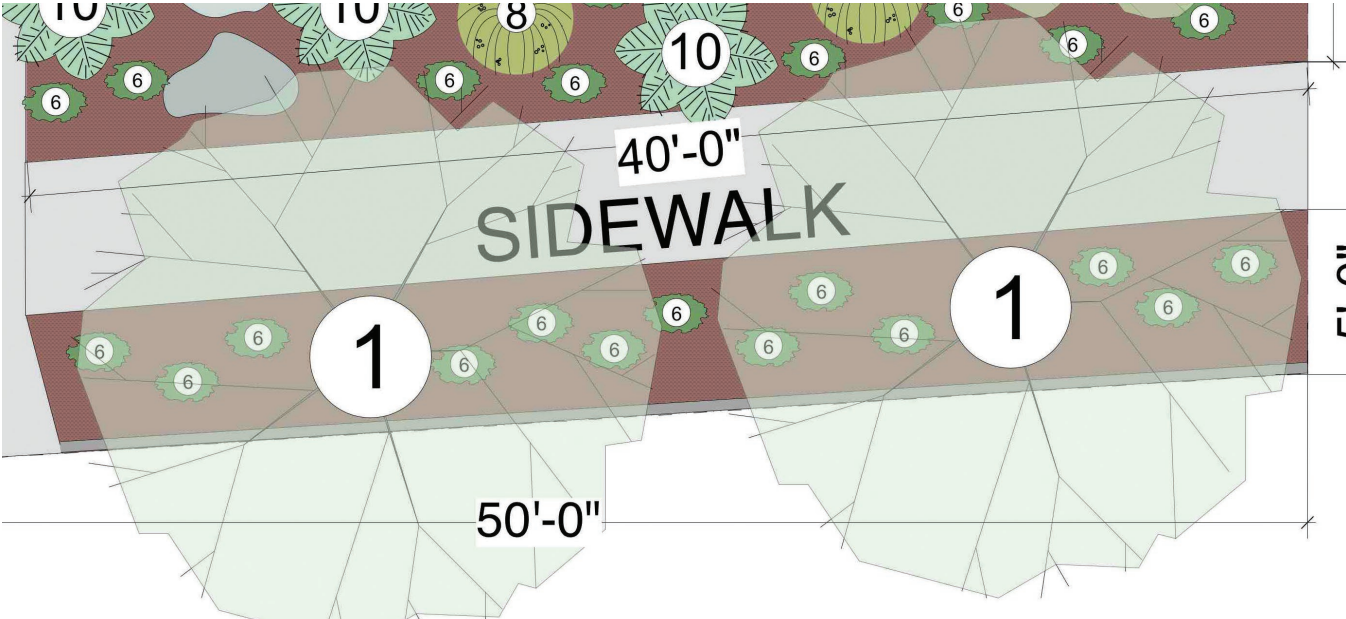


flagstone

site plan & plant design

1

PARKWAY



Parkway strips are a great place to start, because they're one of the smallest planting areas. Parkway strips are generally public property maintained by private property owners – so while you don't own the parkway, you are responsible for maintaining it. Even though they're small, parkways present some particular challenges.

CARS! Unless you live on a no-parking street, car doors will open onto the curb and into your parkway strip. People need some space to get out and walk around their cars. However you decide to plant your parkway strip, be sure to leave at least 18" (or more) as a step-out area that is clear from the edge of the curb for those doors to swing open and allow people to move. Consider placing bricks, pavers, gravel or decomposed granite in this area; or just spread mulch. Try not to plant in this step-out area. Keep your plants back from this edge to protect them from the damaging foot traffic.

TREES. If your parkway already has nice big street trees, then you also have nice big roots. Those roots may even be above ground, moving the concrete and otherwise causing trouble. Respect the roots – don't dig around them, cut them or otherwise bother them. Plant only in areas where the roots are not visible, and never closer than 24" from the trunk of the tree.

five great groundcovers



- 1. *Achillea millefolium* 'Island Pink'
- 2. *Erigeron glaucus* 'Wayne Roderick'
- 3. *Salvia* 'Bees Bliss' 'Bees Bliss' Sage
- 4. *Fragaria californica* California Strawberry
- 5. *Calylophus hartwegii* Sundrops

photos: 1. Pamela Berstler 2-5. Marilee Kuhlmann

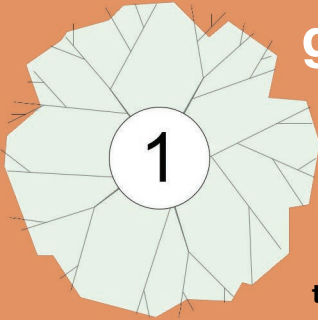
UTILITIES. Your water meter and other pipes and utilities are often found in the Parkway. Be sure to CALL DIG ALERT (Dial 811) at least two days before you dig so marks can be made to avoid underground cables and pipes. Hitting a gas line or water main is no laughing matter!

IRRIGATION. Many parkways are mere strips. If the area is less than 10 feet wide, you should not be using spray irrigation because it is too difficult to keep water off the street or sidewalk when they are in use. Consider hand watering or connecting your parkway to the closest drip irrigation line in the front yard. If your front yard and parkway are sharing irrigation, make sure your plants in both sections have similar water and sun needs.

RULES. Many communities in LA County have specific rules and guidelines for parkway

plantings. Check with your local planning department and see what their rules are. For example, these rules can include visibility requirements (this affects the height of the plants you use) and plant species requirements (only certain plants are allowed by some communities). In the Unincorporated areas of LA County, you must get a permit from the Public Works Department before removing or planting a tree in the parkway. Don't forget to check your local community rules.

USE COMMON SENSE. Even if there aren't rules in your area, make sure there is good visibility for cars to see oncoming traffic (people and cars). Consider the parkway a high-traffic area and avoid unfriendly plants (like prickly cactus). Don't leave big holes open overnight, avoid creating tripping hazards, and help keep everyone safe!



get free street trees!

Most communities have strict street tree guidelines, so check with your local community street tree or planning department before ordering, buying or planting trees. Many communities will give you FREE trees to plant yourself, and some will even plant them for you; so give your city a call!



photos: Pamela Berstler

2 FRONT YARD

What is a front yard, and what does it do? Many front yards in LA County are just yards. Maybe a few tired shrubs hide the foundation of the house and a big stretch of grass runs out to the sidewalk. This grass is rarely used by people, though it is often popular with passing dogs. A traditional front yard doesn't really do anything except fill space between the house and the street and use lots of water and maintenance time and energy.

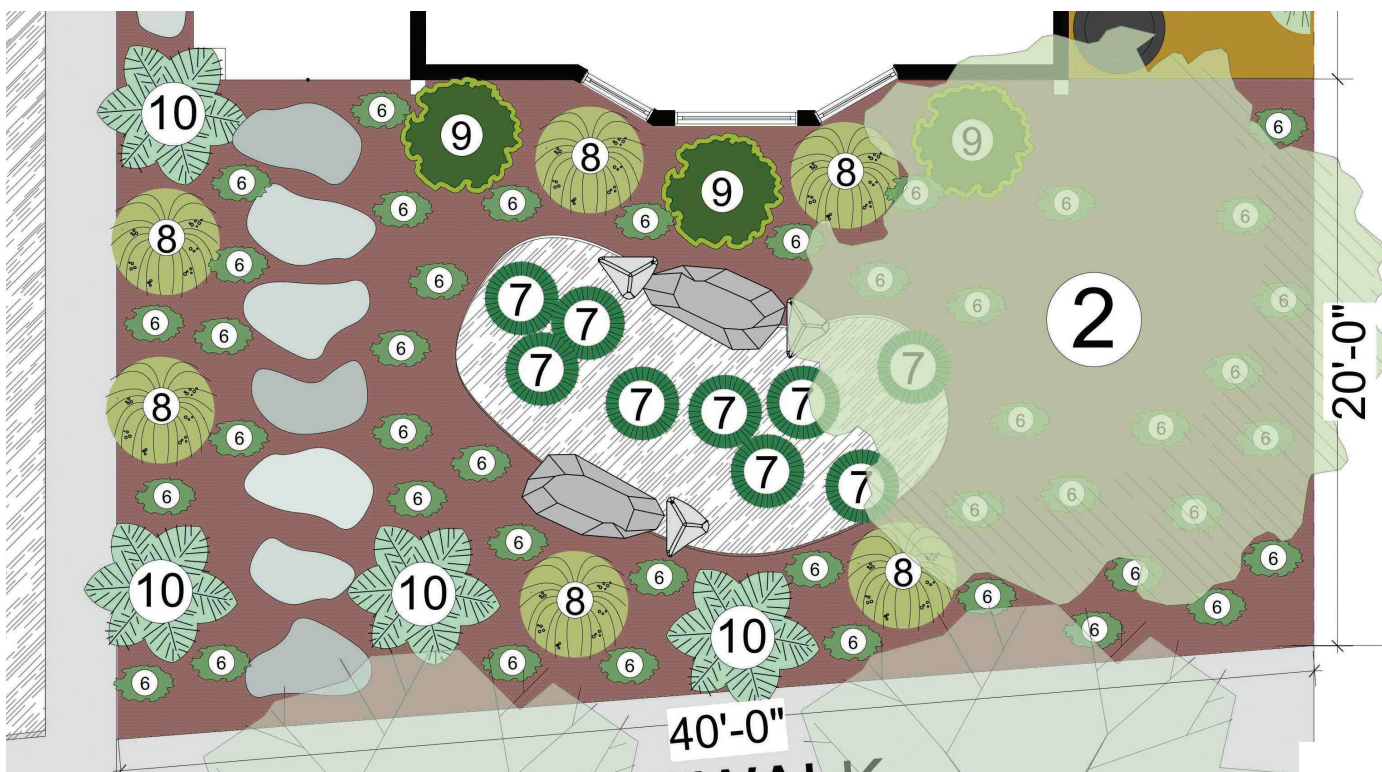
A drought tolerant front yard can be so much more! It can give you shade and privacy; it can provide habitat for birds and butterflies; it can feed you and your friends (depending on the rules in your community); it can be an outdoor living room, creating a friendlier and safer neighborhood; and most of all it is your last chance to capture and filter our precious rain before it runs into the storm drain and right into creeks, rivers and the ocean! That seems like a lot of work for this small space.

Our Plant Design is a model that you can modify to fit your own front yard. Don't forget that a front yard needs a good, safe path to your front door. This Plant Design uses pieces of flagstone, but your path also can

be concrete pavers, brick, or concrete. Just make sure that any path is wide enough and safe for walking (level stones, no tripping edges). A good guideline is to leave a 3' minimum width for pathways; 5' is good for two people walking side-by-side.

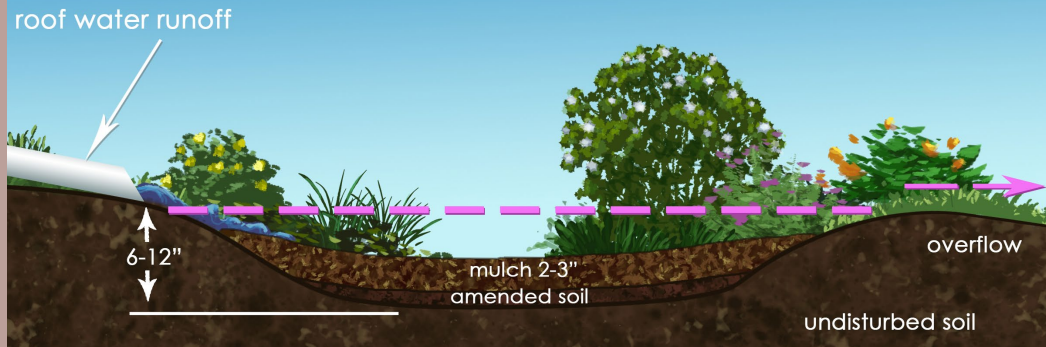
Feel free to mix and match the plants on our list to fit your taste. Don't care for fluffy grasses? Switch them out with small, native evergreen shrubs. Or keep it super simple and just use groundcovers everywhere. Already have a few well-established plants that you love and that will survive on very little water? Keep them, and choose plants from the list that you think will look nice as companions.

You may be wondering about the gravel and rocks in the middle of the garden. Meet your new rain garden (aka swale)! Sounds fancy, but really, it's very simple. Your rain garden is just a little soil basin to slow, spread, and sink some rain water into your front yard. Follow the simple instructions in the sidebar on the next page and direct your downspouts into the basin. Your soil and plants will be really happy that you did! It's all part of creating a truly drought tolerant garden.



simple rain garden recipe

Your soil says "It's Swale!"



Ingredients:

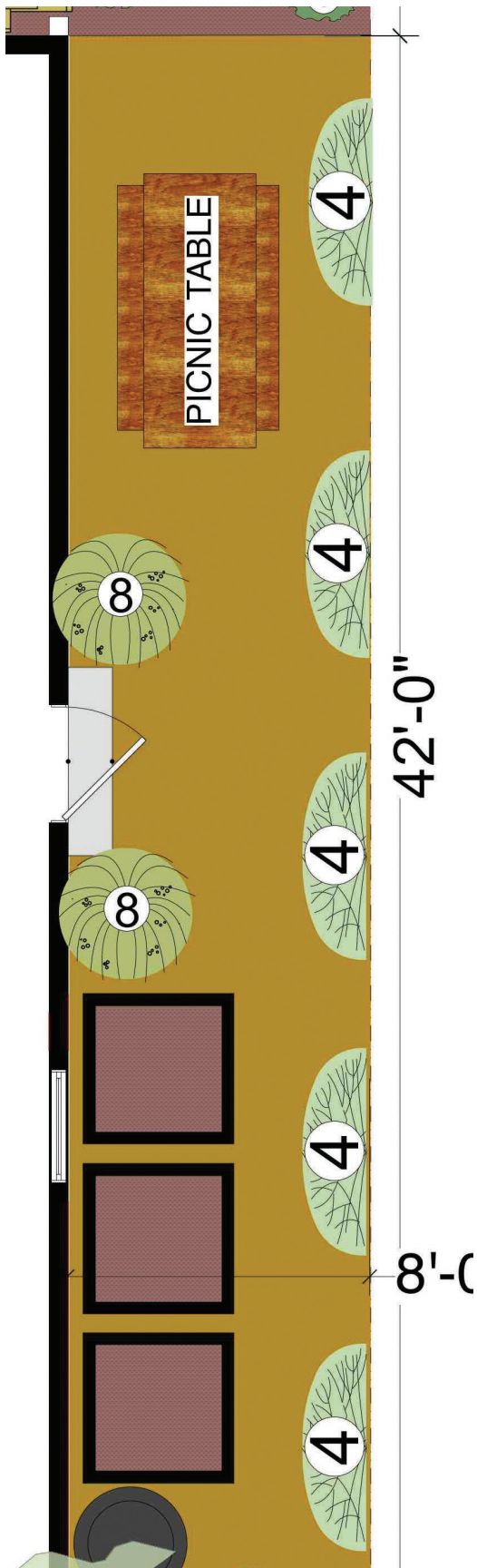
- **YOUR SITE PLAN**
with Water In Your Garden notes
(see p. 27)
- **SHOVELS & RAKES**
- **COMPOST, WORM CASTINGS**
- **LIVING WOODCHIP MULCH**
- **HOSE WITH SPRAY NOZZLE**
- **SWALE PLANTS**

Call DIG ALERT (811) at least two days before digging!

