WATER EFFICIENT LANDSCAPE DESIGN MANUAL

COUNTY OF SAN DIEGO

DEPARTMENT OF PLANNING AND LAND USE

DPLU (02/10)

APPROVAL

I hereby certify that this **Water Efficient Landscape Design Manual** has been considered and approved by the Director of Planning and Land Use on this 16th day of February, 2010, to be used in conjunction with the County's Water Conservation in Landscaping Ordinance, County Code, Title 8, Division 6, Chapter 7.

ERIC GIBSON
Director of Planning and Land Use

PURPOSE

Impacts from landscaping can improve or impair quality of life. Landscaping affects water conservation, fire protection, soil erosion, storm-water management, wildland preservation, health standards, recreation and aesthetics. The primary purpose of this document is to provide guidance on landscaping design and installation that encourages the efficient use and conservation of water. It also encourages landscapes that create defensible space in the event of a wildfire.

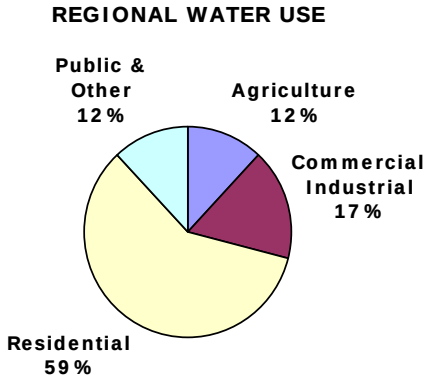
This document incorporates the requirements of the County's Water Conservation in Landscaping regulations (County Code of Regulatory Ordinances Section 86.701 *et seq.*) with landscape design guidelines and installation specifications. It provides guidance on preparing the various components of landscape plans which may be required as part of a discretionary or ministerial permit process. Compliance with this manual will result in a more efficient process and avoid unnecessary time delays. For those people who are not required to submit a formal landscape plan, this manual serves as a
resource to educate and assist in the design and installation of a water efficient landscape.

Lake Oroville June 2005

Lake Oroville February 2008

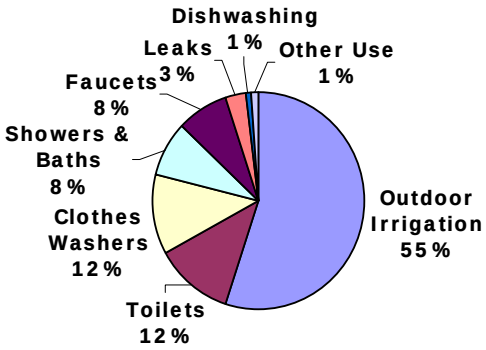
Lake Oroville November 2008

TABLE OF CONTENTS



"Estimates of Water Use in the San Diego Region." *Our Water, Our Future – 2009 Update*, California Landscape Contractors Association, San Diego Chapter, May 2009

SINGLE FAMILY RESIDENTIAL



"Estimates of Water Use in the San Diego Region." *Our Water, Our Future – 2009 Update*, California Landscape Contractors Association, San Diego Chapter, May 2009

Cover photograph of the Water Conservation Garden at Cuyamaca College taken by Dixie Switzer.

SECTION 1
APPLICABILITY AND PROCESS

A. Construction of New Single-Family Residences

1. Landscapes under 5,000 square feet

a. A Residential Outdoor Water Use Compliance form must be submitted to the Department of Planning and Land Use for all new construction of primary single-family residences that meet the applicability requirements of the Water Conservation in Landscaping regulations and that contain a landscaped area of less than 5,000 square feet. The regulations apply to residences that are or will be served by a member agency of the San Diego County Water Authority (Appendix J) or by the Borrego Water District.

b. The application may be submitted by the property owner or the owner's agent. The application must be approved by the Director of Planning and Land Use in order to obtain a Water Use Authorization, as described in the County Code of Regulatory Ordinances Section 86.704, and to receive a building permit.

c. The application consists of project information, the size of the landscaped area, the water supply type, and calculation of the maximum applied water allowance (MAWA). It also includes a certification that the installation and maintenance of the landscape and the irrigation system will comply with County regulations and will not exceed MAWA. (See Appendix B).

2. Landscapes 5,000 square feet or greater

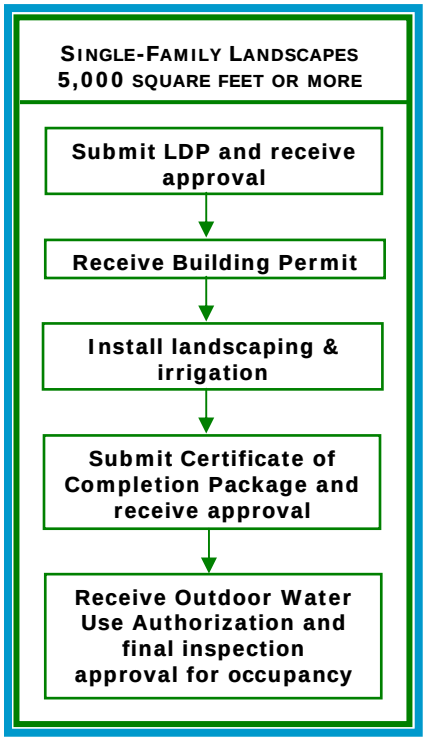
a. A Landscape Documentation Package (LDP) must be submitted to the Department of Planning and Land Use for all new construction of primary single-family residences that meet the applicability requirements of the Water Conservation in Landscaping regulations and that contain a landscaped area of 5,000 square feet or greater.

The LDP is described in detail in Section 2 of this manual. The regulations apply to residences that are or will be served by a member agency of the San Diego County Water Authority (Appendix J) or by the Borrego Water District.

b. The LDP must be prepared and certified by a California licensed landscape architect, licensed civil engineer, licensed architect, or licensed landscape contractor. The LDP must be approved by the Director of Planning and Land Use in order to obtain an Outdoor Water Use Authorization as described in the County Code of Regulatory Ordinances Section 86.704.

c. If the LDP is prepared by a California licensed landscape contractor, evidence of a signed contract with the property owner, acknowledging that the contractor will also install the landscaping, must be provided as part of the LDP submittal.

