



Office of Sustainability and the Environment
1717 4th Street, Suite 100
Santa Monica, CA 90401
tel: 310-458-2213 | fax: 310-458-1279
environment@smgov.net | www.sustainablesm.org

Revised Water-Efficient Landscape and Irrigation Standards Plan Submittal Requirements 5/7/19

The landscape documentation required for new development projects prior to the issuance of a building permit includes a **landscape planting plan with details and specifications, landscape water demand calculation, and landscape plan submittal verification sheet**. If a new irrigation system is included in the project, then an **irrigation plan with details and specifications and an irrigation plan submittal verification sheet** will also be required. Any revisions to the city-approved landscape plans will require re-submittal and approval. See [Landscape Requirements](#) for the above documents.

Single Family homes must meet the minimum landscape plant requirements of the City's Zoning Ordinance. Landscapes installing new plant material but without a permanent, automated irrigation system, where water is accessed only through a hose bib or quick coupler connection, are not required to submit an irrigation plan as part of the landscape plan submittal package but must include the following note on the Title Sheet:

"No permanent, automated irrigation system to be installed. Any future irrigation system installation will require a full landscape plan submittal for City of Santa Monica review and approval prior to installation and must comply with the City's current Water-Efficient Landscape and Irrigation Standards."

For all plan sheets:

- Include title block information, signatories' company name, address & contact info
- Include a legend of symbols, abbreviations and call-outs or a numbering system to identify the elements drawn in the plan with the legend
- Include directional orientation (North Arrow) and plan scale
- Do not include landscape improvements in the parkway/public right of way
- Do not include California's Model Water-Efficient Landscape Ordinance calculations

The landscape planting plan must have the signature of a licensed architect, licensed landscape architect, licensed landscape contractor, licensed engineer or any other person authorized to design a landscape. (See Sections 5500.1, 5615, 5641, 5641.1, 5641.2, 5641.3, 5641.4, 5641.5, 5641.6, 6701, 7027.5 of the Business and Professions Code, Section 832.27 of Title 16 of the California Code of Regulations, and Section 6721 of the Food and Agriculture Code.)

The irrigation plan must have the signature of a certified irrigation designer, licensed architect, licensed landscape architect, licensed landscape contractor, licensed engineer or any other person authorized to design a landscape. (See Sections 5500.1, 5615, 5641, 5641.1, 5641.2, 5641.3, 5641.4, 5641.5, 5641.6, 6701, 7027.5 of the Business and Professions Code, Section 832.27 of Title 16 of the California Code of Regulations, and Section 6721 of the Food and Agricultural Code.)

A. Landscape Planting Plan Requirements

1. Landscape Water Demand Elements

- a. Show the following Plantable Landscape Area (PLA) Elements (Plantable Landscape Area = Permeable Areas + Planting Areas)
 - i. Proposed or existing building footprint (identified).
 - ii. All proposed or existing hardscape (identified in Legend as new or to remain, appropriately hatched, and labelled impermeable or permeable) such as: Steps, entries, driveways, pathways (e.g. concrete, stone, decomposed granite, gravel), retaining walls, patios, pads, vegetable beds.
 - iii. Pools, spas, ponds, fountains, water walls; Indicate total water feature(s) surface area (including combined horizontal and vertical surface area), and provide a dimensioned detail for fountain/water wall; Indicate any applicable alternative water source used, i.e. greywater, rainwater.
 - iv. Permanent amenities (e.g. barbecues, fire pits, built-in seating).
 - v. Raised planting beds over impermeable hardscape & green roofs.
 - vi. All existing hardscape to remain (identified).
 - vii. Landscape planting areas with approximate plant locations.
 - viii. All other permeable surfaces (e.g. mulch area or artificial turf).
 - ix. Include a plant legend for all plant material, new and existing, with the following information:
 1. Botanical Name.
 2. Common Name.
 3. Specify any non-fruiting, non-invasive, sterile varieties or cultivars of plants for known invasive plants that are otherwise prohibited, i.e., ***Pennisetum setaceum*, *Cortaderia spp.*, *Hedera helix*, and *Nassella tenuissima* are known invasive plants that are prohibited.**
 4. Mixed-Use Development and Institutional Landscape projects must clearly designate recreational turfgrass areas.
 5. Planting Size/Form (Gallon, Box, Seed, Sod, etc.).
 6. Quantity of plant material specified.
 7. Square feet of plant installation (for trees use the tree box installation size, i.e., 36 inch box = 3' x 3' = 9 feet).
 8. Plants irrigated with alternative water source (non-potable), if applicable; do not include the ANSI/ASABE S623.1 plant type or plant factor for this plant material.