- ① Get to know your rain. Make your site plan and note where rain falls, and how it flows. Look for an open, mostly flat low spot to direct water towards in the front yard, or anywhere with the center at least 10' away from the foundation of the house and 3' away from the sidewalk. Calculate the best size of your rain garden (see p. 33).
- ② Lay out your rain garden. Spread out a garden hose to outline the shape. The area must be basically flat or slightly bowl-like, and not sloping back toward the house. Be careful around trees. Don't put your rain garden under a mature tree or disturb any big roots. Remove all plants (including grass) from the area and start digging.

- ③ Test how fast your soil drains. If you have compaction, try to break through it with a shovel or a pitchfork (see p. 30).
- ④ Dig a basin that is between 6" and 12" deep at the center. Slope the sides gently to make a sloping bowl, not a cylinder. Mound extra soil around the bowl to increase capacity. Put down at least an inch of compost or worm castings to activate your soil.
- ⑤ Direct downspouts into the basin area, moving the rainwater through gravel lined ditches or above-ground drainage pipes. Also, make an overflow path so extra water has a direct channel to the street and not back towards your house.
- ⑥ Plant swale plants in compost on the bottom. On the mounded sides, choose plants that like their feet drier. When it rains, the basin will fill up, creating a temporary pond until the water soaks into your soil. All the water should be gone in 24 hours. Make sure to mulch (2-3" deep) around your plants.
- ⑦ Swale plants are special. They can be completely submerged in rain water and still survive our hot dry Summers without extra water. They're sort of plant Super Heroes that way!

3 SIDE YARD



Many homes have a narrow

side yard, just big enough for the garbage cans. But many also have some extra space - perhaps behind the garage, or along the side of the house. This area can be the perfect place for a sandbox or a dog run; or maybe, if it gets at least 6 hours of direct sunlight, this is a great place for growing vegetables and herbs. A few simple raised beds, a couple of big pots full of flowers (or dwarf fruit trees) and a picnic table turn the side yard into a very useful space. It's even better if there is a door to your kitchen!



photo: Marilee Kuhmann



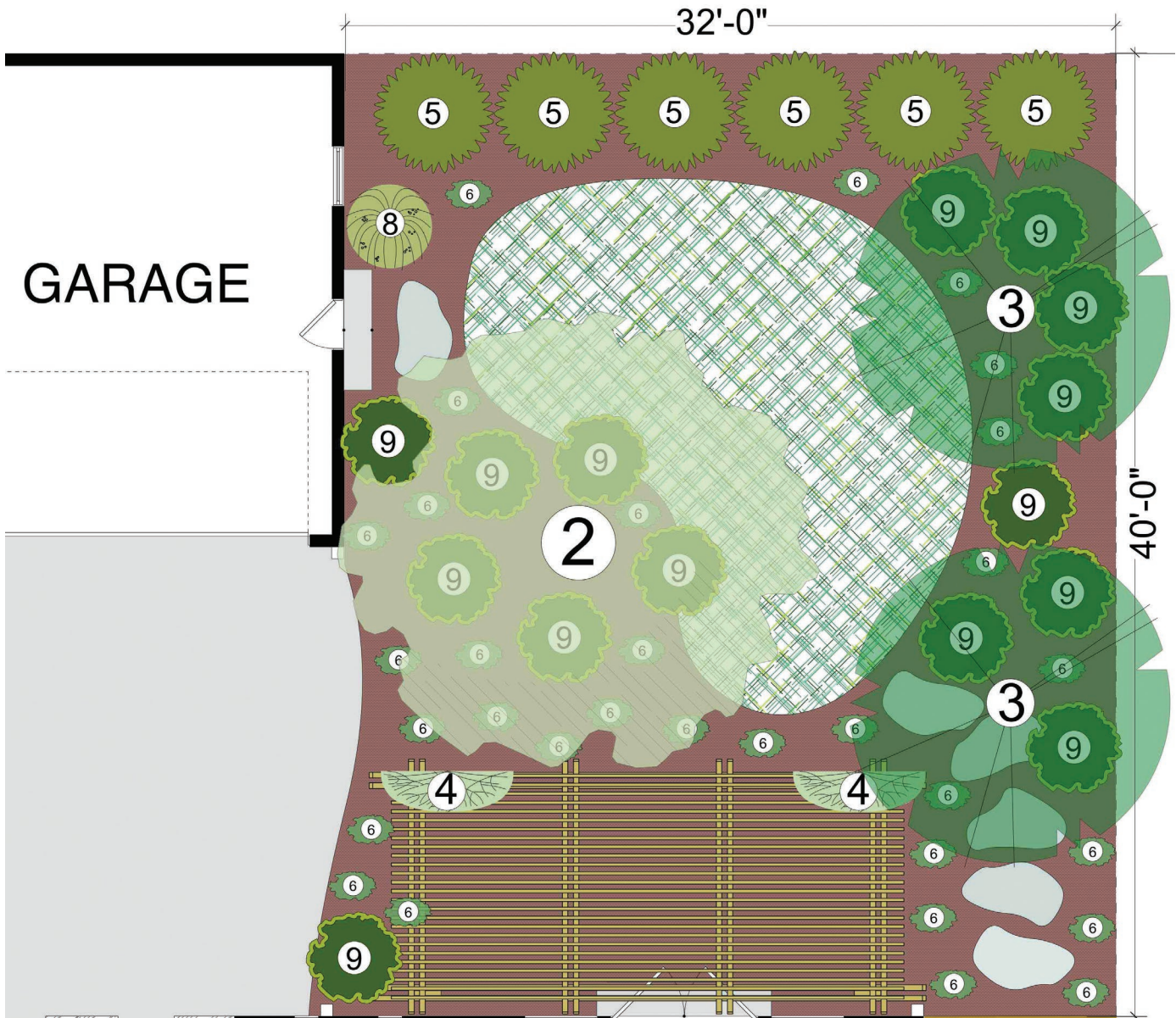
your garden floor

doesn't have to be concrete or wood to be useable and clean. Paving stones, brick and flagstone all can be set on a thick gravel base, allowing water to soak through them and into the soil. Gravel, decomposed granite, and even a thick layer of mulch can cover your soil, keeping mud and dust away from your feet. Use these inexpensive materials to cover the "floor" around your raised beds, and under your picnic table. Consider installing landscape edging to keep the floor materials separated from the planted areas.

vegetables can grow right in the ground, tucked in amongst the rest of your garden plants, especially during Winter. But in the drought tolerant garden very few vegetables will be happy with the tiny bit of water that's available during our dry Summer and Fall. Vegetable plants work hard to make tomatoes and squash, and they need extra food and water so they can feed you! It's best to give veggies a special place where they can get all the extras they need without over-watering the rest of your garden. Raised beds, simple boxes made of untreated wood, are a great solution and help keep your garden looking tidy. Fill the boxes with at least 50% organic compost mixed with 50% garden soil, or use more compost and layer it with straw for "vegetable soil lasagna." For a truly low-water garden, line the bottom with plastic and create a "wicking bed" (see *Resources p. 46*). However you decide to grow, make sure your vegetables have their own irrigation valve so you can give them the water they need without drowning your drought tolerant plants.



4 BACKYARD



This backyard plan features a shaded patio next to the house, providing both outdoor living space and helping to keep the home cool. It also has a large shade tree, shading both the house and the garage, small trees for shade and privacy, and a privacy hedge along the back of the yard. These elements can be moved around to fit your specific garden. Perhaps you'd like to move the privacy hedge to the side and the shade tree to the very back. Try it! Look at your site plan and consider the movement of the sun through your garden, both in Winter and in Summer; then, think about when, and where, you want shade and screening.

Mature Size	Number of Plants Per Square Feet
6"	
8"	2.25
10"	1.50
12"	1
15"	.64
18"	.44
24"	.25
35"	.11
48"	.06
60"	.04
4	

This chart helps you figure out how many plants you need per sq. ft. based on the mature size of the plant.

in the center of our model plan is a small lawn. Actually, it's a drought tolerant meadow! This meadow may want a bit more water than the rest of your garden, but it doesn't need anything close to what regular grass does. And mowing? That's optional! Some of the plants we list can be mown, just like regular "lawn." But here's the bonus - when watered properly, these grasses grow much more slowly, so they only need to be mown about once a month. Less water, less maintenance, less hassle, and more beautiful! You can mix in annual flower seeds (like our beloved California Poppy) and native or Mediterranean bulbs for a truly beautiful, idyllic, Springtime meadow. Or keep it simple, green and short with buffalo grass. Either way, there's still space for a Slip'N Slide ®, and you'll have more time to play.



photo: Marilee Kuhlmann

LA CLIMATE ZONES

Find your community and note your climate zone using the map below. Then turn to the plant lists, which are categorized by zone and find plants that work in your local climate.



Zone 1 Santa Catalina Island

Due to the sensitive ecological nature of many areas within this zone, a plant list has not been included in this guidebook. There may be additional regulations affecting properties in this zone that should be referenced before developing landscape plans. When planning a landscape project, please consult the appropriate land use authority to ensure compliance with local requirements.

Zone 2 Immediate Coast

This area is largely developed and has a generally flat topography with elevations close to sea level. Salty ocean air, coastal fog and mild temperatures distinguish this zone from the rest of the County. Annual rainfall is \approx 13 inches. This climate zone is almost completely dominated by ocean influences.

Zone 3 Los Angeles Basin & San Fernando Valley 18

Most of this zone is intensely developed, with topography that is generally flat to mildly sloped, with many areas of low hills and valleys. This zone includes many microclimates, and temperatures can vary greatly between the foggy coastal areas, the deep valleys, and the higher mountain peaks. Annual rainfall also varies greatly from \approx 13 inches at the coast, \approx 15 inches downtown, to \approx 21 inches in the SF Valley. Freezing temperatures, frost, or even snow may be experienced in the foothills while it remains merely cool near the ocean.

Zone 4 Santa Monica Mountains

Due to the sensitive ecological nature of many areas within this zone, a plant list has not been included in this guidebook. There may be additional regulations affecting properties in this zone that should be referenced before developing landscape plans. When planning a landscape project, please consult the appropriate land use authority to ensure compliance with local requirements.

Zone 5 San Gabriel Mountains & Foothills 20

Most of this zone is in a natural state and is part of the Angeles National Forest. It claims several of the tallest peaks in Southern California. While North facing slopes can get less than 10 inches of rain annually, hillsides that face the LA and SF Valley basins average 34 inches, and some years get much more. In Winter, snows routinely fall at elevations down to 5,000 feet.

Zone 6 Inland Mountains (Grapevine, Castaic, Santa Clarita) 22

Much of this zone is still covered in its native (and truly drought tolerant) plant habitat, but development has been expanding rapidly. The East/West trending mountains generally have colder Winter temperatures than the rest of the County, including frost and snow. This area also has more extremes. On mountain peaks average yearly precipitation is 22 inches, while on desert slopes it is less than 7 inches. Most of this is in the form of snow. Mountain slopes are steep and windy, while some valleys are flat and calm.

Zone 7 Antelope Valley & Western Mojave Desert 24

This zone representing the desert portion of the County, is largely flat and uniformly dry, completely unlike the other zones. LA County's deserts, with the hottest days, coldest nights and lowest annual rainfall, require the toughest and most truly drought tolerant plants. Average annual precipitation ranges from \approx 3-7 inches, most of it coming in the Winter months.

How to read these plant lists. Plants on these pages are listed by their plant symbol from the plant design. Different options are listed for each category, with symbols after each plant name. These symbols note the plants' special needs and properties, so choose the plants you like best that will work for your garden. For example, if you need a low-growing plant with showy flowers, choose a *GROUNDCOVER* plant with this symbol .

Zone 2 Immediate Coast (Malibu to Long Beach)

Salty ocean air, coastal fog and mild temperatures distinguish this zone from the rest of the County. The drought tolerant plants listed for this zone may not do as well further inland. Likewise, plants listed for the other zones may not be tolerant of the salt, damp, or cool temps. This zone has a typical Mediterranean climate with wet, generally mild Winters and warm, generally dry Summers. The primary vegetation types are coastal salt marsh, coastal dune, and coastal bluff scrub.



STREET TREE

- Banksia integrifloia (*Coast Banksia*) [I
- Lyonothamnus floribundus (*Catalina Ironwood*) d[
- Umbellularia californica (*California Bay Laurel*) [



SHADE TREE

- Arbutus marina (*Hybrid Strawberry Tree*) [I
- Melaleuca linariifolia (*Snow in Summer*) d[I
- Quercus agrifolia (*Coast Live Oak*) d[=
- Quercus tomentella (*Island Oak*) d[=



SMALL TREE

- Arbutus menziesii (*Pacific Madrone*) d[
- Cercis occidentalis (*Western Redbud*)
- Leucadendron argenteum (*Silver Tree*) [I
- Prunus ilicifolia ssp. lyonii (*Catalina Cherry*)]d[



VINE

- Bougainvillea
- Calystegia macrostegia (*Anacapa Pink Island Morning Glory*) .[=
- Mascagnia macroptera (*Yellow Orchid Vine*)
- Pandorea pandorana (*Wonga-Wonga Vine*)
- Solanum jasminoides (*Potato Vine*)



HEDGE

- Ceanothus (*South Coast Blue Lilac*) d=
- Cordia boissieri (*Texas Olive*) [I
- Dendromecon harfordii (*Channel Island Bush Poppy*) d
- Myrica californica (*Pacific Wax Myrtle*) [



GROUNDCOVER

- Acacia redolens (*Desert Carpet*) I
- Achillea millefolium (*Yarrow*) .d
- Arctostaphylos 'Pacific Mist' (*Manzanita*) .d=
- Arctostaphylos uva-ursi 'Anchor Bay' (*Manzanita*) d=
- Arctostaphylos uva-ursi 'Point Reyes' (*Manzanita*) d=
- Armeria maritima californica (*Sea Thrift*) .
- Aster chilensis (*Point Saint George Aster*) .



Quercus agrifolia
Coast Live Oak



Dendromecon harfordii
Channel Island Bush Poppy

photos top to bottom: Marilee Kuhlmann, Krissy Hoitt

Camissonia cheiranthifolia (*Beach Evening Primrose*)
 Fragaria chiloensis (*Beach Strawberry*) .]
 Lessingia filaginifolia var. californica (*Carmel Aster*)
 Satureja douglasii (*Yerba Buena*)]]
 Senecio mandraliscae (*Blue Chalksticks*)]
 Thymus pseudolanuginosus (*Woolly Thyme*)]]



RAIN GARDEN

Juncus patens (*Common Rush*) .
 Russelia equisetiformis (*Coral Fountain*) .d[]
 Sisyrrinchium californicum (*Golden-eyed Grass*) .