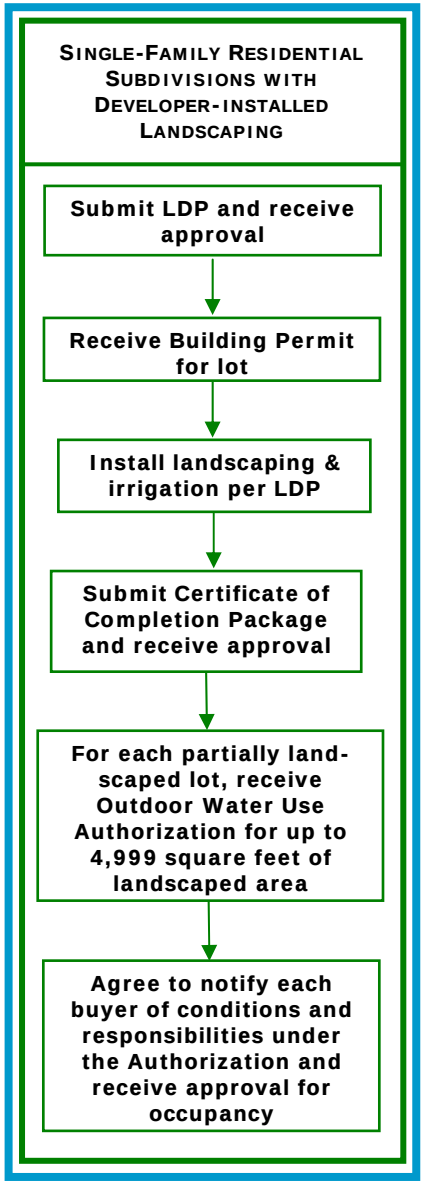
d. The LDP must be submitted and approved prior to issuance of the building permit. Upon installation of the landscaping and the irrigation system, the applicant will submit a Certificate of Completion Package (County Code of Regulatory Ordinances Section 86.722). The landscaping and the irrigation system must be installed and approved before final inspection of the residence will be approved for occupancy.



3. Single Family Residential Subdivisions

a. Before a building permit can be issued for an individual lot within a residential subdivision where no landscaping will be installed by the developer, an Outdoor Water Use Authorization must be issued. The Outdoor Water Use Authorization will be issued to the developer based on the water budget for the entire landscaped area up to a maximum of 4,999 square feet.

b. Before a building permit can be issued for an individual lot where all or any portion of the landscape will be installed by the developer, the



developer must receive approval for the Landscape Documentation Package (LDP).

c. If the developer allows the buyer to choose from among various standard landscape design plans, one set of plans must be submitted and approved for each standard design. If the landscaping on a lot will not conform to an approved design plan, the developer must submit a separate set of plans for each non-standard landscape.

d. If the developer installs only a portion of the landscaping on a lot:

   i. The Outdoor Water Use Authorization will be issued to the developer based on the water budget for the entire landscaped area up to a maximum of 4,999 square feet.

   ii. The estimated total water use of the installed landscape must not be greater than the water budget calculated for the square footage of the area where the landscape is installed.

e. A Certificate of Completion must be submitted for any lot where all or a portion of the landscape will be installed by the developer.

f. The developer must advise the buyer of the Outdoor Water Use Authorization and the buyer's obligation not to exceed the outdoor water budget established by the authorization. The developer must inform the buyer that if the buyer wishes to increase the landscaped area beyond 4,999 square feet, the buyer must contact the County for a modification to the Outdoor Water Use Authorization.

B. Construction of New Commercial, Industrial, Civic, and Multifamily Landscapes of 1,000 square feet or more and New Single-Family Common Area Landscapes of 1,000 square feet or more

1. Concept Plan

a. Landscape projects that meet the applicability requirements of the Water Conservation in Landscaping Regulations and are required to

submit an application for a discretionary permit must submit a concept plan as part of the discretionary permit process (Sec. 86.704 (b)(2)).

b. The concept plan is a generalized notion as to how the goal of water conservation will be attained. It should include a representation of the site features, proposed plantings and the proposed method and type of irrigation.

c. When a concept plan is submitted, it will be compared to the Landscape Documentation Package which is required before a building permit for the site can be issued.

2. Landscape Documentation Package

a. The Landscape Documentation Package (LDP) is a detailed plan submittal that is required before a building permit will be issued. The LDP is described in detail in Section 2 of this manual.

b. The LDP must be prepared and certified by a California licensed landscape architect, licensed civil engineer or licensed architect.

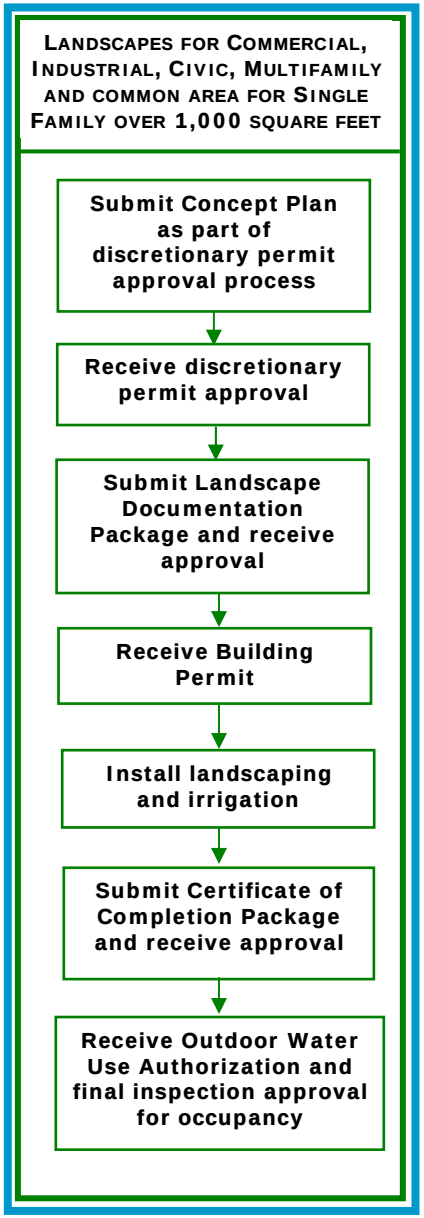
c. The LDP must be approved by the Director of Planning and Land Use in order to obtain an Outdoor Water Use Authorization as described in the County Code of Regulatory Ordinances Section 86.704.

d. The LDP must be submitted and approved prior to issuance of a building permit.

e. Upon installation of the landscaping and the irrigation system, the applicant will submit a Certificate of Completion (County Code of Regulatory Ordinances Section 86.722).

f. The landscaping and the irrigation system must be installed and approved before final inspection of the site will be approved for use or occupancy.

g. The landscape architect, civil engineer or architect shall conduct periodic site visits during construction to ensure that the landscaping



and irrigation system are being installed per the approved Landscape Document Package and shall certify to such as part of the Certificate of Completion requirements.