9. Plant Type Category and Plant Factor as defined by ANSI/ASABE S623.1.

Plant Factors as Defined by ANSI/ASABE S623.1	
Plant Type	Plant Factor
Tree, Shrub, Vines, Groundcover, Hedge	0.5
Herbaceous Perennials	0.5
Desert Adapted Plants (see Appendix A)	0.3
Annual Flowers & Bedding Plants	0.8
Cool Season Turfgrass	0.8
Warm Season Turfgrass	0.6
Deciduous Fruit Trees	0.8
Evergreen Fruit Trees	1.0
Vegetable Crops	1.0

b. Include the Landscape Water Demand Calculations.

2. Landscape Construction Elements

- a. Include arrows indicating direction of slope and percentage (if not on the architectural or civil site plans); specify check valves where necessary; turfgrass is prohibited on slopes > 25% .
- b. Identify location of any applicable urban runoff mitigation best management practices.
- c. Identify type of mulch and application depth; three (3") inch minimum is required.
- d. Identify soil amendments, type, and quantity.
- e. Include landscape planting details.
- f. Include landscape installation specifications.
- g. Include a landscape maintenance schedule.

3. Landscape Plan Declarations

- a. Include the following notes on one of the Landscape Sheets:

Parkway Declarations:

1. "No mulch shall be applied within six inches (6") of the base of a street tree."
2. "No plant material shall be installed within twenty-four (24") inches of the base of a street tree."
3. "The property owner adjacent to the parkway assumes liability for any improvements to the parkway area."

4. *“All existing sprinklers and spray heads shall be removed in the parkway.”*
5. *“The installation of new sprinkler irrigation systems are prohibited in the parkway.”*
6. *“The installation of any irrigation system in the parkway shall not damage the roots of the street tree.”*

General Declarations:

1. *“Prior to beginning landscape construction call the Private Landscape Inspector at (310) 458-8405. An inspection of the landscape by City staff is required prior to Certificate of Occupancy to ensure that the landscape was built to approved plans and specifications.”*
2. *“Electronic submission of an As-Built set of plans to the City is required if requested by City inspector.”*
3. *“Prior to construction of the landscape or irrigation system, the contractor must obtain and review a copy of the Water-Efficient Landscape and Irrigation Standards.”*
4. *“All landscaping and irrigation systems must comply with all local, state, and federal laws and regulations.”*
5. *“The landscape must be built to the City approved landscape plan set. Any revisions to approved plans will require re-submittal and approval and must comply with the current Water-Efficient Landscape and Irrigation Standards. Any areas of landscape not completed at time of the close of the building construction permit must be covered with a minimum 3 inch (3”) layer of mulch. This includes all exposed soil surfaces of existing planting areas except in turf areas, over creeping or rooting groundcovers, or in direct seeding applications, where mulch is not appropriate. Future landscape installations for incomplete landscape installations must be to the approved landscape plans.”*
6. *“All existing sprinklers and spray heads shall be removed.”*

B. Irrigation Plan Requirements

1. Landscape Water Demand Elements

- a. All irrigation emission devices must be identified. Irrigation efficiency is calculated at 0.80 (80%).

2. Irrigation System Construction Elements

- a. Include water supply type (potable, greywater, rainwater, recycled, etc.).
- b. For potable water connections, including potable make-up systems, identify meter size, service line size, the point of connection, and the static pressure reading. (Contact the City’s Water Meter Shop at (310) 458-8351 for more information).
- c. Indicate Cross-connection control or backflow prevention. Master backflow prevention devices such as a Reduced Pressure Zone Assembly (RP) require