GRASS

Achnatherum hymenoides (*Indian Rice Grass*)]
 Bothriochloa barbinodis (*Cane Bluestem Grass*) .d
 Melica imperfecta (*Coast Range Melic*) .
 Muhlenbergia rigens (*Deer Grass*) .



PERENNIAL

Calylophus hartwegii (*Sundrops*) d[
 Cistus hybrids (*Rockrose*)]
 Coreopsis maritime (*San Diego Sea-Dahlia*)
 Encelia actoni (*Acton Brittlebush, Bush Sunflower*) d
 Encelia californica (*Brown-Eyed Susan*) d
 Eriogonum arborescens (*Santa Cruz Island Buckwheat*) d=
 Eriophyllum nevinii 'Canyon Silver' (*Island Snowflake*) .
 Galvezia 'Firecracker' (*Island Bush Snapdragon*)
 Helianthus tuberosus (*Jerusalem Artichokes*)]]
 Mimulus aurantiacus (*Bush Monkey Flower*)
 Mimulus cardinalis (*Scarlet Monkey Flower*)
 Mimulus guttatus (*Seep Monkey Flower*) .
 Penstemon heterophyllus Margarita BOP (*Penstemon*) .[
 Salvia 'Poza Blue' (*Sage*)]d[
 Salvia leucophylla 'Point Sal' (*Purple Sage*)]d[
 Salvia munzii (*San Diego Sage*)]d[
 Verbena lilacina 'De La Mina' (*Verbena*) .d
 Viguiera (Bahioopsis) laciniata (*San Diego Sunflower*) .d
 Origanum majorana (*Sweet Marjoram*)]]



FOCAL

Aeonium arboreum (*Black Rose*)]
 Aloe brevifolia (*Aloe*)]
 Dianella caevulea (*Cassa Blue*) []
 Dracaena marginata (*Madagascar DragonTree*) []
 Dudleya brittonii (*Britton Dudleya*) =
 Dudleya hassei (*Catalina Island Dudleya*) =
 Dudleya pulverulenta (*Chalk Dudleya*) [=



MEADOW/TURF

Agrostis pallens (*Dune Bent Grass*) d.
 Artemisia pycnocephala 'David's Choice' (*Wormwood*)
 Carex pansa (*Dune Sedge*) .d

ICONS:

Full Sun
 Part Sun

Full

Shade

Showy
 Flowers

Sandy Soil
 Clay Soil

Fire
 Resistant

. Swale

]Edible
 Parts

d Habitat

[Evergreen

=No

Summer
 H2O

I Non Native

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Zone 3 Los Angeles Basin & San Fernando Valley

This zone includes many microclimates, and temperatures can vary greatly between the coastal areas, the deep valleys and the higher mountain peaks. In general, this is an area with excellent water infiltration rates, conducive to rain gardens. Rainfall also varies greatly; a storm can drop less than an inch of rain in downtown Los Angeles but when it reaches the foothills, in South Pasadena, it may drop two or three times that amount. Freezing temperatures, which are a big deal to plants, also vary — there may be frost, or even snow, in the foothills while it remains merely cool near the ocean. This zone is mostly a Mediterranean climate with wet, generally mild Winters and warm, generally dry Summers. The main natural vegetation types are coastal sage scrub, chaparral, grassland, riparian scrub and woodlands, oak woodlands, and walnut woodland.



STREET TREE

- Brachychiton populneus (*Bottle Tree*) [I]
- Fraxinus velutina (*Modesto Ash*)



SHADE TREE

- Arbutus menziesii (*Pacific Madrone*) d[
- Pistacia chinensis (*Chinese Pistache*) I
- Quercus tomentella (*Island Oak*) d[=



SMALL TREE

- Cercis occidentalis (*Western Redbud*)
- Cupressus abramsiana (*Santa Cruz Cypress*) [
- Umbellularia californica (*California Bay Laurel*)][



VINE

- Hardenbergia comptoniana (*Lilac Vine*) [I]
- Lonicera subspicata denudata (*San Diego Honeysuckle*)
- Pyrostegia venusta (*Flame Vine*) I
- Vitis californica 'Roger's Red' (*California Wild Grape*)]



PERENNIAL

- Asclepias fascicularis (*Narrowleaf Milkweed*) d.
- Encelia californica (*Brown-Eyed Susan, Coast Sunflower*) d
- Epilobium (Zauschneria) canum 'Uvas Canyon' (*California Fuschia*)
- Eriogonum giganteum (*St. Catherine's Lace*) d
- Eriogonum grande var. rubescens (*Red Buckwheat*)
- Felicia fruticosa (*Shrub Aster*) I
- Galvezia speciosa 'Firecracker' (*Island Bush Snapdragon*) d[
- Helleborus argutifolius (*Corsican Hellebore*) I
- Heuchera maxima (*Island Alum Root*) [
- Lavatera assurgentiflora (*Malva Rose*) [
- Lepechinia fragrans (*Wallace's Pitcher Sage*) d[.
- Limonium californicum (*Western Marsh Rosemary*) [
- Linum perenne (*Perennial Blue Flax*) I



Fremontodendron californicum
Flannel Bush



Mimulus cardinalis
Scarlet Monkey Flower

photo: Marilee Kuhlmann

Mimulus cardinalis (*Scarlet Monkeyflower*) .
 Penstemon spectabilis (*Showy Penstemon*) [
 Ribes indecorum (*White Flowering Currant*) d]
 Ribes speciosum (*Fuchsia Flowering Gooseberry*) d]
 Salvia 'Poza Blue' (*Pozo Blue Sage*) d].
 Salvia apiana (*White Sage*) d][
 Salvia clevelandii 'Winifred Gilman' (*Sage*)]]
 Smilacina stellata (*Solomons Seal*) |
 Solidago californica (*California Goldenrod*) d.
 Verbena lilacina (*Lilac Verbena*) [.



GROUNDCOVER

Achillea tomentosa (*Woolly Pink*) d.
 Arctostaphylos edmundsii 'Carmel Sur' (*Manzanita*) d]
 Artemisia californica 'Montara' (*California Sagebrush*) d.
 Baccharis pilularis 'Pigeon Point' (*Dwarf Coyote Bush*) [.]
 Calendula officinalis (*Calendula*)]|
 Dymondia margaretae (*Dymondia*) [|



RAIN GARDEN

Erigeron glaucus 'Wayne Roderick' (*Seaside Daisy*) [.]
 Juncus patens (*Common Rush*) [.
 Muhlenbergia capillaris (*Hairawn Mulhy*) d|.



GRASS

Aristida purpurea (*Purple Three-Awn*) d
 Koeleria macrantha (*June Grass*) |
 Leymus (Elymus) condensatus (*Giant Wild Rye*) d[.
 Muhlenbergia rigens (*Deergrass*) [.]
 Nassella pulchra (*Purple Needlegrass*) d.



HEDGE

Arctostaphylos densiflora 'Howard McMinn' (*Manzanita*) d[
 Carpenteria californica (*Bush Anemone*) d[
 Ceanothus 'Concha' (*Ceanothus*) [
 Cupressus forbesii (*Tecate Cypress*) [
 Dodonaea viscosa (*Hopseed Bush*) d|[
 Fremontodendron californicum 'California Glory' (*Flannel Bush*) =
 Heteromeles arbutifolia (*Toyon*) [
 Prunus ilicifolia ssp. lyonii (*Catalina Cherry*) d][
 Rhus integrifolia (*Lemonade Berry*) d][
 Rhus ovata (*Sugarbush*) d][



FOCAL

Agave attenuata (*Agave*) [|
 Cordyline baueri (*Bauer's Dracaena Palm*) [|
 Kniphofia uvaria (*Red Hot Poker*) [|
 Romneya coulteri (*Matilija Poppy*)
 Russelia equisetiformis (*Coral Fountain*) d|[|.



MEADOW

Buchloe dactyloides (*Buffalo Grass*) |
 Carex pansa (*Dune Sedge*) [.]
 Carex praegracilis (*Clustered Field Sedge*) [.

ICONS:

Full Sun
 Part Sun
 Full
 Shade
 Showy
 Flowers
 Sandy Soil
 Clay Soil
 Fire
 Resistant
 . Swale
]Edible
 Parts
 d Habitat
 [Evergreen
 =No
 Summer
 H2O
 | Non Native

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Zone 5 San Gabriel Mountains & Foothills

Annual rainfall and temperature vary within this zone. Less than 10" per year can fall on North-facing slopes, while hillsides facing the LA and SF Valleys average 34" or more. Dealing with heavier Winter rains, especially in the wake of fires and mudflows, presents special challenges for this zone. Elevation changes affect temperature variations, which can also include snow. Rain gardens should be built with care - dig multiple shallow basins and check overflows. Plant communities include coastal sagescrub, chaparral, oak woodlands, riparian scrub and woodlands, montane forests, pinyon-juniper woodland, and Joshua Tree woodland.



STREET TREE

- Cassia leptophylla (*Gold Medallion Tree*) [I]
- Fraxinus dipetala (*California Ash*)
- Platanus racemosa (*Western Sycamore*) .



SHADE TREE

- Acer macrophyllum (*Big-Leaf Maple*) d
- Fraxinus dipetala (*California Ash*)
- Gleditsia triacanthos inermis (*Shademaster Honeylocust*) Po d
- Quercus engelmannii (*Engelmann Oak*) d [=
- Quercus kelloggii (*California Black Oak*) d =



SMALL TREE

- Arctostaphylos 'Dr. Hurd' (*Dr. Hurd Manzanita*) d [=
- Juglans californica (*Southern California Black Walnut*)]
- Olea europea (*Olive*) [I]
- Cercis occidentalis (*Western Redbud*)



VINE

- Aristolochia californica (*Dutchman's pipe*) .
- Campsis radicans (*Trumpet Vine*) I
- Clematis lasiantha (*Pipestem Clematis*) .
- Lonicera hispidula (*California Honeysuckle*)
- Tecoma capensis (*Cape Honeysuckle*) I



PERENNIAL

- Aquilegia Formosa (*Western Red Columbine*) .
- Asclepias fascicularis (*Narrowleaf Milkweed*) d .
- Cynara cardunculus var. scolymus (*Artichoke*)]I
- Dichelostemma capitatum (*Blue Dicks*) . =
- Heuchera 'Canyon Duet' (*Hybrid Coral Bells*) .
- Iris douglasiana (*Douglas Iris*) .
- Lepechinia fragrans (*Wallace's Pitcher Sage*) d
- Lupinus albus (*Silver Bush Lupine*)
- Mimulus guttatus (*Seep Monkey Flower*) .
- Monardella odoratissima (*Mountain Pennyroyal*)] .
- Rhododendron occidentale (*Western Azalea*)



Cassia leptophylla
Gold Medallion Tree



Iris douglasiana & Heuchera
Douglas Iris & Hybrid Coral Bells

photos top to bottom: Krissy Hoitt, Stephanie Bartron

Ribes malvaceum (*Pink Chaparral Currant*) d].
 Rosa californica (*California Native Rose*)
 Rosmarinus officinalis (*Rosemary*)]I
 Salvia 'Poza Blue' (*Sage*) d]
 Spiraea douglasii (*Western Spiraea*) .
 Woodwardia fimbriata (*Giant Chain Fern*)



GROUND COVER

Achillea millefolium lanulosa (*Mountain Yarrow*) .
 Adenostema fasciculatum var. prostratum (*Prostrate Chamise*) .

Arctostaphylos 'Emerald Carpet' (*Manzanita*) .=
 Baccharis 'Pigeon Point' (*Dwarf Coyote Bush*)
 Dichondra occidentalis (*Western Dichondra*) .
 Fragaria californica (*California Strawberry*) d].
 Montia perfoliata (*Miner's Lettuce*)]
 Teucrium chamaedrys 'Prostratum' (*Creeping Germander*) I



RAIN GARDEN

Adiantum capillus-veneris (*Maiden-hair Fern*) .
 Asarum caudatum (*Wild Ginger*)].
 Calochortus sp (*Mariposa Lily*)].=
 Echinacea purpurea (*Purple Coneflower*) I.
 Epipactis gigantea (*Stream Orchid*) .
 Juncus patens (*Common Rush*) .
 Lillum pardinalum (*Leopard Lily*) .
 Penstemon heterophyllus var. australis (*Foothill Penstemon*) .
 Pycnanthemum californicum (*Mountain Mint*) .
 Tritelia laxa (*Ithurial's Spear*)].



GRASS

Bouteloua gracilis 'Blonde Ambition' (*Blue grama grass*) d
 Dianella caerulea (*Blue Flax*) I
 Festuca glauca (*Blue Fescue*) I
 Muhlenbergia rigens (*Deergrass*) .



HEDGE

Berberis 'Ken Hartman' Hybrid (*Oregon Grape*) d
 Ceanothus 'Joyce Coulter' (*Joyce Coulter Ceanothus*) .=
 Cupressus abramsiana (*Santa Cruz Cypress*) [
 Garrya elliptica 'James Roof' (*James Roof Silk Tassel Bush*) d
 Heteromeles arbutifolia (*Toyon*) d[
 Mahonia pinnata (*California Barberry*) d
 Philadelphus lewisii (*Mock Orange*) I
 Rhamnus californica (*California Coffeeberry*)



FOCAL POINT

Aloe marlothii (*Marlothii Aloe*) I



Yucca recurvifolia (*Yucca*) I

MEADOW/TURF

Festuca californica (*California Fescue*) .
 Nassella pulchra (*Purple Needlegrass*) .
 Sesleria autumnalis (*Autumn Moor Grass*) I.

ICONS:

Full Sun
 Part Sun

Full

Shade

Showy
 Flowers

Sandy Soil
 Clay Soil

Fire
 Resistant

. Swale

]Edible
 Parts

d Habitat

[Evergreen

=No
 Summer
 H2O

I Non Native

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Zone 6 Inland Mountains (Grapevine, Castaic, Santa Clarita)

With the County's coldest Winters, and snow at higher elevations, annual rainfall average varies from 22" (mountain peaks) to just 7" (desert slopes). Mountain slopes are steep and windy, while some valleys are flat and calm. Rain gardens should be built with care - dig multiple shallow basins and check overflows. Plant communities include grasslands, coastal sage scrub, big sagebrush scrub, rubber rabbitbrush scrub, chaparral, holy-leaf cherry woodland, oak woodlands, walnut woodlands, riparian scrub and woodlands, and Joshua Tree woodland. Many oak varieties grow here, including numerous hybrids.