C. Model Homes

1. The new construction of a model home in a residential development that is subject to the Water Conservation in Landscaping regulations requires the submittal and approval of a Landscape Documentation Package and a Certificate of Completion before occupancy is permitted.
2. In addition, the developer must provide educational materials on water efficient landscaping and irrigation requirements to visitors.
3. Each model must have a sign in the front yard. The sign must be visible and readable from the roadway that the home faces. The sign must state in capital lettering at least two inches high, "THIS MODEL HOME USES WATER EFFICIENT LANDSCAPING AND IRRIGATION."

D. Public Agencies

A public agency project that contains a landscaped area of 1,000 square feet or more is required to submit a Landscape Documentation Package and a Certificate of Completion.

E. Cemeteries

1. The applicant does not need to submit a Landscape Documentation Package, but must submit a concept plan and a water efficient irrigation worksheet with the application for the discretionary permit.
2. The applicant is also required to submit a landscape and irrigation maintenance schedule.

F. Graded Slopes

An applicant for any discretionary permit that includes grading and landscaping, where the landscaping will require temporary or permanent

irrigation, must submit a Landscape Documentation Package and Certificate of Completion to the Department of Planning and Land Use. Occupancy of the site may be delayed until the landscaping is sufficiently established to prevent erosion as required by the County Grading Ordinance.

SECTION 2
LANDSCAPE DOCUMENTATION PACKAGE

A. General Information

1. A Landscape Documentation Package (LDP) must be submitted to the Department of Planning and Land Use for all landscape projects that meet the applicability requirements of the Water Conservation in Landscaping regulations with the exception of the new construction of single-family residences with landscapes less than 5,000 square feet. The Landscape Documentation Package shall address water conservation techniques and efficient irrigation systems. The owner or his agent shall be responsible for implementation of the Landscape Documentation Package.
2. The LDP must be prepared and certified by a California licensed landscape architect, licensed civil engineer or licensed architect. A California licensed landscape contractor may prepare and certify the LDP for the homeowner of a single family residence if evidence of a signed contract with the property owner, acknowledging that the contractor will also install the landscaping, is provided.
3. The LDP must be submitted and approved before a building permit will be issued. The landscape architect, civil engineer, architect, or landscape contractor shall conduct periodic site visits during construction to ensure that the landscaping and irrigation system are being installed per the approved Landscape Document Package and shall certify to such as part of the Certificate of Completion requirements.

GIVE YOUR LANDSCAPE A MAKEOVER

- **Simple design changes can save water and give your landscape a fresh, new look.**
- **Replace lawn areas with water smart groundcovers, trees and shrubs.**
- **Use permeable landscaping materials to create pathways or borders.**
- **Attend classes on water smart landscaping.**
- **Visit the Water Conservation Garden at Cuyamaca College or the Quail Botanical Gardens in Encinitas.**
- **Look for water-saving plants at local nurseries.**
- **Check with your water agency or equipment retailer for rebates on irrigation equipment.**

4. The LDP consists of:
   a. Project Information
   b. Water Efficient Landscape Worksheet
   c. Landscape Design Plan
   d. Irrigation Design Plan
   e. Grading Design Plan
   f. Soil Management Report
5. The LDP must be approved by the Director of Planning and Land Use in order to obtain a Water Use Authorization as described in the County Code of Regulatory Ordinances Section 86.704.

B. Project Information

The applicant shall provide the following information:

1. Date of application
2. Project applicant
3. Project Address (including parcel and lot number(s))
4. Total irrigated landscape area (square feet)
5. Landscape type (e.g., new, existing, public, private, cemetery, home-owner installed, etc)
6. Water supply type (potable, recycled, well)
7. Checklist of all documents in Landscape Documentation Package
8. Project contact information for the Project Applicant and Property Owner

C. Water Efficient Landscape Worksheet

See Appendix C for the required Worksheet to verify that the project's Estimated Total Water Use (ETWU) does not exceed the project's Maximum Applied Water Allowance (MAWA).

1. For the calculations of the MAWA, the evapotranspiration adjustment factor (ETAF) is equal to .7 except for special landscaped areas where the ETAF is equal to 1, pursuant to the County Code of Regulatory Ordinances Section 86.711.
2. For calculation of the ETWU, a project applicant shall use the evapotranspiration values from the Reference Evapotranspiration (ETo) Table or the average annual ETo value based on the County classification of the Community Planning Area where the site is located. See Appendix A for the ETo Table and information on County classifications and corresponding average ETo values.
3. Each hydrozone in the landscape plan must be categorized (low, moderate, high water use or special landscaped area) based on the plant within the hydrozone with the highest plant factor. The applicant shall utilize the Water Use Classification of Landscape Species publication (WUCOLS) to determine plant factors (crop coefficients).
4. High water use plants cannot be planted in a low water use hydrozone.
5. All surface area of water features shall be included in a high water use hydrozone.
6. Temporarily irrigated areas shall be included in a low water use hydrozone.
7. Artificial turf shall be included in a low water use hydrozone.
8. After the appropriate hydrozone category has been established, the ETWU calculation will utilize an average plant factor for each hydrozone category as shown on the Worksheet in Appendix C.

Highest Plant Factor	Hydrozone Category
0.0 – 0.3	Low water use
0.4 – 0.6	Medium water use
0.7 – 1.0	High water use

Example of a landscape using low water use plants

D. Landscape Design Plan

For the efficient use of water, a landscape shall be carefully designed and planned for the intended function of the project.