- a plumbing permit. Alternatively, anti-siphon valves satisfy the requirement but must be specified at least 6 inches above the highest downstream emission outlet. For a list of approved backflow prevention assemblies visit <https://fccchr.usc.edu/list.html>.
- d. Indicate leak detection and control system, i.e. master valve and flow sensor or smart controller with flow meter or sensor.
 - e. Include an irrigation legend that indicates the make and model for all irrigation parts, new and existing, including the following at a minimum: master valves (or equivalent), flow sensors (or equivalent), manual shut off valve, pressure regulators, remote control valves (valve), backflow prevention devices, filters, emission devices including bubblers, micro-sprays, drip irrigation tubing and associated components.
 - f. Indicate low head drainage and runoff protection for installations on slopes; i.e., check valves, either in-line or in the emission device.
 - g. Indicate piping and piping depth, pressurized main lines and lateral lines, and drip irrigation layout. Specify main and lateral pipe sizes that will result in the velocity of water moving through these pipes at a rate not exceeding five feet per second for pipes under three inch in diameter and not exceeding seven feet per second for pipes three inch or greater in diameter. Commercial properties must show pipe velocity calculations.
 - h. For each remote control valve, indicate the total gallons per minute, the valve or station number and the size of the valve. Flow rate will determine if low flow valves are required, particularly for drip irrigation systems.
 - i. Group plants on a particular valve according to water needs. Trees should be specified on a separate valve, whenever feasible.
 - j. For each remote control valve, indicate the total square footage of the area being irrigated. If the irrigated area (area watered using potable water through an automated irrigation system and not hand watered) exceeds 5000 square feet on a residential property then a dedicated landscape meter is required. Dedicated landscape meters are required on all commercial properties.
 - k. For each remote control valve, indicate the precipitation or application rate.
 - l. For Institutional Landscapes and Mixed-Use Development projects with recreational turfgrass and overhead irrigation, and where sprinklers are proposed, include sprinkler heads showing head-to-head coverage and 24 inch setback from impermeable hardscape.
 - m. Provide pressure loss calculations for residential landscape properties with over 5,000 square feet of irrigated landscape area and all commercial properties.
 - n. If automating the system, include automatic irrigation controller and sensor(s) information, including required rain shut off and delay devices such as a rain sensor, soil moisture sensor or weather based irrigation controller.

- o. Include an irrigation watering schedule. Schedule should take into account the parameters used to program the specified irrigation controller.
- p. Identify any applicable greywater discharge piping, system components and area(s) of distribution.
- q. Include irrigation installation details.
- r. Include irrigation installation specifications.
- s. Include an irrigation maintenance schedule.

3. Irrigation Plan Declarations

- a. Include the following notes on one of the Irrigation Sheets:

Irrigation Declarations:

1. *“Prior to backfilling or covering up the underground irrigation pipe laterals, contact the Private Landscape Inspector at (310) 458-8405.”*
2. *“After irrigation system installation is completed installer shall test the irrigation system to verify that it meets the approved design and specifications.”*
3. *“After irrigation system installation is completed installer must program the irrigation controller.”*
4. *“Post-installation soil test results must be submitted at time of final site inspection and must contain the following: percentage (%) of organic matter; soil texture; infiltration rate or soil texture infiltration rate table; pH; total soluble salts; sodium; and recommendations determined by laboratory test.” Landscapes contained entirely in planters or containers are exempt from this requirement.*
5. *“A detailed irrigation controller map must be installed inside or near the irrigation controller with a description for each zone including the following at a minimum: plant material, watering device, valve or station number, run time for peak demand month and precipitation rate.”*
5. *“The irrigation schedule must be posted inside the irrigation controller housing unit by the installer.”*
6. *“The irrigation system must comply with all local, state, and federal laws and regulations.”*
7. *“The irrigation designer or landscape architect or landscape designer shall perform one or more site observations during system installation to check for adherence to the design, including that the proper installation of the backflow prevention assembly, main line, laterals, valves, sprinkler heads, drip irrigation equipment, control wire, controllers, and sensors meets the intent of the irrigation design plan as designed and approved.”*

Appendix A Approved Desert Adapted Plant Material List

This list is based on the ANSI/ASABE S623.1 standard that categorizes Desert Adapted Plants as plant material that is physiologically adapted to desert-like conditions of drought, heat and reduced summer watering. In addition, some plant material with a Water Use Classification Of Landscape Species (WUCOLS IV) plant factor of 'Very Low' or 0.1 for the City of Santa Monica is also being included in this list. *Do Not include WUCOLS plant factors on plan set.*