STREET TREE

- Arbutus 'Marina' (*Hybrid Strawberry Tree*) [I]
- Pinus edulis (*Pinyon Pine*)]d[
- Platanus racemosa (*Sycamore*) d



SHADE TREE

- Cotinus obovatus (*Smokewood Tree*) I
- Pinus jeffreyi (*Jeffrey Pine*) d[
- Pinus monophylla (*Singleleaf Pine*)]d[
- Quercus chrysolepis (*Canyon Live Oak*) d[=



SMALL TREE

- Erythrina x bidwillii (*Coral Tree*) I
- Pinus quadrifolia (*Parry Pinon*)]d[
- Prunus subcordata (*Sierra Plum*)]d



VINE

- Hardenbergia comptoniana (*Lilac Vine*) I
- Lonicera interrupta (*Chaparral Honeysuckle*)]d
- Solandra maxima (*Cup-of-Gold Vine*) I



PERENNIALS

- Dorotheanthus bellidiformis (*Livingston Daisy*) I
- Eriogonum umbellatum (*Sulfur Buckwheat*)
- Euryops pectinatus veridis (*Green Euryops*) I
- Heuchera micrantha (*Alumroot*) .
- Monardella linoides ssp. stricta (*High Mountain Coyote Mint*)]
- Monardella villosa subserrata (*Coyote Mint*)]
- Oenothera hookeri (*Hooker's Evening Primrose*) .
- Penstemon heterophyllus 'Catherine De La Mare' (*Penstemon*) .
- Ratibida columnifera (*Mexican Hat*) I
- Ribes aureum var. gracillimum (*Golden Currant*) .]d
- Ribes sanguineum var. glutinosum (*Pink-flowering Currant*) .]d
- Rosa gymnocarpa (*Wood Rose*) .]d
- Salvia 'Poza Blue' (*Sage*) .]d
- Salvia spathacea (*Hummingbird Sage*) .]d



Arbutus 'Marina'
Hybrid Strawberry Tree




Muhlenbergia rigens
Dear Grass

photo: Manilee Kuhlmann

Solanum xanti (*Purple Nightshade*) Tithonia rotundifolia (*Mexican Sunflower*) I
 Vaccinium ovatum (*Huckleberry*) .]d
 Zinnia acerosa (*Desert Zinnia*) I

GROUNDCOVER

 Arctostaphylos hookeri 'Monterey Carpet' (*Manzanita*) d=
 Arctostaphylos pajaricensis 'Brother James' (*Manzanita*) .
 Ceanothus cyaneus (*Ceanothus*) d
 Chrysopsis villosa 'San Bruno Mountain' (*Golden Aster*) .]d
 Jasminum mesnyi (*Primrose Jasmine*) I
 Oenothera californica (*California Evening Primrose*)
 Polypodium californicum (*California Polypody Fern*) Salvia mellifera 'Tera Seca'
 (*Sage*) d
 Salvia sonomensis (*Creeping Sage*) .]d[
 Symphoricarpos mollis (*Creeping Snowberry*) .d

RAIN GARDEN

 Adiantum jordanii (*California Maiden-hair Fern*) .
 Iris douglasiana (*Douglas Iris*) .
 Lilium humboldtii (*Humboldt Lily*)].
 Pityrogramma triangularis (*Goldenback Fern*) .
 Polystichum munitum (*Western Sword Fern*) I.


GRASS

 Bouteloua curtipendula (*Side-oats Grama*) I
 Festuca californica (*California Fescue*) [=]
 Leymus arenarius (*Lyme Grass*) .
 Muhlenbergia rigens (*Deergrass*) .d


HEDGE

 Amelanchier alnifolia (*Western Serviceberry*) d
 Arctostaphylos parryana (*Parry Manzanita*) d[
 Calycanthus occidentalis (*Spice Bush*) d
 Cercocarpus minutiflorus (*Mountain Mahogany*) d
 Cotinus coggygria (*Velvet Cloak*) I
 Fremontodendron californicum (*Flannelbush*)
 Heteromeles arbutifolia (*Toyon*)
 Rhamnus californica 'Little Sur' (*Coffeeberry*)

FOCAL POINT

 Aloe 'Mountain Gem' (*Mountain Gem Aloe*) I
 Cotyledon undulata I
 Salvia pachyphylla (*Mountain Desert Sage*) d

MEADOW/TURF

 Carex tumulicola (*Slough Sedge*) I.
 Danthonia californica (*California Oatgrass*) .

ICONS:

Full Sun
 Part Sun
 Full
 Shade
 Showy
 Flowers
 Sandy Soil
 Clay Soil
 Fire
 Resistant
 . Swale
]Edible
 Parts
 d Habitat
 [Evergreen
 =No
 Summer
 H2O
 I Non Native

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Zone 7 Antelope Valley & Western Mojave Desert

LA County's deserts, with the hottest days, coldest nights and lowest annual rainfall, require the

toughest and most truly drought tolerant plants. Using plants that have evolved to survive and thrive in the desert is important since trying to keep anything else alive uses too much of our most valuable resource, fresh water. Capturing all of the rainfall is critical to the success of the garden in this zone. The main natural vegetation types are creosote bush scrub,

- 1 STREET TREE**
Cercidium (Parkinsonia) *floridum* (*Blue Palo Verde*) d
Chitalpa tashkentensis (*Chitalpa*)
Washingtonia filifera (*California Fan Palm*) [

- 2 SHADE TREE**
Pinus eldarica (*Afghan Pine*) [I
Pistacia chinensis (*Chinese Pistache*) I
Quercus palmeri (*Palmer's Oak*) [

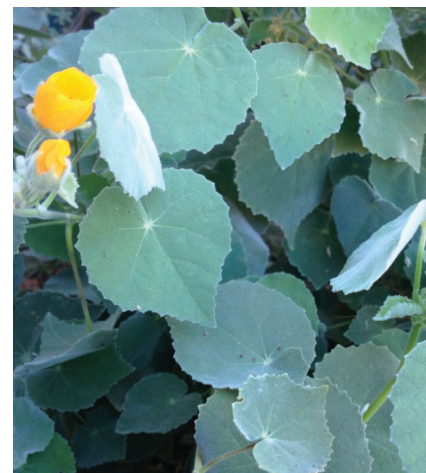
- 3 SMALL TREE**
Cercidium (Parkinsonia) 'Desert Museum' (*Palo Verde*) d
Chilopsis linearis (*Desert Willow*)
Leptospermum laevigatum (*Tea Tree*) [I
Punica granatum (*Pomegranate*)]I
Sambucus mexicana (*Mexican Elderberry*)]
Simmondsia chinensis (*Jojoba*)]I

- 4 VINE**
Bougainvillea
Lonicera sempervirens (*Trumpet Honeysuckle*) I
Mascagnia lilacina (*Lavender Orchid Vine*) I
Vitis girdiana (*Desert Wild Grape*)]d

- 5 PERENNIAL**
Abutilon palmeri (*Indian Mallow*)]d=
Berlandiera lyrata (*Chocolate Daisy*) I
Diplacus puniceus (*Red Monkeyflower*) .
Epilobium (Zauschneria) *canum* (*California Fuchsia*)
Eriogonum fasciculatum (*California Buckwheat*)
Galvezia juncea 'Punta Banda' (*Baja Bush Snapdragon*) d
Grindelia camporum (*Giant Gum Plant*) d[
Hyptis emoryi (*Desert Lavender*)
Isomeris arborea (*Bladderpod*)]d[
Justicia californica (*Chuparosa*) .d
Keckiella breviflora (*Bush penstemon*) d
Penstemon eatonii (*Firecracker Penstemon*)
Salvia 'Poza Blue' (*Pozo Blue Sage*) .]d



Chitalpa tashkentensis
Chitalpa



Abutilon palmeri
Indian Mallow

photos: Diane Michaeli

Salvia apiana compacta (*Compact White Sage*)
 Solanum hindsianum (*Baja Nightshade*)
 Sphaeralcea ambigua (*Apricot Mallow*)
 Stylomecon heterophylla (*Wind Poppy*)
 Verbena lilacina cedros (*Island Verbena*) d



GROUND COVER

Abronia villosa villosa (*Sand Verbena*) Astragalus Douglasii (*Douglas Milkvetch*)

Ceanothus griseus 'Diamond Heights' (*Ceanothus*)
 Convolvulus sabatius (*Ground Morning Glory*) I
 Corethrogyne filaginifolia (*California Aster*) .d I
 Dalea capitata 'Sierra Gold' (*Golden Dalea*) I
 Ericameria cuneata (*Compact Goldenbush*)
 Helianthemum scoparium (*Rush Rose*)
 Sphaeralcea phillipiana (*Trailing Mallow*)



RAIN GARDEN

Aethionema schistosum (*Fragrant Persian Stonecress*) I.
 Arabis caucasica (*Wall Rockcress*)]I.
 Muhlenbergia capillaris (*Hairawn Mulhy*) dI.
 Sporobolus airoides (*Alkali Dropseed*) .



GRASS

Festuca longifolia (*Hard Fescue*) I
 Leymus (Elymus) triticoides (*Creeping Wild Rye*) d



PRIVACY SCREEN

Calliandra californica (*Red Fairy Duster*)
 Callistemon (*Bottlebrush*) I
 Cupressus forbesii (*Tecate Cypress*) d[
 Fremontodendron mexicanum (*Mexican Flannelbush*) [
 Larrea tridentata (*Creosote Bush, Chaparral*)
 Quercus turbinella (*Shrub Live Oak*) [
 Rhus lentii (*Pink-flowered Sumac*) d[



FOCAL POINT

Agave shawii (*Shaw's Agave*)
 Aloe vera (*Medicinal Aloe*)]I
 Dudleya lanceolata (*Lance-Leaf Dudleya*)
 Echinocactus grusonii (*Golden Barrel*) I
 Fouquieria splendens (*Ocotillo*)
 Nolina parryi (*Parry's Nolina*)
 Yucca schidigera (*Mohave Yucca*)]
 Yucca whipplei (*Our Lord's Candle*)]



MEADOW/TURF

Achnatherum hymenoides (*Indian Rice Grass*) I.
 Buchloe dactyloides 'UC Verde' (*UC Verde Buffalo Grass*) I
 Poa secunda (*Sandberg Bluegrass*) I

ICONS:

Full Sun
 Part Sun

Full

Shade

Showy
 Flowers

Sandy Soil
 Clay Soil

Fire
 Resistant

. Swale

]Edible
 Parts

d Habitat

[Evergreen

=No
 Summer
 H2O

I Non Native

GET TO KNOW YOUR GARDEN

1. Make a site plan

Start by finding your property dimensions (see below). Measure your house and other buildings. Draw it out on graph paper or use a computer.

Think about how you and your family want to use the space, and how the sun and rain affect your garden.

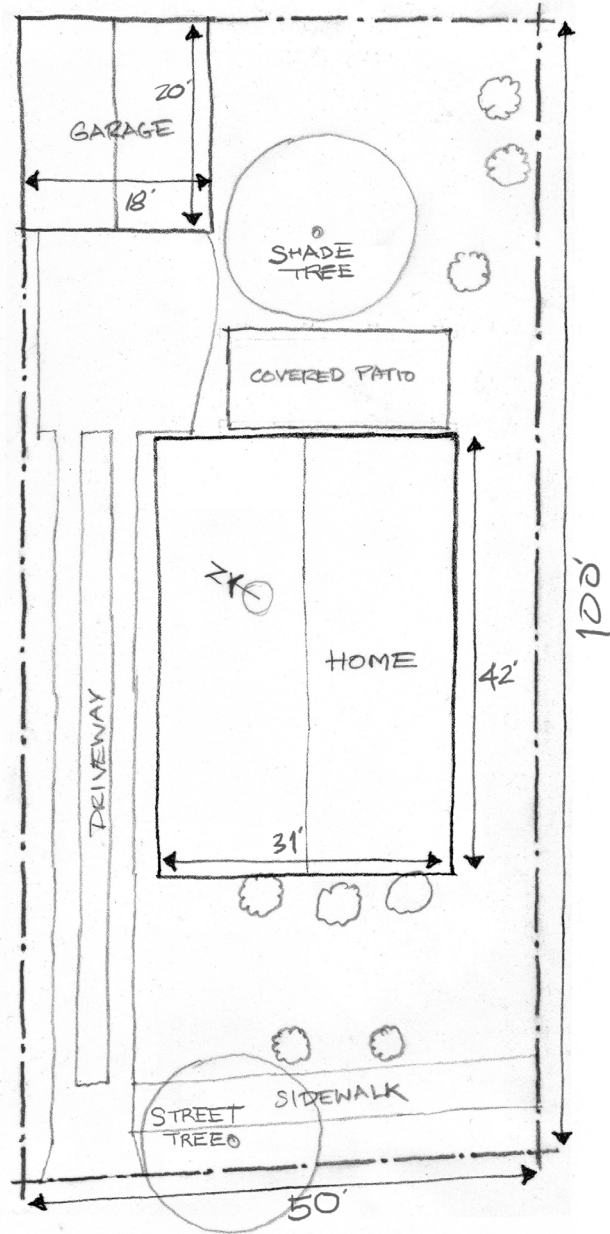
INCLUDE THESE ITEMS ON YOUR SITE PLAN:

- Dimensions of the site
(round up to the nearest foot or 6 inches)
- Orientation — North arrow (or mark East and West)
- Buildings (house, garage, neighbor's houses if nearby)
- Other structures (carport, porch, arbor, shed)
- Large landscape features (ponds, streams, swimming pools, driveways, patios)
- Large trees or shrubs

Walk around your garden with a copy of your site plan, and mark any of these that are relevant:

- Hillsides, slopes, or other major grade changes
- Areas of erosion or obvious soil compaction
- Low areas that are commonly wet
- Exposed rock
- Shallow soils
- Areas where the soil abruptly changes texture or structure

Later, you can note your soil type and places where you conduct your soil and compaction tests (see p. 30-31).



find your property dimensions:

FIND the dimensions, shape, and orientation of your property at the [LA County Assessor's website \(assessor.lacounty.gov\)](http://assessor.lacounty.gov)

- ① Make your site plan and note Select "Property Maps and Data" (and click "Accept")
- ② Enter your Street Address (click "Submit" and click your address)
- ③ Note your lot number in the "Property Boundary Description"
- ④ Click to "View Assessor's Map" and find your property (marked with your lot number)
- ⑤ Print a copy of the map. Save a pdf copy if you are using your computer to make a plan.

LOOK at [Google Maps \(maps.google.com\)](http://maps.google.com) for help placing buildings and trees on your property. Just type in your address, zoom in, and use the Satellite view.