1. General Submittal Requirements

a. Submit two complete sets.

b. Submit a copy of the project's Storm Water Management Plan (SWMP) with all vegetated Best Management Practices (BMPs) highlighted. SWMP must a copy of the approved plan or most recent version, updated and highlighted for landscape review. See Section 2.D.11.

c. Plans must address fire safety issues and demonstrate compliance with State and County requirements for defensible space around buildings and structures.

d. Plans must be standard 24" X 36" blueprint sheets. Any other size is not acceptable.

e. Scale is 1" = 20' or smaller (such as: 1" = 10' or 1" = 5').

f. Plans must be legible, professionally prepared and a print of an original drawing. Photocopies are not acceptable.

g. All sheets must be signed, stamped, and dated along with a renewal date by the professional licensed by the State of California who prepared the plans.

h. Each sheet must contain the following certification:

I am familiar with the requirements for landscape and irrigation plans contained in the County Landscape Water Conservation regulations, in Title 8, Division 6, Chapter 7. I have prepared this plan in compliance with those regulations. I certify that the plan implements those regulations to provide efficient use of water.

2. Plan Requirements

Plans shall:

a. Delineate and label each hydrozone by number, letter, or other method.

b. Identify each hydrozone as low, moderate, high water use or a special landscaped area.

c. Show specific location of all vegetation, retained or planted, the plant spacing and plant size.

d. Include a legend listing the common and botanical plant names of each plant shown on the drawing.

e. Identify recreational areas (both passive and active) except on plans for single family residential projects.

f. Identify areas permanently and solely dedicated to edible plants.

g. Identify areas irrigated with recycled water.

h. Identify temporarily irrigated areas.

i. Show all pervious and non-pervious hardscapes.

j. Show all natural features.

k. Identify the type, and surface area of all water features.

l. Identify the type and amount of mulch for each area where mulch is applied.

m. Identify any soil amendments, the type, and quantity.

3. Plant Material

a. Landscaping includes the planting and maintenance of trees, groundcover, shrubs, vines, flowers, or turf varieties. In addition, when appropriate for the site and intended use, the landscaping may include natural features such as rock and stone or structural features including, but not limited to, fountains, pools, art work or pervious pathways.

b. Plants shall be selected and planted appropriately based upon their adaptability to the climatic, geologic and topographical conditions of

the project site. Low-water use, deep-rooted plants and native species are highly recommended, as well as plants that are well-suited for the soil type that exists on site.

c. Plants shall be grouped into hydrozones with plant species having similar water demands and by their soil, sun, shade, and maintenance requirements.

d. Within hazardous fire areas, highly flammable plant materials and mulches, such as straw or small wood chips, should be avoided. Refer to the plant list in Appendix G for plants that are both ignition resistive and low water use. Also see Section 2.D.7.

e. Plant material used in landscapes within the wildland/urban interface should design and maintain a defensible, ignition resistive landscape. Projects are encouraged to use ignition-resistive, low water use plants that reduce the chance for embers from the plants to spread to either urban areas or wildlands.

f. Plantings in transitional areas must consist of site adaptive and compatible native species and may also be combined with site adaptive and compatible non-native species. Invasive plant species must not be planted in transitional areas and must be eradicated when and where they occur. See Section 2.D.6. and Appendix I.

Once a year, groom ornamental grasses. Do not mow.

Buffalo Grass

California Meadow Sedge

4. Turf Areas

a. Turf must be efficiently irrigated so as to avoid runoff or overspray.

b. Turf shall not be allowed in an area that is less than eight feet wide in any direction unless low volume or subsurface irrigation is utilized.

c. Turf shall not be allowed within 24 inches of impermeable surfaces unless it is irrigated with low volume or subsurface irrigation or unless the adjacent impermeable surfaces are designed and constructed to cause water to drain entirely into a landscaped area.

d. Turf shall not be allowed on slopes where the grade is greater than 25 percent (4:1) and where the toe of the slope is adjacent to an impermeable hardscape unless the turf is irrigated with low volume or subsurface irrigation .

e. All large turf areas in projects such as, but not limited to, ball fields, cemeteries and parks shall be designed to limit the use of turf in any portion of the landscaped area not essential to operation of the facility.

f. Turf shall not be allowed in center island median strips, parking lot islands or public right of way.

g. Turf shall not be allowed in locations inaccessible and unusable to the public or site occupants. This restriction does not apply to single-family residential landscapes.

h. Decorative cool season turf shall not exceed 15 percent of the landscape area, unless recycled (non-potable) water has been approved and used for irrigation at the site. This restriction does not apply to single-family residential landscapes.

5. Water Features

a. Recirculating water systems must be used for decorative water features.

b. The surface area of a water feature shall be included in the high water use hydrozone area of the water budget calculations unless the water feature is a recreational pool or spa and is equipped with a durable cover. If a cover is used, the pool or spa may be included in a moderate water use hydrozone.

c. The total of all water features, excluding a recreational pool or spa, is limited to 15 percent of the total landscaped area.

TURF MANAGEMENT

- **30% of San Diego's water is used to irrigate residential landscapes. Turf consumes the majority of that water.**
- **Turf should be at least 2 to 3 inches high.**
- **Leave grass clippings on the lawn**
- **Use warm season turf instead of cool season turf.**
- **As an alternative, try low water use ornamental grasses such as buffalo grass or California meadow sedge.**
- **Dethatch or aerate your lawn to allow water to penetrate the soil.**

d. If groundwater resources are proposed to be used, long term availability of this resource and the water quality must be approved to the satisfaction of the Director of Planning and Land Use.

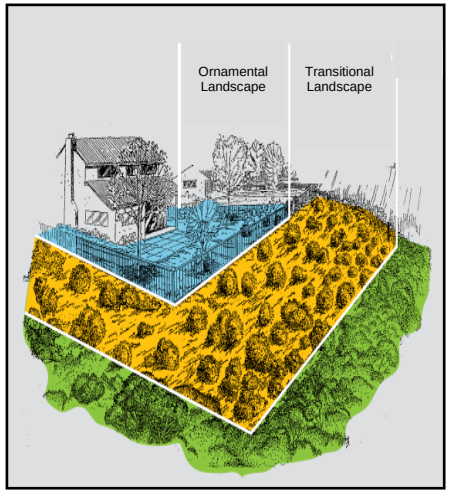


Illustration of a Transitional Landscape

6. Transitional Landscapes

a. Transitional landscape areas are the areas between non-native landscapes and undeveloped areas. The plants specified for transitional landscapes, including slopes and other disturbed areas typically consist of a combination of site adaptive and compatible native and non-native species. The mix of native and non-native plant materials should generally vary, with areas contiguous to existing native vegetation being planned with predominantly native material.

b. Invasive (i.e., those capable of reproducing and spreading into native, non-irrigated areas and displacing those communities) non-native plant species are prohibited in all transitional landscapes. Invasive plants that sprout in transition areas shall be promptly abated. The irrigation in a transitional area shall not influence adjacent vegetation.