Botanical Name	Common Name
<i>Abutilon palmeri</i>	Indian mallow
<i>Acacia spp.</i>	Acacia
<i>Achillea spp.</i>	Yarrow
<i>Adenostoma fasciculatum</i>	Chamise
<i>Aeonium spp.</i>	Canary Island rose
<i>Agave spp.</i>	Agave
<i>Agonis flexuosa & cvs.</i>	Peppermint tree
<i>Aloe spp. (CA native & non-native)</i>	Aloe
<i>Alyogyne huegelii</i>	Blue hibiscus
<i>Anigozanthos spp.</i>	Kangaroo paw
<i>Arbutus "Marina"</i>	Marina arbutus
<i>Arbutus unedo</i>	Strawberry tree
<i>Arctostaphylos spp.</i>	Manzanita
<i>Arctotis spp. & cvs.</i>	African daisy
<i>Aristida purpurea</i>	Purple three-awn
<i>Artemisia spp.</i>	Sagebrush
<i>Asclepias (CA native species)</i>	Milkweed
<i>Baccharis pilularis & cvs.</i>	Coyote bush
<i>Baileya multiradiata</i>	Desert marigold
<i>Beaucarnea recurvata (Nolina recurvata)</i>	Ponytail palm
<i>Bougainvillea cvs.</i>	Bougainvillea
<i>Bouteloua curtipendula</i>	Side-oats grama
<i>Bouteloua gracilis</i>	Blue grama
<i>Brachychiton populneus</i>	Bottle tree
<i>Caesalpinia pulcherrima</i>	Dwarf poinciana
<i>Calandrinia spp. & cvs.</i>	Rock purslane
<i>Calliandra californica</i>	Baja fairy duster
<i>Calliandra eriophylla</i>	Fairy duster
<i>Callistemon spp.</i>	Bottlebrush
<i>Calothamnus quadrifidus</i>	Net bush
<i>Ceanothus spp.</i>	CA Lilac
<i>Cephalophyllum spp.</i>	Ice plant (Cephalophyllum)
<i>Cereus peruvianus</i>	Peruvian apple cactus
<i>Chamaerops humilis</i>	Mediterranean fan palm

Botanical Name	Common Name
<i>Chilopsis linearis</i>	Desert willow
<i>Cistanthe grandiflora</i>	Rock purslane
<i>Cistus spp. and cvs.</i>	Rockrose
<i>Convolvulus sabatius (C. mauritanicus)</i>	Ground morning glory
<i>Correa spp. & cvs.</i>	Australian fuchsia
<i>Crassula spp.</i>	Crassula
<i>Cupressus sempervirens</i>	Italian cypress
<i>Dasyilirion spp.</i>	Desert spoon
<i>Delosperma spp.</i>	Ice plant (Delosperma)
<i>Dodonaea viscosa "Purpurea"</i>	Purple hopseed bush
<i>Dracaena draco</i>	Dragon tree
<i>Drosanthemum spp.</i>	Ice plant (Drosanthemum)
<i>Dudleya spp.</i>	Dudleya, live forever
<i>Dymondia margaretae</i>	Dymondia
<i>Echeveria spp.</i>	Hens and chickens
<i>Echium candicans (fastuosum)</i>	Pride of Madeira
<i>Encelia californica</i>	Coast sunflower
<i>Epilobium spp. (Zauschneria) & cvs.</i>	California fuchsia
<i>Erigeron glaucus</i>	Beach aster
<i>Eriogonum fasciculatum</i>	California Buckwheat
<i>Eriophyllum confertiflorum</i>	Golden yarrow
<i>Eschscholzia californica</i>	California Poppy
<i>Eucalyptus citriodora (Corymbia citriodora)</i>	Lemon scented gum
<i>Euphorbia rigida</i>	Gopher spurge
<i>Euphorbia tirucalli & cvs.</i>	Milk bush
<i>Fouquieria splendens</i>	Ocotillo
<i>Furcraea spp.</i>	Furcraea
<i>Geijera parviflora</i>	Australian willow
<i>Globularia x indubia</i>	Globe daisy
<i>Graptopetalum spp. & cvs.</i>	Graptopetalum
<i>Graptoveria cvs.</i>	Graptoveria
<i>Grevillea spp. & cvs.</i>	Grevillea
<i>Helichrysum petiolare</i>	Licorice plant
<i>Hesperaloe parviflora</i>	Red yucca
<i>Hesperoyucca spp.</i>	Yucca/Our lord's candle
<i>Heteromeles arbutifolia</i>	Toyon
<i>Heuchera maxima</i>	Island alum root/Coral bells
<i>Juniperus spp.</i>	Juniper
<i>Lampranthus spp.</i>	Ice plant (Lampranthus)
<i>Lantana spp. & cvs.</i>	Lantana
<i>Laurus nobilis</i>	Sweet bay
<i>Lavandula spp. & cvs.</i>	Lavender
<i>Lavatera assurgentiflora</i>	Malva Rose
<i>Leonotis leonurus</i>	Lion's tail