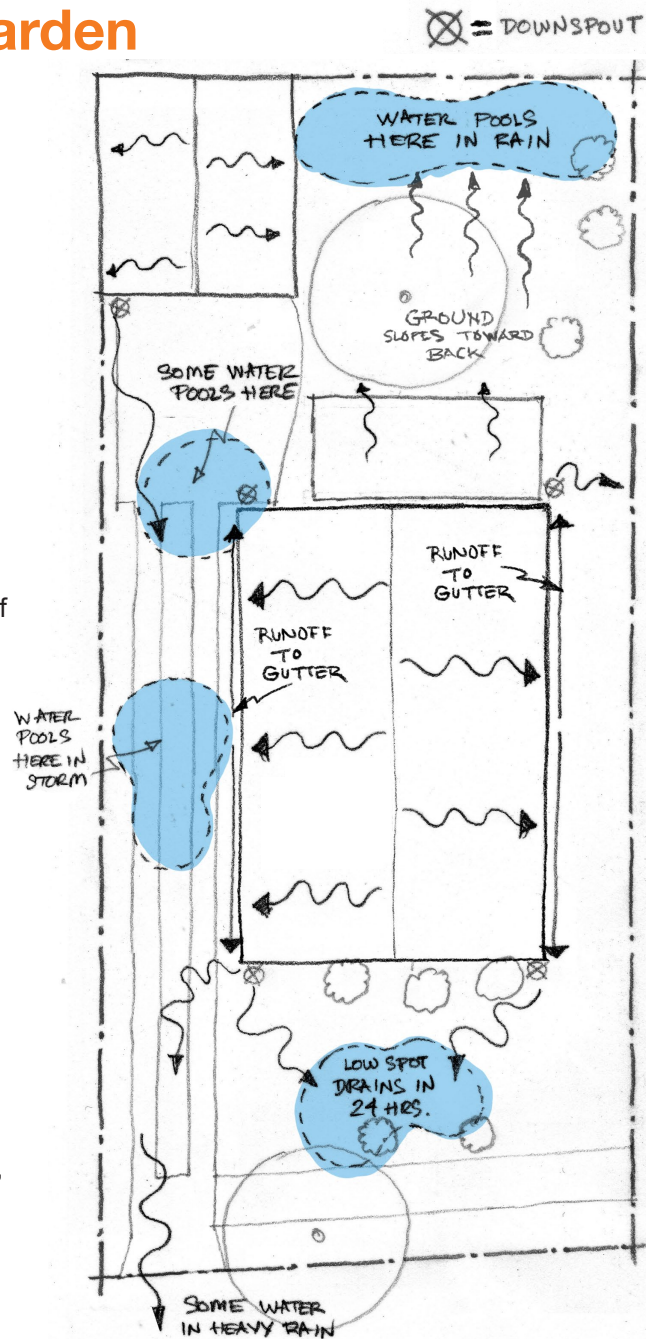


2. Water in your garden

It's important to know where water flows into your garden, how it moves around, where it stays, and how it leaves your garden. Walk around your garden with another copy of your site plan, and note this information:

INCLUDE THESE ITEMS ON YOUR SITE PLAN:

- If you don't have roof gutters and downspouts, then mark the edges of your roof where water sheets down to the landscape.
- Mark your roof gutter downspouts, if you have them, and follow the path of the water in them out to the street.
- Which part of the roof drains into each downspout, and estimate the dimensions of that portion of roof.
- Draw arrows to indicate the direction water moves through your garden.
- Areas where water pools when it rains.
- Locations where rainwater runoff is concentrated and eventually leaves your garden (i.e. driveways, drainage pipes, storm gutters etc).
- Mark which areas are impervious surfaces, where water can't get into the ground (i.e. driveways, solid patios, areas covered by a roof, etc).



GET TO KNOW YOUR GARDEN

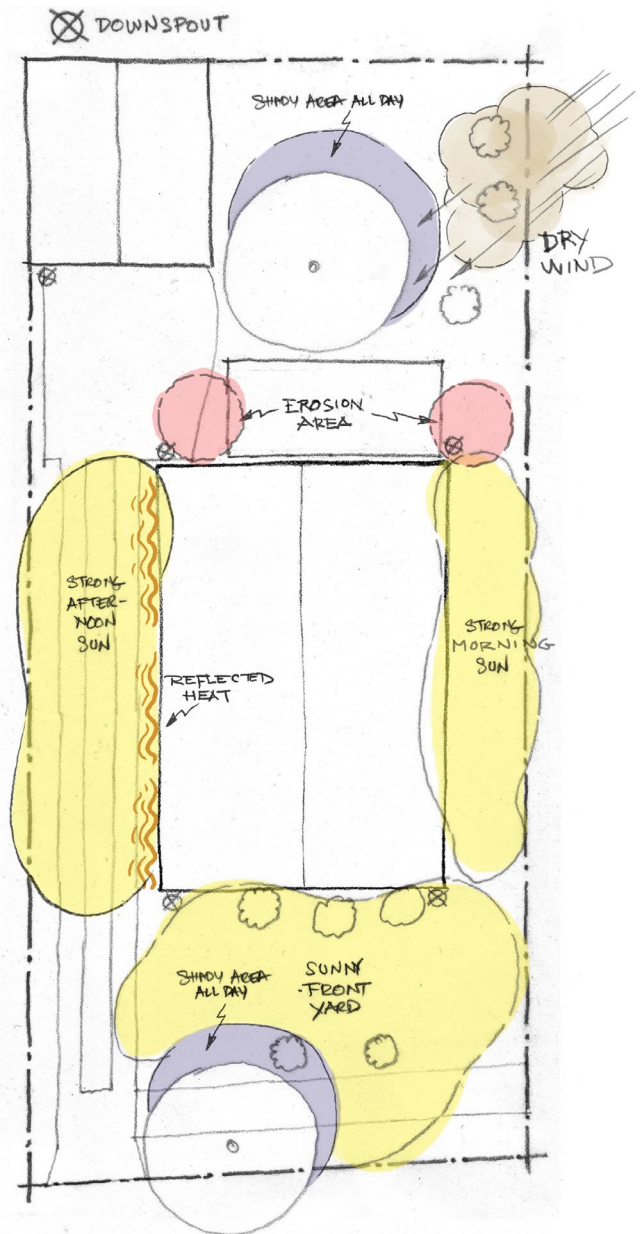
3. Plants and sunlight

On a copy of your site plan, locate large trees, shrubs, lawn and other significant vegetation. Outline the canopy area of each plant and note with the name, general size and health of the plant. If you don't know what the plant (or tree is), take pictures (or samples) of its leaves, fruit and bark to your local nursery for help with identification

Every garden has areas where plants will grow well and others will die. Structures, walls, fences, and other plants all can affect the amount of sun and shade in a garden. And every garden is completely different. There will be hills and hollows in your garden that may collect cold air or, because your property is sloped, you don't get frost when neighbors do. These climate factors that are particular to your garden are called microclimates, and they may differ significantly from the general climate of an area. Note on your site map any microclimates you think your garden might have.

Outline the sun and shade patterns of the site. Mark areas that receive sun all day and areas that are shaded all day. Also note which areas receive only partial sun, maybe just a few hours of direct sun in the morning, mid-day or in late afternoon. When you choose your plants make sure to select those that are appropriate to the sunlight pattern in your garden. Plants marked as "full sun" will not be happy in full shade.

Look closely at the plants you have, and note which are drought tolerant and which aren't. Many plants can be drought tolerant if they're well established, with deep healthy roots (old rose bushes, for example). Decide which plants will work well in your new garden and which you should plan to remove.



drought tolerant characteristics of plants

There are four characteristics shared by many drought tolerant plants that will allow you to find them in a crowded nursery. Sometimes you will find plants with three or four of these adaptations at one time - they're really drought tolerant!

STIFF, LEATHERY LEAVES These leaves hold on to water, and represent many of our evergreen native plants.

SILVERY OR HAIRY LEAVES Light colored leaves reflect sunlight, cooling the plant. Hairy back sides of leaves hold moisture longer which cools the leaf.

TINY LITTLE LEAVES Like the solar panels they mimic, it is easier to keep small surfaces cool than it is to cool down one large hot surface.

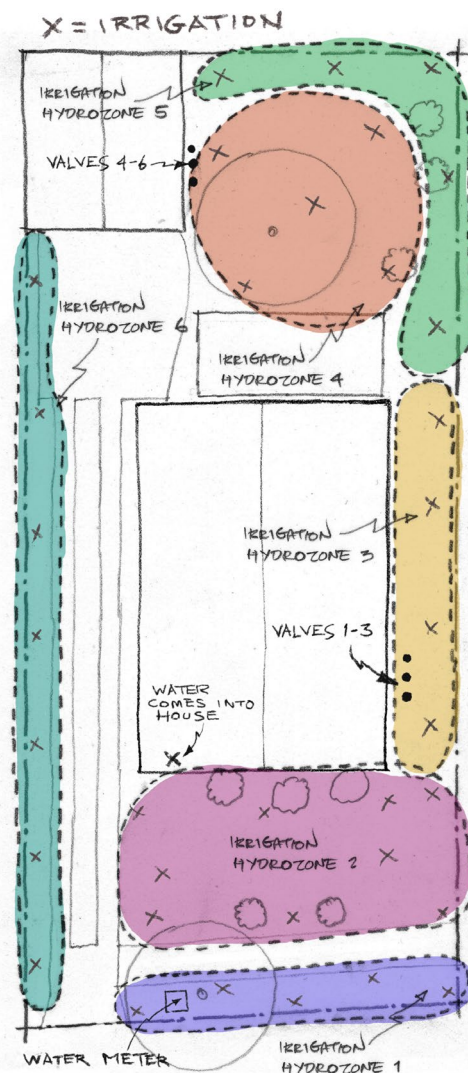
SOLAR TRACKING LEAVES In the middle of the day these leaves will appear to be standing at attention, straight up and down. As the day progresses, or if you see the same plant in the early morning, you will find that the leaves are more horizontally oriented. This plant is moving its solar panels throughout the day to minimize exposure during the hottest part of the day (smart, huh?). Many of the native manzanitas utilize this adaptation.

4. Check your irrigation

If you have an irrigation system installed, chances are that it is a spray emitter system with an automatic irrigation controller. Locate all of the sprinkler heads on your property and mark their location on a copy of your site plan. Note the location of your controller, where the water comes on to your property from the street (the main line), and the location of every valve that controls the various irrigation zones.

RUN YOUR IRRIGATION SYSTEM & OBSERVE WHAT'S HAPPENING

- Which sprinkler heads go on at the same time and what kind of plant material are they irrigating? Color code the groupings of sprinklers on your site plan. In *How To Water Wisely* (see p. 40-41) we will explore these groupings or hydrozones and figure out how best we can match the irrigation with the various plants' water needs.
- Does water spray on the hard surfaces surrounding the garden?
- How quickly does water run off the landscape?
- Are there any broken or missing heads?



sprinkler test

Ingredients:

CUPS, BOWLS OR JARS, STOPWATCH, RULER, PEN AND PAPER

- ① Collect your containers (they don't all have to be the same size).
- ② Spread them around so they are spaced about 5' apart.
- ③ Get your stopwatch ready and start it as you turn on your sprinklers.
- ④ At 2 minutes, turn the sprinklers off. Hold ruler upright and note how deep the water is in inches.
- ⑤ Get ready and start again, for 3 more minutes this time, and record your results.

- ⑥ One more time, this time for 5 more minutes.

Note: Measure at 5, 10, and 15 minutes for drip systems.

RESULTS

- Different depths of water in different containers means your sprinklers are not watering evenly. Get new heads that emit the same amount of water at once (matched flow rate). Note that each head has a different spray pattern; full circle, half, quarter or adjustable.
- See how much water your section emits at 2 minutes, 5 minutes (2+3), 8 minutes (5+3), and 10 minutes (5+5) for drip then at 5, 10, 15, 30 and 45 minutes.
- Now you can give your plants just the water they need.

GET TO KNOW YOUR GARDEN

5. Is your soil a brick or a sponge?

If your soil doesn't drain well it is a brick and it won't support healthy plants. So, let's cook up a test to determine how well it drains. Test a few places on your property and make a note of your findings on your site plan.

brick or sponge test

Ingredients:

- STOP WATCH OR TIMER
- SHOVEL
- HOSE



- ① Dig a hole the size of a 1 gallon plant (that's about 10" to 12" deep and 6" to 8" wide). Don't worry about measuring it or making it pretty.
- ② Fill the hole with water and wait. Note how long it takes to drain completely.
- ③ If it takes longer than 30 minutes, you may have some clay soil and some compaction. Make a note of the time, and keep going!
- ④ Now do it again. Fill the hole up all the way and see how long it takes this time.

VERDICT:

0-30 minutes to completely drain, both times - Congratulations! Your soil drains well!

30-60 minutes on the second time (or both) - Your soil is slow-draining.

MORE THAN 60 minutes to drain - YOU HAVE A BRICK! Your soil needs some extra help, either tilling or augering to loosen it up and break compaction.

Now that you know if your soil drains well, and if it's healthy, it is also good to know what type of soil you have. Some plants really like sandy soil, and some really don't. And what about clay? In the low-water garden, clay soil is the best. It holds water and nutrients longer, and as long as it's alive with microbes there should be plenty of air pockets, keeping everyone (plants and others) happy. When you select plants from the plant list, remember your soil type and choose plants that prefer it - if you have sandy soil, look for plants with the icon that notes they like sand.

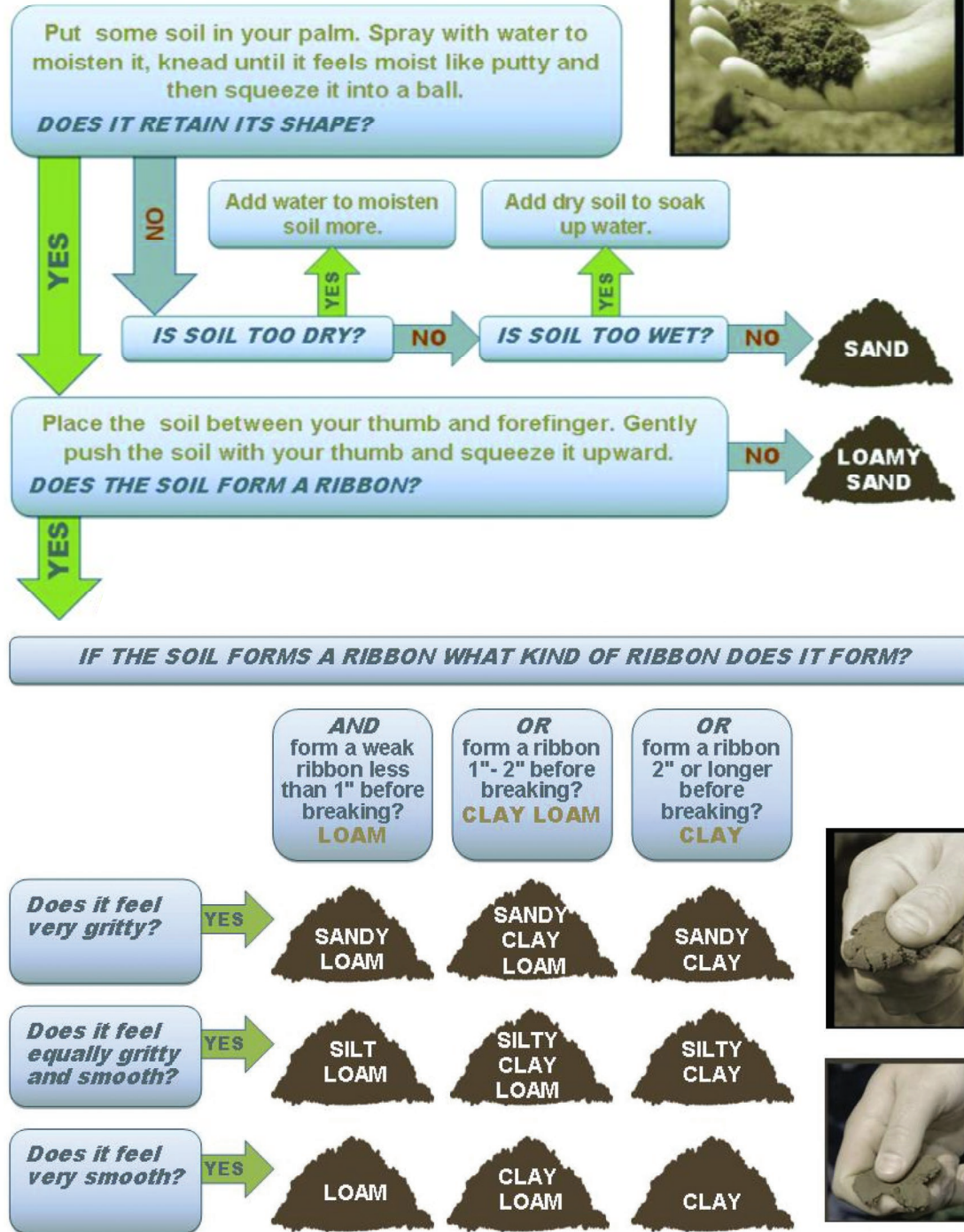


photo: Jon Huber

6. Check your soil type

Here's an easy way to figure out your soil type.