7. Fuel Management

a. Combustible vegetation must be cleared in a 100-foot radius from any structure. Combustible vegetation is any material that left in its natural state will readily ignite, burn and cause fire to move to any structure or other vegetation. Examples are dry grass, brush, weeds, litter, waste and dead and dying vegetation. See the Undesirable Plant List in Appendix H for plants to avoid.

i. The first 50 feet from the structure may be permanently irrigated and planted with ignition resistive plants which must be maintained all year around.

ii. Within the remaining 50 feet of the 100-foot area, all dead and dying vegetation must be removed and the remaining vegetation must be thinned by 50 percent.

b. Vegetation can only be removed or thinned by mowing, cutting or grazing. The root structure must be left intact to prevent erosion. Do not completely remove or disturb the existing plant root system.

c. No irrigated or non-native landscaping is allowed within an open space easement.

d. Trees that overhang or touch your structures must be trimmed back away from the structure.

e. Remove any tree limbs within 10 feet of your chimney.

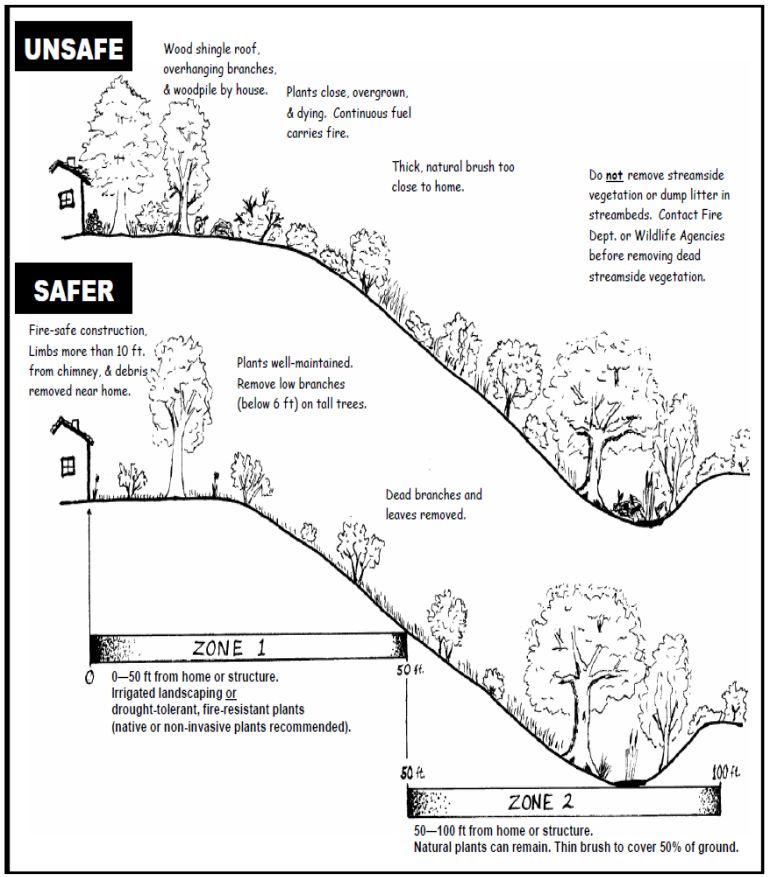
f. For fire truck access, remove trees and shrubs within 10 feet of each side of your driveway.

g. Avoid planting trees under or near electrical lines. If the trees grow into overhead lines or make contact with overhead lines under windy conditions, they could cause a fire.

h. Existing trees should be pruned by cutting off any branches up to 6 feet above the ground and the vegetation beneath the canopy of the tree should be trimmed to prevent ground fires from spreading upward into trees.

i. Vary the height of plants and adequately space them. Taller plants need to be spaced wider apart.

j. To conserve water, plant low water use trees and shrubs that can be maintained by deep watering as infrequently as once or twice a month.



k. Work with your neighbors to clear common areas between houses, and prune areas of heavy vegetation that are a fire threat to both properties.

Properly maintained defensible space saves property and lives.

l. If you have a heavily wooded area on your property, removing dead, weak or diseased trees may improve growing conditions. This will leave you with a healthy mixture of both new and older trees.

m. Except in hazardous fire areas, any removed trees may be chipped and used as mulch provided the depth of the mulch does not exceed six inches. In hazardous fire areas, highly flammable mulch such as straw or small size wood chips must not be used.

n. Don't forget to legally dispose of all your cut vegetation. You may contact your local landfill to inquire about green waste recycling. Open burning may not be allowed. Contact your fire agency for more information.

o. Stack firewood and scrap wood piles at least 30 feet from any structure and clear away any combustible vegetation within 10 feet of the piles. Many homes have survived as a fire moved past it, only to burn later from a wood pile that caught fire after the firefighters had moved on to protect other homes.

p. Check and clean your roofs and gutters on all structures several times during the spring, summer and fall to remove debris that can easily ignite from a spark.

q. Check with your local fire district for additional requirements.

8. Slope Erosion Control

a. At a minimum, all manufactured slope areas shall be covered within 10 days of completion of grading with hydroseed/mulch, punched straw mulch, jute netting or other approved geotextile material capable of controlling surface soil erosion.

b. Except where approved otherwise, all slopes and any other areas disturbed in conjunction with grading activities shall be maintained until vegetation is established, with coverage equal to at least 70 percent of the coverage achieved by native background plants. This threshold must be met before occupancy of the site will be permitted.

c. A minimum of 50 percent of the total slope area of manufactured slopes shall be planted with deep rooting plantings (i.e., those with a typical root depth of approximately 5 feet or greater). For seeded plantings, at least 50 percent of the viable seed count shall be deep rooting species.

d. All plant materials on manufactured slopes shall be appropriate to the site conditions, shall be water efficient when established and shall be adequately spaced to control soil erosion.

e. All slopes in excess of 15 feet shall be planted with rooted container stock at an average rate of one per 100 square feet unless approved otherwise by the Director of Planning and Land Use. Containers shall be a minimum of one gallon for shrubs and five gallons for trees. All container stock shall be provided with a temporary irrigation system.

f. Turf shall not be allowed on slopes where the grade is greater than 25 percent (4:1) and where the toe of the slope is adjacent to an impermeable hardscape unless the turf is irrigated with low volume or subsurface irrigation.

g. Slopes greater than 25% shall not be irrigated with an irrigation system with a precipitation rate exceeding 0.75 inches per hour. This restriction may be modified if the landscape designer specifies an alternative design or technology, as part of the Landscape Documentation Package, and clearly demonstrates no runoff or erosion will occur. Prevention of runoff and erosion must be confirmed for Certificate of Completion.