Botanical Name	Common Name
<i>Leptospermum</i> spp. & cvs.	Tea tree
<i>Lessingia filaginifolia</i> v. <i>californica</i>	Carmel Aster
<i>Leucadendron</i> spp. & cvs.	Conebush
<i>Leucophyllum</i> spp. & cvs.	Purple sage, Texas ranger
<i>Leucospermum</i> spp & cvs.	Pincushion bush
<i>Limonium perezii</i> (<i>Statice perezii</i>)	Sea lavender
<i>Lobelia laxiflora</i>	Mexican lobelia
<i>Lomandra longifolia</i>	Spiny headed mat rush
<i>Lonicera subspicata</i>	Chaparral honeysuckle
<i>Lupinus albifrons</i>	Silver lupine
<i>Lyonothamnus floribunda</i> ssp. <i>asplenifolius</i>	Fern-leaved Catalina Ironwood
<i>Malephora</i> spp.	Ice plant (Maleophora)
<i>Melianthus major</i>	Honey bush / flower
<i>Melica imperfecta</i>	Coast Range Onion Grass
<i>Mimulus aurantiacus</i> & cvs. (<i>Diplacus</i>)	Sticky monkey flower
<i>Muhlenbergia rigens</i>	Deer grass
<i>Narcissus</i> spp.	Daffodil
<i>Nerium oleander</i> & cvs.	Oleander
<i>Oenothera speciosa</i> (<i>O. berlandieri</i>)	Mexican evening primrose
<i>Olea europaea</i>	European olive
<i>Opuntia</i> spp. & cvs.	Prickly pear/cholla
<i>Osteospermum</i> spp.	African daisy
<i>Parkinsonia</i> spp.& cvs.	Palo verde
<i>Penstemon</i> (native) spp. & cvs.	Penstemon
<i>Phlomis fruticosa</i>	Jerusalem sage
<i>Phyla nodiflora</i> (<i>Lippia nodiflora</i>)(<i>Kurapia</i> ©)	Cape weed
<i>Pinus pinea</i>	Italian stone pine
<i>Portulacaria afra</i> & cvs.	Elephant's food
<i>Prosopis</i> spp. & cvs.	Mesquite
<i>Prunus ilicifolia</i> ssp.& cvs.	Hollyleaf/Catalina cherry
<i>Quercus agrifolia</i>	Coast live oak
<i>Rhamnus californica</i> (<i>Frangula</i>)	California Coffeeberry
<i>Rhus integrifolia</i>	Lemonade berry
<i>Ribes speciosum</i>	Fuchsia flowering gooseberry
<i>Romneya coulteri</i>	Matilija Poppy
<i>Rosa minutifolia</i>	Baja CA Wild Rose
<i>Rosmarinus</i> spp. & cvs.	Rosemary
<i>Ruschia lineolata</i>	Carpet of the Stars
<i>Salvia apiana</i>	White sage
<i>Salvia "Bee's Bliss"</i>	Bee's Bliss sage
<i>Salvia chamaedryoides</i>	Blue sage
<i>Salvia clevelandii</i> & cvs.	Cleveland sage
<i>Salvia leucantha</i> & cvs.	Mexican bush sage
<i>Salvia leucophylla</i> & cvs.	Purple sage

Botanical Name	Common Name
<i>Salvia mellifera</i> & cvs.	Black/green sage
<i>Salvia sonomensis</i> & cvs.	Sonoma sage
<i>Salvia spathacea</i> & cvs.	Hummingbird/pitcher sage
<i>Sansevieria</i> spp.	Mother-in-law's tongue
<i>Santolina</i> spp.	Lavender cotton
<i>Schinus molle</i>	California pepper tree
<i>Sedum</i> spp. (<i>Hylotelephium</i> spp.)	Stone crop
<i>Senecio serpens</i> (<i>Kleinia repens</i>)	Blue chalksticks
<i>Senecio talinoides</i> & cvs. (<i>cylindricus</i> , <i>mandraliscae</i>)	Blue finger
<i>Senecio viravira</i>	Dusty miller
<i>Senna artemisioides</i> (<i>Cassia artemisioides</i>)	Feathery cassia/senna
<i>Sisyrinchium bellum</i> & cvs.	Blue-eyed grass
<i>Stipa pulchra</i>	Purple Needlegrass
<i>Tagetes lemmonii</i>	Mountain marigold
<i>Tecoma capensis</i>	Cape honeysuckle
<i>Teucrium chamaedrys</i> (<i>fruticans</i>)	Bush Germander
<i>Teucrium x lucidrys</i>	Wall germander
<i>Trichostema lanatum</i>	Woolly blue curls
<i>Umbellularia californica</i>	California bay
<i>Verbena lilacina</i> (<i>Glandularia</i>)	Lilac verbena
<i>Westringia fruticosa</i> (<i>W. rosmariniformis</i>)	Coast rosemary
<i>Yucca</i> spp.	Yucca

For helpful guidelines for complying with the City's Landscape Standards please visit the Landscape Requirements webpage on sustainable.sm.org/landscape.