SOIL TEXTURE BY FEEL



SLOW, SPREAD & SINK THE RAIN

Most California landscapes

(front and back yards) have been graded to be as flat as possible and to direct rainwater from the hard surfaces to the street as quickly as possible. This sort of grading makes it very difficult to build a successful drought tolerant garden! The drought tolerant garden relies on rainwater as a precious resource, so we want to slow, spread and sink as much rainwater as possible.

Natural ecosystems are rarely completely flat. In nature, water and wind erode areas into hills or berms and gullies or swales. Over time plants more adapted to dry spots find themselves thriving on the tops and slopes of the hills, and the plants that don't mind wet feet in Winter find themselves nearer the bottom of the valley where it is wetter. If you are considering changing a big area of your garden, you can re-grade the landscape into a more natural form with some high and low spots. In some cases, where renovation of a large area is out of the question, you can still figure out ways to direct water from hard surfaces, move it around, and allow it to enjoy its stay in your garden. Your new drought tolerant plants will be very happy to drink up the rain!

Look at your site plan and start thinking about slowing, spreading, and sinking rainwater in your garden. Have you noted the areas of erosion, low points and high points in the landscape, and places where water is flowing from hard surfaces (like patios, pathways, and the roof) into the garden? If so, you are ready to move on to making decisions about where to dig down and where to berm up.

Look for naturally low areas to direct water into and allow it to soak into the soil before any excess overflows into the street. The size and shape of your



photo: Pamela Berstler

graded areas can vary greatly. Your whole yard can be graded into a bowl!

Start with the rain garden out front, if it works for your yard. As you make decisions about the rest of your garden, make sure that you aren't directing water towards your house, garage, or your neighbors' yards. If you live on a slope or in an unstable soils area, seek professional help before you start moving soil around. Observe your garden during heavy rainstorms. It is very important that any water your soil and plants can't absorb is directed towards the streets, and not into your buildings.

rainwater capture basic math

If you want to figure out how large your rain garden should be, use this basic calculation.

Gallons of Water ÷ 7.48 = Square Feet of Rain Garden (at 12" deep)

For example, to capture 620 Gallons, how big should you dig?

620 Gallons ÷ 7.48 = 83 Sq. Ft. area (at 12" deep)

620 Gallons ÷ 7.48 = 166 Sq. Ft. area (at 6" deep)

If your rain garden (aka swale) is 10' wide and 8-1/2' long, its area (10' x 8.5') is 85 square feet. So at 12" deep, it will hold about 620 gallons of rainwater. If you dig it down just 6" deep, your rain garden will hold only half of that, or just 310 gallons of water. With shallower swales, you may want more, or wider rain gardens. If you make your swale deeper, you can capture more water in a smaller footprint.

HOW MUCH WATER RUNS OFF THE ROOF?

The shape of your roof doesn't matter. A pitched roof and a flat roof have the same footprint and the same amount of rain falls on the area no matter its shape. Just measure the outside edges and calculate the area.

Area = length of side a x length of side b

For complicated roofs, divide into squares then add up the area of each square.

**Rainfall (in inches) x Square Feet x .62 =
Gallons of Rain Water**

If your roof is 1,000 square feet here's how much water runs off it:

1" (rainfall) x 1,000 (sq. ft.) x .62 = 620 gallons

5" (a big storm) x 1,000 x .62 = 3,100 gallons

15" (one year's total rainfall) x 1,000 x .62 =
9,300 gallons

It adds up quickly, even in dry areas. Try to save as much as you can in your garden!

HOW MUCH WATER COMES OUT OF ONE DOWNSPOUT?

Imagine the water from your roof splits into two downspouts.

Your Roof Area is 20' x 40' = 800 sq. ft.

If half of the water goes into each downspout, then the roof size for one downspout is:

800 sq. ft. ÷ 2 = 400 sq. ft.

Now calculate how much water that is in gallons.

400 sq. ft. x 1" x .62 = 248 gallons

**(of water, per inch of rain, from each
downspout).**

You can use these calculations to determine how much water comes off of any hard surface (patio, driveway, roof, sidewalk, etc.)



MAKE A HAPPY HOME FOR YOUR PLANTS



photo: Manilee Kuhmann

Is your soil alive or dead?

Even sand can become compacted and dead (behaving like a brick), and clay soil can be teeming with healthy life and organic matter, acting like a sponge, keeping plants healthy. In order to figure out whether your soil is alive or dead, you first need to determine if your soil is a BRICK or a SPONGE (see p. 30).

What is the secret to healthy soil? Healthy living soil has three key elements - Oxygen, Water and Life (OWL!). The tiny little pieces of rock (big = sand, small = clay) are part of it, but it's the other stuff that matters most to your plants.

OXYGEN. Healthy microbes and plant roots need soil filled with oxygen. Healthy soil has tiny little pockets of air. These are important for both the plants and the microbes, and it's important to protect them. You want soil that has lots of little air pockets that provide places for the microbes and water to hang out.

WATER. Plants and microbes both need water. But too much water will eliminate the oxygen in the soil, creating anaerobic conditions. Good microbes need

oxygen but bad microbes prefer anaerobic soil and these bad microbes cause disease and endanger your plants' health.

LIFE. Living soil is teeming with all sorts of good bacteria, fungus, protozoa, nematodes, and other tiny life forms. These little helpers create the small air pockets for oxygen and water, eat and digest organic matter and create nutrients for the plants when the plants need it. Healthy soil microbes fight off the bad guys by boosting the immune system of your plants.

If your soil has OWL in the right balance it will act like a giant sponge. Magic? No, it's those healthy living micro-organisms (bacteria, fungus, etc.) that hold on to the water. They soak it right up when its available, and then they release it slowly to your plants, as they need it. That's why building healthy living soil is such an important thing in a drought tolerant garden.

If your soil is missing any part of OWL it becomes a BRICK — hard and compacted (no air pockets), dry (no water) and therefore no life (microbes or plants).

making the sponge

So how do I change a BRICK into a SPONGE? Living soil remediation is the answer. It's not fertilizer, but it is food for the soil. When that food is digested by the organisms, it becomes food for the plants!

LIVING SOIL REMEDIATION

- ① **ADD OXYGEN** by opening up the soil. Once the spongy soil structure has been created, you will not want to break up the soil again. But to get things started, you must break a few eggs --- or break a little soil. You can rototill it, auger it, or dig it up with a shovel (or jackhammer!). Sometimes all it takes is a pitchfork plunged into the ground and pulled back and forth.
- ② **ADD WATER and LIFE.** You can add good compost, worm castings, and/or compost tea. All of these are full of the living microbes that will do the hard work of bringing your soil back to life. Spread them on, give them some water, and then...
- ③ **FEED YOUR SOIL ORGANISMS (not your plants)!** They like to eat organic matter, so give them a nice thick blanket of mulch (3" at least). Add water as needed, and your soil will be healthy and happy in no time, ready for your plants!



join the soil party! Living soil is alive. A teaspoon of good garden soil contains billions of invisible bacteria, several yards of equally invisible fungal hyphae, several thousand protozoa and a few dozen beneficial nematodes.

LOSE YOUR LAWN WITHOUT KILLING YOUR SOIL

How to remove your lawn without chemicals.

We love grasses, fields, and the color green. Sod (aka "lawn") definitely has its place on the playground and on the soccer field. But for most gardens, all that mown grass can be replaced by meadows, flowers and gardens.

If you're ready to transform your water-guzzling grass into healthy living soil, just follow this recipe for "Soil Lasagna" (a.k.a. Sheet Mulching), and you'll have delicious living soil in no time!

Before you start, you need to check on a few things.

TREES? Do you have any healthy trees growing out of the sod? If so, you need to be extra careful with their roots. Don't use any heavy equipment under their branches (where most of their roots are), and be extra gentle when removing the grass, especially near their

trunks. To minimize shock to the surface roots, be sure to keep the tree well-watered during the turf removal process.

Call DIG ALERT (811) before you dig! Also note where underground pipes (water lines, gas lines, sewer and irrigation pipes) may be and dig around carefully if you're not sure. Use spray paint, chalk or flour to mark them on the grass before you dig.

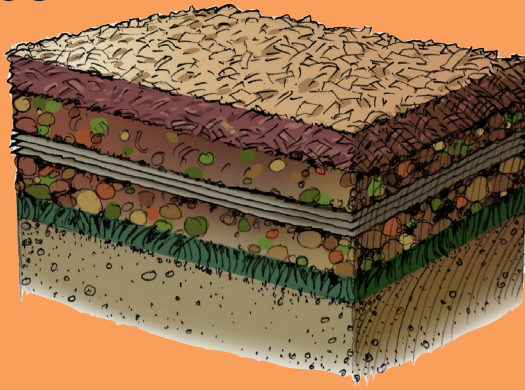
TYPE OF GRASS? If your lawn is a fescue type (cool season turf), you're good to go, no removal needed. Just get started following the Soil Lasagna Recipe. If it's any combination of warm season grasses (St. Augustine, Bermuda, etc.), then you have a bigger project ahead of you, and you'll need to remove the sod, as much of it's roots as you can reach, and even the top few inches of soil. The best way to do this is with a sod cutter (see *Resources p. 46 for places to rent this equipment*). Now, get cooking!



photos: Paul Herzog

“soil lasagna” recipe

(aka Sheet Mulching)



Ingredients:

- SHOVELS & RAKES
- BINS FOR REMOVED GRASS AND SOIL (WARM SEASON TURF GRASS ONLY)
- LANDSCAPE FLAGS
- COMPOST OR WORM CASTINGS
- MULCH
(FRESHLY SHREDDED TREE TRIMMINGS WITH LEAVES ARE BEST)
- PAINTERS PAPER OR BIG SHEETS OF CARDBOARD
(IT SHOULD BE CLEAN)
- HOSE WITH SPRAY NOZZLE
- WATER (LOTS!)

- ① Deal with the turf grass you have. If it's Fescue (cool season), say goodbye, give it a good soaking of water and go to Step 3.
- ② If it's the other kind (any mixture that includes Bermuda or St. Augustine) remove and dispose of soil at least 8” deep, but preferably 10” or more to be sure it's all gone. If you can't hand remove, rent a sod cutter.
- ③ Dig back 12” - 24” from any hard surfaces and building foundations to a depth of 8” - 10.”
- ④ Flag all your sprinkler heads so you can find and adjust or remove them later.
- ⑤ Add LIFE! Spread out a 1” deep blanket of compost or worm castings.
- ⑥ Water the soil so the paper will stick to it.
- ⑦ Roll out paper or cardboard. Be sure to overlap all edges by at least 6” - don't leave any bare soil! If necessary, to prevent tearing and gaps, use two layers of paper.
- ⑧ Water well - really soak the paper/cardboard.
- ⑨ While the paper/cardboard is wet, gently rake out a thick blanket of mulch (4” to 6”) over everything. Keep watering while you do this - you want the mulch to be really wet at first.
- ⑩ Admire your work.

That's it! Now the LIFE you added will get to work, turning it all into delicious, healthy living soil. When you're ready to plant, just dig a hole right into it, cutting through the paper/cardboard (if it's still there) and plant right into the yummy soil.

how to
build healthy soil

START YOUR PLANTS OFF RIGHT

NOW THAT YOUR SOIL IS HAPPY you are ready to plant! It's almost as easy as digging a hole, but a little extra love will help. By following these simple steps, you will get your plants' roots growing properly, quickly spreading into the living soil and making friends with the other drought tolerant plants. Strong roots make strong plants, and this is especially important in dry environments.

successful planting recipe

Ingredients:

- **TOOLS:** shovel, hand trowel, hose
- **PLANTS • COMPOST • MULCH**

*Feeling Adventurous? Try the more advanced planting approach in ⑤ and add these to your list: **MYCORRHIZAE** (not for grasses) **FISH EMULSION** or **WATER SOLUBLE HUMATES***

- ① **Dig a hole! Don't dig it any deeper than the rootball of the plant. Do dig at least a little bit wider than the plant to loosen the surrounding soil. If you accidentally dig too deep, be sure to put the soil back in and tamp it down firmly before moving on, to give your plant a solid base.**
- ② **Throw in some compost or worm castings no more than 1" deep - along the bottom of the hole. Never put mulch in a hole! (See Mulch vs. Compost on the next page).**
- ③ **Fill the hole with water TWICE, and allow it to drain completely each time. This will take a long time, unless your soil is really sandy. Start digging the next hole, or take a break.**
- ④ **Submerge the rootball in a bucket of water until air bubbles stop bubbling up. It's probably easier**

to keep the plant in its container but ok if you take it out - just be careful with the delicate roots.

- ⑤ **Add fish emulsion or soluble humate to the water (follow label directions). Dust the rootball with a mycorrhizae inoculant (only if the plants are woody, so don't bother with the grasses).**
- ⑥ **Place plant in hole, make sure the root collar (that's where the roots join the stem or trunk) is a bit (1/2" - 1") higher than the surrounding soil/existing grade. This is super important because we don't want the plant to get choked by the surrounding soil.**
- ⑦ **Fill the hole with water one more time (this time with the plant in it) and let it drain completely.**
- ⑧ **Now fill the hole with the soil you dug out (not with fancy potting soil!), making sure the soil slopes away from the root collar. Tamp the soil down (use your feet, but be gentle) so the plant doesn't move around.**
- ⑨ **Don't create a bowl around the plant. Really! Your plant doesn't need it and it might make a moat that would drown your drought tolerant plant.**
- ⑩ **Water the soil all around the plant one more time, and deeply. And have a drink yourself!**

What's with all the water at planting time?