Vegetated slopes prevent erosion.

9. Groundcovers

Herbaceous groundcovers shall be planted at a distance that will typically ensure 100 percent coverage within one year of installation.

10. Mulch and Amendments

a. A minimum two inch (2”) layer of mulch shall be applied on all exposed soil surfaces of planting areas except in turf areas, creeping

MULCH TIPS

- **Organic mulch absorbs and retains water so do not irrigate areas covered with organic mulch until the mulch dries out (about once a week).**
- **Use gravel mulch in areas planted with succulents.**

Mulch can be a decorative ground cover that reduces evaporation and weeds.

or rooting groundcovers, or other special planting situations where mulch is not recommended.

b. Stabilizing mulching products shall be used on slopes.

c. The mulching portion of the seed/mulch slurry in hydro-seed applications shall meet the mulching requirements.

d. Highly flammable mulch material, such as straw or small size wood chips, shall not be used in hazardous fire areas.

e. Preserve and reuse as much site topsoil as possible.

f. Amend disturbed soil with compost and prevent recompaction.

g. Follow the recommendations from the soil analysis. See Section 2.G.

11. Drainage

a. Landscape plans shall show the location and installation details of any applicable stormwater best management practices that encourage on-site retention and infiltration of stormwater. Examples include, but are not limited to:

- Infiltration beds, swales, and basins that allow water to collect and soak into the ground.
- Constructed wetlands and retention ponds that retain water, handle excess flows, and filter pollutants
- Pervious or porous surfaces (e.g., permeable pavers or blocks, pervious or porous concrete, etc.) that minimize runoff.

b. No drainage shall flow or collect in such a manner as to allow breeding by mosquitoes or any other vermin.

c. Low areas that may cause standing water shall be filled and replanted.

12. Vehicular Use Areas not within the Street Right of Way

a. Landscape improvements, including, but not limited to, plants, berms, signs, and structures shall be selected, positioned, and

maintained to avoid obstructing views of motorists near intersections of aisles, drives, and pedestrian walkways.

b. Trees shall be selected and maintained such that, at mature size, scaffold branches are a minimum of 60 inches above the finish grade as measured at the trunk.

c. Plant materials with known surface root problems shall not be used in vehicular use areas, paved pedestrian walkways, and structures with poured concrete slabs.

Surface roots have raised the sidewalk.

13. Planting in the Right of Way

a. All public right of way areas between a newly developed property or rehabilitated landscapes and the existing sidewalk or street edge shall be fully landscaped for erosion control purposes and community character. Trees shall not be planted in the right of way unless pursuant to an encroachment permit issued by the Department of Public Works.

b. Plans shall include a statement indicating who is responsible for on-going maintenance, including runoff and overspray prevention, repairs of broken or malfunctioning irrigation equipment, replacement of dead, dying, or diseased vegetation, and continual compliance with the project's approved water calculations.

c. Turf shall not be planted in the public right of way.

14. Screening Requirements

a. When plant materials are used to satisfy screening requirements, planting shall be spaced to ensure 100 percent screening within two years of installation.

b. All plant material will be spaced according to acknowledged characteristics of the plant's growth.

15. Staking

a. All trees which are not self-supporting must be staked or cabled.

SMALL CHANGES FOR BIG SAVINGS

- **The easiest and most effective action you can take to conserve water is to reduce overwatering and runoff.**
- **Install a smart controller.**
- **If you have an old sprinkler system, replace the heads with newer, more efficient heads.**
- **Replace sprinkler heads with mini rotors to reduce runoff. Mini rotors have a reduced precipitation rate which allows time for water to penetrate the soil.**
- **Use rotors to water large areas of 25 feet by 25 feet or larger.**
- **Water in 2 to 3 short cycles rather than one long cycle.**
- **Switch to drip irrigation for watering trees and shrubs.**

b. Stakes or cables are to be removed once the tree is self-supporting.

E. Irrigation Design Plan

1. General Information

a. Submit two complete sets.

b. Plans must be standard 24" X 36" blueprint sheets. Any other size is not acceptable.

c. Scale is 1" = 20' or smaller (such as: 1" = 10' or 1" = 5').

d. Plans must be legible, professionally prepared and a print of an original drawing. Photocopies are not acceptable.

e. For the efficient use of water, an irrigation system shall meet all requirements listed in the Water Conservation in Landscaping regulations as well as the manufacturer's specifications.

f. The irrigation system and its related components shall be planned and designed to allow for proper installation, management, and maintenance.

g. The designated landscape architect, civil engineer, architect, or landscape contractor shall conduct periodic site visits during construction to ensure that the landscaping and irrigation system are being installed per the approved Landscape Document Package and shall certify to such as part of the Certificate of Completion requirements. Preliminary inspection shall include, but not be limited to, mainline, lateral lines, control wires, communication wires, and sprinkler head layout.

h. All sheets must be signed, stamped, and dated along with a renewal date by the professional licensed by the State of California who prepared the plans.

i. Each sheet must contain the following certification:

I am familiar with the requirements for landscape and irrigation plans contained in the County Landscape Water Conservation regulations, in Title 8, Division 6, Chapter 7. I have prepared this plan in compliance with those regulations. I certify that the plan implements those regulations to provide efficient use of water.

2. Plan Requirements

Plans, at a minimum shall:

a. Depict the location of a dedicated separate landscape water meter for all irrigated landscape projects greater than 5,000 square feet. Dedicated landscape water meters are not required for single family residences and landscapes with less than 5,000 square feet. However, they are highly recommended to help facilitate water management.

b. Show the locations of the pipes that supply water for outdoor use and the pipes that connect to any dedicated irrigation meter.

c. Show the location of recycled irrigation pipes and water meter.

d. Conform to the hydrozones of the landscape plan.

e. Illustrate a system that efficiently irrigates each hydrozone without wasting water and without exceeding the MAWA. The irrigation system shall be designed to meet or exceed an average irrigation efficiency of 0.71.

f. Provide that only low volume or subsurface irrigation will be used to irrigate any vegetation within 24 inches of an impermeable surface unless the adjacent impermeable surfaces are designed and constructed to cause water to drain entirely into a landscaped area.