There are three reasons:

DRAINAGE If the water does not drain within an hour or so, it's probably not a good place to plant a drought tolerant plant until you fix the compaction.

SOIL PARTY By watering so thoroughly, you are waking up any microbes that might be in the surrounding soil.

PLANT SHOCK The major reason plants suffer from planting shock is that the dry soil around the new plants wicks water away from their rootball, sending the plant

into shock from which they never recover. By watering the surrounding soil, you reduce the probability of plant shock.

"Hey, where's the fertilizer?" you may ask. Drought tolerant gardens don't want nutrient rich (i.e. fertilized) soil. It could make them grow too fast, use too much water, or just make them weak and sickly. By following our living soil remediation instructions you've made healthy, living soil for your plants - just add rainwater and that's all these plant need! Really. Let the soil microbes do all the work to keep your plants strong, healthy, and continuously drought tolerant.

mulch, the secret to a happy garden

What is mulch? It can be lots of different things (bark, shredded grass clippings, leaves, or even gravel) but basically it's a thick blanket that covers the soil. Like a blanket, it shades the soil (and plant roots) from hot drying sun and wind and insulates it, keeping it cool in Summer and warm in Winter. Living mulch also feeds the microbes. They love to eat all the organic matter, gradually breaking it down over time. As they munch away, more mulch needs to be added, but that can be as simple as letting the leaves stay in place when they fall! Sweep the leaves off your porch and straight into the garden - not on the plants, but onto the mulch. To start off a new garden, you can usually get a load of free mulch from your local composting center or connect with a professional tree trimmer.



mulch vs. compost

Mulch is composed of bits of organic matter that are not yet fully decomposed. You know this because when you look at the mulch you can still identify the bits and pieces - there's some grass clippings, and there's some wood chips. Mulch only sits on top of the soil and is never incorporated into it.

Compost is composed of bits of organic matter that are fully decomposed. In fact, they are so decomposed that you can no longer identify the individual components of the compost - it just looks like soil. Compost may be incorporated into the soil because it is already mostly digested by soil microbes.

Worm castings are the fully digested organic matter and microbes that have passed through the body of an earthworm. Worm castings may be used in or on top of the soil, and the nutrients in them are ready to be absorbed by plants.

HOW TO WATER WITHOUT WASTE

Every year in LA County

gardens experience a “drought” of six, eight, sometimes ten months between rains. The plants in this handbook have evolved to endure this annual dry season and to thrive on rainfall alone; but if the year is particularly dry, your garden may require some extra water, especially during the Winter growing months. For the first two years, while you are establishing healthy plant roots, you should watch your garden and add a little water if the plants are appearing stressed. But too much water, applied too often, is bad for your garden (and your water bill). Don't over-water. Do water wisely.

HOW MUCH, AND HOW OFTEN?

During the establishment period you may need to water every week, every two weeks, or just once a month. Is it hot and dry or cool and humid? Did you just plant, so roots are just getting settled? Are you letting extra rainwater fill up your healthy soil sponge, with its thick mulch blanket? Has it been an extra dry or an extra wet year? Think about all of this and always check your soil before watering.

Use digital technology - put your fingers in the soil! If the top few inches of soil, under the mulch, are moist, wait a few days and check again.

Now really look at your plants. Are your plants looking droopy and sad? Is the soil very dry? (Test with your finger!) If so, then give the plants a good drink and watch. Are they better the next day? Give them a little more if they still look thirsty. But don't water more than two days in a row, and let the soil dry out completely before watering again. It's best to water first thing in the morning, too.

After the first year or two, once your plants are settled, your drought tolerant garden will not need water more than once or twice a month, if at all. Once the first big Fall/Winter rain comes, stop watering and let nature do its thing.

WATER BY HAND

Since you're only watering occasionally, you may be able to water by hand. You just need a long hose and some time. Walk around your garden and give each thirsty-looking plant a good drink. Don't forget to stick your fingers in the dirt frequently - your soil sponge might be dry in some areas but still wet in others.

IRRIGATION SYSTEMS

You may already have an irrigation system installed, or just not have time to water your whole garden by hand. If so, make sure your system is efficient, and make sure you stay in control of how much, and how often, it waters.

Drip systems are relatively easy to install and control. Tubes lay on the ground, under your mulch, so no digging is required! Kits are available at most hardware stores and garden centers. There are also kits to convert existing spray systems to drip. A little research is required to install a drip system correctly, but when correctly installed, these are the most efficient systems for drought tolerant gardens.

Conventional systems also can be adjusted. Change sprinkler heads to low-flow nozzles, bubblers or drip to emit water slowly and more efficiently.

However you water, follow these **SIMPLE RULES**:

DON'T WATER THE SIDEWALK, the street, or other non-permeable surfaces where the water will run into storm drains and never reach your plants. Generally, spray irrigation should be at least 24 inches away from any hard surface to eliminate runoff.

USE HYDROZONES so plants with the same needs are in the same area and get the same amount of water.

CONTROL YOUR CONTROLLER. Most controllers (timers) are pre-set to run each zone every day for 10 minutes (way too much for your drought tolerant garden!) and they revert to this program when their power is turned off. Change batteries and check the program regularly. Install a “Smart” irrigation controller that uses weather data to adjust the irrigation and more closely match the requirements of your drought tolerant garden.

ADJUST FOR THE SEASONS. When days are longer, plants spend more time photosynthesizing and can use more water. At the very least, reduce your timer to 50% in Fall - until it starts raining and you turn it off. In Spring, once the rains have stopped and the soil is drying out, increase watering time back to 100%.

DO THE SPRINKLER TEST (see p. 29) Your plants don't need more than 1-2 inches of water at a time (like a good rain), so don't let your sprinklers run longer than that.

hydrozone rules

- ① Each irrigation valve should irrigate a Hydrozone containing plants with similar water needs and having similar living conditions (slope, sun exposure, soil type).
- ② Sun exposure should be considered, so that *full sun* areas are on one Hydrozone, *shade* areas on another, and *mixed exposure* areas on yet another.
- ③ Plants with especially high water needs (vegetables, lawn) must be on their own Hydrozone and the sprinklers/emitters on that zone must not water anything else.
- ④ Each Hydrozone must be able to handle enough water volume for every emitter to work properly.
- ⑤ Each Hydrozone should have sprinklers or emitters that emit the same amount of water, and they should be spaced so that every plant in the zone gets the same amount of water (the pros call this matched precipitation rate).



photo: Pamela Berstler

water in inches?

Most of us are used to thinking about water in gallons. “Inches” might seem confusing, but rain falls evenly throughout your garden so it's measured, and reported, in inches. When you do the Sprinkler Test (see p. 29) you can measure your irrigation water in inches per minute. Most LA County rainstorms drop 1-2 inches (more or less) of water at a time, and that's all your soil, and your plants, really need for a good drink. So, once you know much water your irrigation system puts out per minute, you can figure out how long it will take for you to give your garden an “applied rain” of 1-2 inches.

Your local water agency regularly publishes information about the inches of water a fescue-type grass lawn needs to stay healthy. Your drought tolerant garden only needs 20% of that, at most. So if a lawn in your area needs 5 inches of extra water in August, your drought tolerant garden only needs 1”!



HELP YOUR GARDEN GROW



photo: Paul Herzog

Taking Care of Your Drought Tolerant Garden.

Congratulations! Your beautiful new garden is now filled with healthy drought tolerant plants and your healthy living soil is doing most of the work to feed and water them. You get to sit back, relax, and enjoy the view! But you're not quite done. Your garden is alive (more alive now than ever) and it will need some tending to thrive.

MULCH. As it breaks down, add more! The easiest way to do this is to use falling leaves from your trees. Let them stay - a leaf-covered garden is a healthy garden! You can brush them off patios, walkways and stairs right onto the existing mulch. No falling leaves? You can get more free mulch from your local composting facility, or order it from a local nursery or building supply yard.

the first few years; even with a thick layer of mulch, you may still have some weeds popping up. Be sure to weed them out regularly, as many of them are thirsty imports and they will steal precious water from your drought tolerant plants.

WATER. Especially the first two years after planting, you need to give your plants a little extra water. Not too much! Remember, these plants (and your soil) will be healthier, live longer, and grow stronger if you give them just enough water. Brush aside the mulch and stick your fingers in the soil. Be sure that the top few inches of soil (not mulch) have dried out before adding any more. Ideally, you've installed a drip system or adapted your existing system with low-flow heads. Either way, you've done your irrigation test, (see p. 29) so you know how long (and how many inches) to water each area.

42
WEED. Especially after the Winter rains, and especially

PRUNE. Get a good pair of hand clippers, and

gently prune trees, perennials and grasses annually, as needed. Mow your meadow annually after it has self-seeded to keep it clean and walkable. Don't mow it too short - look up the grasses and/or sedges that you used and follow growers' directions.

MAINTAIN YOUR RAIN GARDEN. Check downspout connections and overflows annually to make sure they're working properly. Loosen your soil if it's become compacted, remove extra soil or silt that's built up, and add mulch if needed.

HARVEST. Fruits, vegetables, seeds and flowers - it's up to you to pick them when they're ready, before the birds and other creatures get them. If you have stiff competition in your neighborhood, invest in some bird netting or lightweight mesh bags and wrap your trees, vines, shrubs or the fruit itself a week or so before it's ready to harvest. Be sure to clean up fallen fruit to limit pests.

PEST CONTROL. Consider adding a

small pile of rocks or old branches in an unused corner to create a home for lizards, beetles, and native pollinators. They will help you keep the bad bugs under control. Keep a CLEAN bird and/or butterfly bath for winged friends to help, too (but clean it daily - no mosquito breeding!) and keep an eye out yourself. A few aphids or caterpillars will feed the birds, but a massive infestation requires immediate action on your part. Remove diseased plant material and don't put it in your compost pile. Wash off unwanted insects with your hose. If they come back try spraying them with a mixture of mild dish soap and water, or with compost tea. Snails and slugs shouldn't be a problem in the drought tolerant garden, but if you find too many, leave out coffee grounds or a pan full of beer for them - they'll drown happy!

GO OUTSIDE AND HAVE FUN. By spending time relaxing and playing in your garden you will be more aware of how it's growing, how it changes, and what it needs.

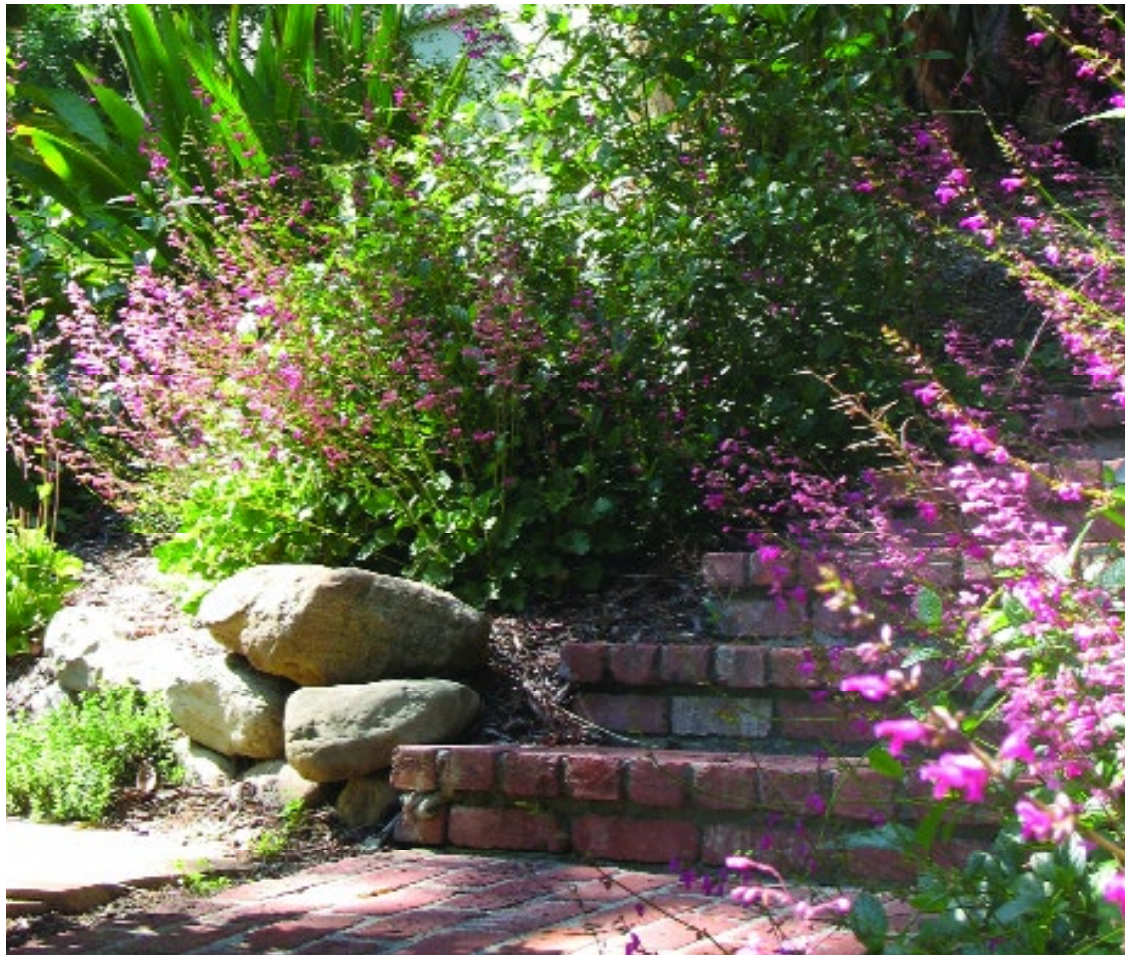


photo: Krissy Hoitt

nurseries & garden centers

Bring your plant list with you, and note how many of each plant you need. Some nurseries will have more drought tolerant plants than others. They may even be in a special section. If they don't have the plant you are looking for, ask them to order them from a local grower.

THROUGHOUT LA COUNTY

Armstrong Garden Centers:
www.armstronggarden.com
Home Depot: www.homedepot.com
Lowe's: www.lowes.com
OSH: www.osh.com

zone 2 & zone 3

Anawalt Lumber Hardware Nursery
www.anawallumber.com

WEST LA

(310) 478-0324
11060 W. Pico Blvd.
Los Angeles, 90064

HOLLYWOOD

(323) 464-1600
1001 N. Highland Ave.
Hollywood, 90038

WEST HOLLYWOOD

(310) 652-6202
641 N. Robertson Blvd.
West Hollywood, 90069

Big Red Sun

(310) 433-0019
560 Rose Ave.
Venice, 90291
www.bigredsun.com

Bonita Nursery & Florists

(562) 426-6777
350 West Sepulveda
Long Beach, 90810

Britas Garden

(562) 430-5019
225 Main St.
Seal Beach, 90740
www.britasgardens.com

C&S Nursery

(323) 296-6657
3615 Hauser Blvd.
Los Angeles, 90016
www.cs nursery.com

California Nursery Specialties

(818) 894-5694
19420 Saticoy St.
Reseda, 91335
www.california-cactus-succulents.com

Centeno's Nursery

www.centenos-inc.com
(310) 768-4089
17514 S. Figueroa St.
Gardena, 90248
17600 S. Western Ave.
Gardena, 90028

Covina Garden Center Nursery

(626) 966-9666
509 South 2nd Ave.
Covina, 91723

Deep Roots Garden Center

(310) 376-0567
207 N. Sepulveda Blvd.
Manhattan Beach, 90266
www.deep-roots.net

Eden Nursery

(310) 397-9731
11612 Culver Blvd.
Los Angeles, 90066

Fujiyama Nursery

(909) 595-4421
20813 Valley Blvd.
Walnut, 91789

Green Arrow

(818) 894-8306
8845 Sepulveda Blvd.
North Hills, 91343
www.greenarrownurseries.com

Grow Native Nursery

www.rsabg.org

CLAREMONT

(909) 625-8767
1500 N. College Ave.
Claremont, 91711

WESTWOOD

(310) 268-4062
1 Davis Ave.
Westwood, 90049

H & H Nursery

(562) 804-2513
6220 Lakewood Blvd.
Lakewood, 90712
www.hhnursery.com

Hashimoto Nursery

(310) 473-6232
1935 Sawtelle Blvd.
Los Angeles, 90025
www.hashimotonursery.com

Hawthorne Nursery

(310) 676-8242
4519 W. El Segundo Blvd.
Hawthorne, 90250

International Garden Center & Floral Design

(310) 615-0353
155 N. Sepulveda Blvd.
El Segundo, 90245
www.igardencenters.com

La Cienega Nursery

(310) 659 5468
8511 Sherwood Dr.
West Hollywood, 90069
www.lacieneganursery.com

Louie's Nursery

(951) 780-7841
16310 Porter Ave.
Riverside, 92504
www.louiesnursery.com

Marina Garden Center

(310) 823-5956
13198 Mindanao Way
Marina del Rey, 90292
www.marinagardencenters.com

Merrihew's Sunset Gardens

(310) 452-1051
1526 Ocean Park Blvd.
Santa Monica, 90402

Mickey Hargitay Plants

(323) 467-8044
1255 N. Sycamore Ave.
West Hollywood, 90038
www.mickeysplants.com

Mimosa L.A. Nursery

(323) 722-4543
6270 East Allston St.
Montebello, 90022
www.mimosala.com

Moneta Nursery

(310) 324-4077
13633 S. Vermont Ave.
Gardena, 90247

Ricardos Nursery

(562) 428-7252
6850 Atlantic Ave.
Long Beach, 90805
www.ricardosnursery.com

Rolling Greens Nursery

www.rollinggreensnursery.com

CULVER CITY

(323) 934-4500
9528 Jefferson Blvd.
Culver City, 90232

HOLLYWOOD

(323) 934-4500
7505 Beverly Boulevard
Hollywood, 90036

San Gabriel Nursery & Florist

(626) 286-0787
632 S. San Gabriel Blvd.
San Gabriel, 91776
www.sgnurserynews.com

Sego Nursery

(818) 763-5711
12126 Burbank Blvd.
North Hollywood, 91607

Sheridan Gardens

(818) 841-8845
817 N. Hollywood Way
Burbank, 91505
http://sheridangardens.com

Sunset Nursery

(323) 661-1642
4368 Sunset Blvd.
Los Angeles, 90029
www.sunsetblvdnursery.com

Tabuchi Nursery

(310) 477-1388
2001 Sawtelle Blvd.
Los Angeles, 90025

Tapia Bros

(818) 905-6155
5251 Hayvenhurst Ave.
Encino, 91316
http://www.tapiabrothers.com

The Garden

(909) 620-0199
867 N. Garey Ave.
Pomona, 91767
www.thegardenonline.com

Uptown Nursery

Flower Factory
(213) 389-1388
2941 West Olympic Blvd.
Los Angeles, 90006
la.koreaportal.com

Virgil's Hardware Home & Garden

(818) 242-1104
520 N. Glendale Ave.
Glendale, 91206

XOTX-TROPICO

(323) 654-9999
900 N. Fairfax Ave.
West Hollywood, 90046
www.xotxtropico.com

Yamaguchi Bonsai Nursery

(310) 473-5444
1905 Sawtelle Blvd.
West Los Angeles, 90025

zone 4

Cosentino's Garden Center

(310) 456-6026
5019 Pacific Coast Hwy.
Malibu, 90265
www.cosentinoflowers.com

Ribbit Tree and Plant

(310) 351-7247
301 Old Topanga Rd.
Topanga, 90290
www.ribbontreeandplant.com

Sperling

(818) 591-9111
24460 Calabasas Rd.
Calabasas, 91302
www.sperlingnursery.com

zone 5

Barristers Nursery & Garden Center

(626) 441-1323
915 Meridian Ave.
Pasadena, 91030
www.barristersnursery.com

Bellefontaine Nursery

(626) 796-0747
838 South Fair Oaks Ave.
Pasadena, 91105
www.bellefontainenursery.com

Burkard Nurseries

(626) 449-1200
690 N. Orange Grove Blvd.
Pasadena, 91103
www.burkardnurseries.com

California Cactus Center Los Angeles

(626) 795-2788
216 S Rosemead Blvd.
Pasadena, 91107
www.cactuscenter.com

Kettle's Nurseries

(626) 798-6787
1950 Lincoln Ave.
Pasadena, 91103

Lincoln Avenue Nursery

(626) 792-2138
804 Lincoln Ave.
Pasadena 91103
www.lincolnavenuenursery.com

Nuccio's Nurseries

(626) 794-3383
3555 Chaney Trail
Pasadena, 91001

Present Perfect

(626) 449-621
140 S Kinneloa Ave.
Pasadena, 91107

Rainbow Garden Nursery

(626) 914-6718
1132 S. Grand Ave.
Glendora, 91740
www.rainbowgardennursery.com

Worldwide Exotics

(818) 890-1915
11157 Orcas Ave.
Lake View Terrace, 91342
www.worldwideexoticsnursery.com

zone 6**Agua Dulce Nursery**

(661) 424-0000
12509 Sierra Hwy.
Santa Clarita, 91390
http://aguadulcenuresery.net

Colorful Gardens Center

(818) 991-4406
28263 Dorothy Dr.
Agoura Hills, 91301

Green Arrow Nursery & Garden Center

(818) 894-8306
8845 Sepulveda Blvd.
North Hills, 91343
www.greenarrownurseries.com

Green Landscape Nursery

(661) 255-8838
26191 Bouquet Canyon Rd.
Santa Clarita, 91350

Green Thumb

(661) 259-1071
23734 Newhall Ave.
Newhall, 91321
http://www.supergarden.com

Matilija Nursery

(805) 523-8604
8225 Waters Rd.
Moorpark, 93021
www.matilijanursery.com

Mel-O-Dee Garden Center

(818) 998-3232
21333 Devonshire St
Chatsworth, 91311

White Forest Nursery

(661) 366-6291
300 Morning Dr.
Bakersfield, 93306
http://www.whiteforestnursery.com

Wild At Heart Nursery

(661) 248-6418
2101 Lebec Rd.
Lebec, 93243
www.wildatheartnursery.com

zone7**Modesto Ash Nursery**

(661) 269-1832
3413 Soledad Canyon Rd.
Acton, 93510

Quartz Hill Garden Center

(661) 943-5222
41947 50th St. W.
Lancaster, 93536

Superior Nursery

(661) 723-0180
42607 Sierra Hwy.
Lancaster, 93535

LA COUNTY ADJACENT**Baron Brothers Nursery Inc.**

(805) 484-0085
7568 Santa Rosa Rd.
Camarillo, 93012
www.baronbrothers.com

Las Pilitas Nursery

(760) 749-5930
8331 Nelson Way
Escondido, 92026
www.laspilitas.com

Moller's Garden Center

(760) 346-0545
72-235 Painters Path
Palm Dessert, 92260
www.mollersgarden.com

The Plant Stand

(714) 966-0797
2972 Century Pl.
Costa Mesa, 92626
www.plantstand.com

growers

These local plant growers don't usually sell their plants to the general public, but your local nursery can order plants for you. Visit their websites for more information about the plants they grow.

Annie's Annuals

(1-800) 819-5913
www.anniesannuals.com

Boething Treeland Farms

(818) 883-1222
www.boethingtreeland.com

California Native Plant Society

(916) 447-2677
www.cnps.org

Colorspot

(310) 549-7470
http://colorspot.com

Damas Nursery

(323) 724-6790
www.damasnursery.com

El Nativo Growers

(626) 969-8449
www.elnativogrowers.com

Garden View Wholesale Nursery

(626) 337-4818
www.garden-view.com

Girasol Nursery

(562) 695-6453
www.girasolnursery.com

Green Meadow Nursery

(805) 498-6997
www.greenmeadownursery.com

Jauregui Nursery

(310) 505-2444
www.jnursery.com

Magic Growers

(626) 797-6511
www.magicgrowers.com

Monrovia Nursery Co

(626) 334-9321
www.monrovia.com

Mountain States

(626) 797-6511
www.mswm.com

Native Sons

(805) 481-5996
www.nativeson.com

Natures Best Nursery

(805) 529-0731
www.naturesbestnursery.net

Progrowers Inc.

(562) 287-0444
http://progrowersinc.com

Recon Native Plants, Inc.

(619) 423-2284
www.reconnativeplants.com

Rolling Hills Nursery

(562) 633-5712
www.rhwholesalenursery.com

San Marcos

(805) 683-1561
www.smgrowers.com

Theodore Payne Foundation

(818) 768-1802
www.theodorepayne.org

Tree Of Life Nursery

(949) 728-0685
www.treeoflifenuresery.com

Village Nurseries

(714) 963-5372
www.villagenurserieslc.com

West Covina Wholesale Nursery

(909) 596-3723
www.cnurseries.com

Windrose Farms

(805) 239-3757
www.windrosefarm.org

seeds

Order seeds for your drought tolerant garden from these local suppliers.

S&S Seeds

(805) 684-0436
www.ssseeds.com

Stover Seed Company

(213) 626-9668
www.stoverseed.com

Renee's Garden

(888) 880-7228
www.reneesgarden.com

Swallowtail Garden Seeds

(707) 538-3585
www.swallowtailgardenseeds.com

botanical gardens

See how plants grow and get inspired! Visit your local botanic garden to see drought tolerant plants growing in your LA Climate Zone.

Antelope Valley California Poppy Reserve

(661) 946-6092
5101 Lancaster Rd.
Lancaster, 93535
www.parks.ca.gov

Descanso Gardens

(818) 949-4292
1418 Descanso Dr.
La Canada Flintridge, 91011
www.descansogardens.org

Fullerton Arboretum

(714) 278-3407
1900 Associated Rd.
Fullerton, 92831

www.arboretum.fullerton

Los Angeles County Arboretum & Botanic Garden

(626) 821-3222
301 North Baldwin Ave.
Arcadia, 91007
www.arboretum.org

Rancho Santa Ana Botanic Garden

(909) 625-8767
1500 N. College Ave.
Claremont, 91711
www.rsabg.org

South Coast Botanic Garden

(310) 544-1948
26300 Crenshaw Blvd.
Palos Verdes Peninsula, 90274
www.southcoastbotanicgarden.org

The Huntington

(626) 405-2100
1151 Oxford Rd.
San Marino, 91108
www.huntington.org

for more information:

SMART GARDENING (LA COUNTY)

Find videos, links and more information about gardening, composting and more:

www.dpw.lacounty.gov/epd/sg

BE WATER WISE (MWD)

Find link to rebates, watering calculators, watering restrictions and more garden tips:

www.bewaterwise.com

WATERSENSE (EPA)

Water conservation indoors and out:

www.epa.gov/watersense

OCEAN FRIENDLY GARDENS

Resources to create drought tolerant gardens and apply C.P.R. - Conservation, Permeability, Retention ©

www.surfrider.org/ofg

your city:

Contact your local City for information about: Planning Department (local rules and ordinances), Street Trees, Turf Removal Rebates, Efficient Irrigation Rebate Programs.

resources:

DIG ALERT Dial 811

www.digalert.org

EQUIPMENT RENTAL

These are just a few of the equipment rental companies with locations throughout LA County. Check local listings to find one close to you.

Home Depot - www.homedepot.com

Lowe's - www.lowes.com

Sunbelt Rentals - www.sunbeltrentals.com

American Rentals - www.american-rentals.com

United Rentals - www.ur.com

PDQ Rentals - pdqrentals.com

FIREWISE GARDENING

Sustainable and Fire Safe Landscapes <http://ucanr.org/sites/SAFElandscapes/>

GARDENING MAGAZINES, TOURS & CLASSES

See your local botanical gardens.

California Native Plant Society

www.lasmmcnps.org

Mediterranean Garden Society

<http://www.mediterraneangardensociety.org/>

Pacific Horticulture

www.pacifichorticulture.org

Rancho Santa Ana Botanic Garden

www.rsabg.org

Sunset Magazine

www.sunset.com/garden

MULCH & COMPOST (Free!)

http://www.lacitysan.org/srpcd/mulch_giveaway.htm

http://www.lacitysan.org/srpcd/mulch_compost.htm

PLANT INFO

California Native Plant Library

www.theodorepayne.org/mediawiki

Plant Right! Avoid Invasive Plants

www.plantright.org

Select the Right Tree

www.selecttree.calpoly.edu

PROFESSIONAL HELP

Professional Landscape Designers, Landscape Architects and Landscape Contractors are standing by, ready to help you plan and install your drought tolerant garden.

APLD

Association of Professional Landscape Designers

www.apldca.org

ARCSA

American Rainwater Catchment Systems Association

www.arcsa.org

ASLA

American Society of Landscape Architects www.socal-asla.org

www.socal-asla.org

CLCA

California Landscape Contractors Association www.clca.org

www.clca.org

IA — Irrigation Association

www.irrigation.org

VEGETABLE GARDENING

Common Ground Garden Program

www.celosangeles.ucdavis.edu/Common_Ground_Garden_Program/

Low-Water Wicking Beds

www.wickingbed.com

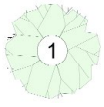
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My Shopping List quantity

My County Zone

My Nurseries



shade tree



street trees



small trees



vines



hedge

48 ground cover quantity



swale plants



grasses



perennial



focal plants



meadow plants



your shopping list



To compost this handbook, remove the metal binding and plastic protective cover and recycle; then place the remaining paper in the compost.