3. Water Supply

a. When recycled water is available within the basin containing the project site or when a Reclamation Master Plan indicating the availability of recycled water in the future has been adopted by either the County or a special district, the applicant shall incorporate the use

SAVE WATER

- **Learn how to operate your irrigation controller.**
- **Water between midnight and 6 a.m. to avoid evaporation and wind.**
- **Do not irrigate when it rains. Wait until the soil dries out.**
- **Check your irrigation system every month for:**
  - **leaking valves or heads**
  - **misaligned heads**
  - **runoff**
  - **puddles**

of recycled water into the project design. If the project will also be using potable water, the original project shall provide for a dual distribution system for all landscaped areas. Projects proposing the use of recycled water must first submit irrigation plans through the Department of Environmental Health for approval prior to submitting final landscape plans to the Department of Planning and Land Use.

b. Untreated and recycled water supplies shall be clean and free of suspended particles, algae, or chemicals that may form insoluble precipitates in the equipment or may be detrimental to plantings.

c. Sites receiving recycled water shall utilize an ET adjustment factor of 1.0 (0.3 additional) for water budget calculations in establishing the project's MAWA

d. Graywater may be used legally in the County of San Diego when designed and installed in accordance with the regulations stated in Appendix G of the California Plumbing Code (California Code of regulations Title 24, Part 5) and under permit and inspection by San Diego County Department of Environmental Health.

e. If groundwater resources are proposed to be used, potential availability must be demonstrated to the satisfaction of the Director of Planning and Land Use.

Overspray creates runoff and wastes water.

4. Runoff and Overspray.

a. All irrigation systems shall be designed to avoid runoff, seepage, low head drainage, overspray or other similar conditions onto adjacent property, non-irrigated areas, walks, roadways or structures. Systems benefiting from flushing shall accommodate the water generated by the flushing without erosion or disturbance to the planting. Water used for flushing shall be channeled into adjacent drainage structures (swales, gutter, etc.) where possible.

b. Overhead irrigation shall not be permitted within 24 inches of an impermeable surface. Allowable irrigation within the setback from impermeable surfaces may include drip, drip line, or other low flow

non-spray technology. The setback area may be planted or unplanted. The surfacing of the setback may be mulch, gravel or other porous material. These restrictions may be modified if:

i. The landscape area is adjacent to permeable surfacing and no overspray and runoff occurs; or

ii. The adjacent impermeable surfaces are designed and constructed to drain entirely to landscaping; or

iii. The irrigation designer specifies an alternative design or technology and clearly demonstrates strict adherence to irrigation system design criteria as described in the Water Conservation in Landscaping regulations and this manual. Prevention of overspray and runoff must be confirmed as part of the Certificate of Completion.

5. Application Rate

The water delivery rate of the irrigation system shall take into account the slope gradient and percolation rate of the soil in order to minimize runoff.

6. Uniformity and Use

The irrigation system shall deliver water efficiently and uniformly. Water used for irrigation shall be minimized to the amount needed to maintain adequate plant health and growth.

7. Backflow Prevention

Approved backflow prevention units are required on all potable water irrigation systems. Installation shall comply with all applicable health and safety standards.

8. Electrical Service

Electrical service for the irrigation system controllers shall be indicated and referenced on the irrigation plans, including the use of battery operated valves or solar powered controllers.

HOW TO READ YOUR WATER METER

Water is typically measured by the cubic foot which equals approximately 7.5 gallons.

Your water meter records how much water you use in the same way the odometer in your car records how many miles you travel.

To check your daily water use:

1. **Record the reading on your meter on Day 1.**
2. **Twenty-four hours later, record the new reading.**
3. **Subtract the reading on Day 1 from the reading on Day 2.**
4. **Multiply the answer by 7.5.**
5. **The result is the number of gallons you have used in the last 24 hours.**

Hydrozone Plan

Hydrozone	Plant Water Use Type(s)
1	Moderate
2	Special Landscape Area
3	Moderate
4	High
5	High
6	Low

9. Hydrozones

a. Each valve shall irrigate a hydrozone with similar site, slope, sun exposure, soil conditions, and plant materials with similar water use.

b. Sprinkler heads and other emission devices shall be selected based on what is appropriate for the plant type within that hydrozone.

c. Where feasible, trees shall be placed on separate valves from shrubs, groundcovers, and turf.

d. Individual hydrozones that mix plants of moderate and low water use plants or moderate and high water use plants, may be allowed if the plant factor of the higher water using plant is used for calculations.

e. High water use plants shall not be permitted in a low water use hydrozone, but low water use plants may be allowed in a high water use hydrozone if the plants are of the type that tolerate the additional water.

f. On the landscape design plan and irrigation design plan, hydrozone areas shall be designated by number, letter, or other designation. On the irrigation design plan, designate the areas irrigated by each valve, and assign a number to each valve. Use this valve number in the Hydrozone Information Table (see Appendix C). This table can also assist with pre and final inspections of the irrigation system and programming the controller.

10. Scheduling and Lateral Systems

a. Each lateral system shall be capable of meeting the minimum needs of the mature plant material during peak demands.

b. Lateral systems shall be divided by exposure (sun/shade, etc.), plant material (turf/shrub, etc.), differing plant water requirements (tropical/low water using, etc.), elevation, and by type of application equipment (drip, spray, etc.), to the degree that is both practical and feasible.

c. Spray system heads of different manufacturers or of different basis types (drip, bubbler, stream, low gallonage, standard, impact etc.) shall have consistent operating characteristics on any single lateral circuit.

d. Spray heads on the same lateral circuit shall be balanced for matched precipitation rates within 5 percent from the average for any different arcs of coverage or operating radii.

e. Separately controlled lateral systems shall be used when head or nozzle precipitation rate varies more than 15 percent from the average application in the area.

f. Specially designed adjustable nozzles shall be used for odd shaped areas, maintaining even application rates.

g. After plants are established, the irrigation system is to provide sufficient water to sustain plants in a healthy, growing condition.

11. Design Pressure

a. The system design pressure and the recorded static pressure or hydraulic gradeline information (with the recording date) shall be indicated on the plans.

b. When the pressure reading is less than 40 psi, more than five years old, or is not available, the pressure shall be calculated from the hydraulic gradient (contact individual Water District Engineers) and the site elevation. The calculated pressure, meter elevation and hydraulic gradient shall be indicated on the plans.

c. When the actual measured or calculated minimum pressure is above 40 psi, irrigation systems shall include compensating design or equipment modifications.

WHY ARE PARTS OF MY LAWN TURNING BROWN?

Typically these dry spots occur because overhead spray is not distributing water evenly.

1. **Place several small containers with straight sides around your lawn in even rows and on brown spots.**
2. **Run your irrigation system for 15 minutes.**
3. **Using a ruler, measure the amount of water in each container.**
4. **If there is a significant difference in the amount of water in each container, water is not being applied evenly.**
5. **Make sure that the spray isn't blocked by tall vegetation.**
6. **Change the rate and direction of spray by adjusting the screw on the top of the nozzle head.**
7. **Different heads have different application (precipitation) rates. Replace heads so that you have the same (or matched) precipitation rates through out the area.**

12. Pressure Constraints

a. Irrigation systems shall be designed to operate correctly at the lowest available operational pressure expected during the year and shall withstand water system surges.

b. Pressure loss within lateral piping circuits shall not exceed 20 percent of the designed operating pressure of the equipment on that circuit.

c. Pressure regulating devices shall be installed on any systems with a static inlet pressure at the point of connection greater than 80 psi unless specifically approved by the Director of Planning and Land Use. Pressure shall be regulated to a pressure adequate to operate the equipment at designed pressures with all incidental and line losses included. Where the pressure within the system exceeds 80 psi (due to elevation drops, etc.) a pressure reducing valve shall be used to reduce pressure to designed levels.

d. The irrigation system shall be designed to ensure that the dynamic pressure at each emission device is within the manufacturer's recommended pressure range for optimal performance.

e. If the static pressure is above or below the required dynamic pressure of the irrigation system, pressure regulating devices such as inline pressure regulators, booster pumps or other devices shall be installed to meet the required dynamic pressure of the irrigation system.

f. Static water pressure, dynamic or operating pressure and flow reading of the water supply shall be measured at the point of connection. These pressure and flow measurements shall be conducted at the design stage. If the measurements are not available at the design stage, the measurements shall be conducted at installation.

13. Velocity Constraints

Irrigation system piping shall be sized such that velocities remain below 5 feet per second for metal piping and 6 feet per second for PVC piping.

14. Coverage

a. Sprinkler heads and other emission devices shall have matched precipitation rates, unless otherwise directed by the manufacturer's specifications.

b. Head to head coverage is recommended. However, sprinkler spacing shall be set to achieve distribution uniformity using the manufacturer's specifications.

15. Equipment Protection

a. Any irrigation equipment located within 24 inches of pedestrian and vehicular use areas shall be located entirely below grade, including the use of pop-up type heads, or otherwise adequately protected from potential damage.

b. Pop-ups heads shall be installed with swing joints or other flexible assembly. Swing joints shall be installed in lines at all abrupt changes of grade.

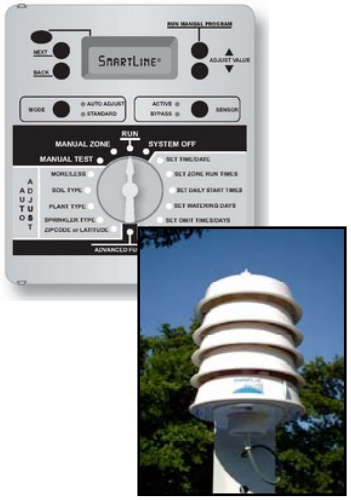
c. Swing joints or other riser-protection components are required on all risers subject to damage that are adjacent to high traffic areas.

16. Broken or Malfunctioning Equipment

High flow sensors that detect and report high flow conditions created by system damage or malfunction are recommended.

17. Control Systems

a. Automatic control systems are required, and must be able to accommodate all aspects of the design, including multiple schedules, repeat cycles, and moisture sensing and rain sensing override devices. Control mechanisms for moisture-sensing systems shall be accommodated within the controller enclosure. All control circuits shall be designed to operate one valve at a time unless otherwise approved by the Director of Planning and Land Use.



Smart Controllers

DEEP ROOT SYSTEMS

- **Deep root systems use less water.**
- **Deep root systems require less frequent irrigation.**
- **Encourage deep rooting:**
  - **Water in 2 to 3 short cycles rather than one long cycle with at least 30 minutes delay between each short cycle.**
  - **Slowly increase the number of days between waterings until you irrigate only 1 or 2 days per week. If necessary, increase the number of short cycles.**
  - **In winter, irrigate only after the top 2 or 3 inches of soil dries out.**

b. Controller units shall be enclosed in secure, weather and vandal resistant, locking housings manufactured expressly for that purpose or located within a structure.

c. All irrigation systems shall be adjusted seasonally and as weather and plant conditions warrant. Scheduling tools may be found at: www.cimis.water.ca.gov.

d. All control systems shall include rain sensing override devices acceptable to the Director of Planning and Land Use and installed per manufacture's recommendations.

e. Irrigation systems must use self-adjusting, weather based automatic irrigation controllers.

18. Valves

a. Shutoff Valves: Globe or ball valves shall be provided at points of connection and loop or zone isolation points to divide the irrigation system into controllable units, and to avoid draining long runs of piping for system repairs. For manifold remote control valves, the globe or ball valve shall be equal to or larger than the size of the largest control valve in the manifold.

b. Remote Control Valves: Control valves shall be manifolded when the main line is greater than two inches in diameter and installed in individual valve boxes. Valves shall be of slow closing design, and automatically close in the event of power failure. Valves shall be sized to provide adequate pressure differential for proper operation.

c. Quick Coupling Valves/Hose Bibs: Quick coupler valves or hose bibs shall be spaced at 100 foot intervals, maximum, and as needed to logically service areas. Quick coupling valves located with valve manifolds shall be separate and up stream of the manifold shutoff valve.

d. Check valves or anti-drain valves are required for all irrigation systems.

19. Piping

All piping shall be as per the following charts:

Acceptable Pipe Materials

Location	Use	Material	Type	Notes
Below Grade	Pressure Mains	Copper	Type "L"	Any Size
		PVC	Class 315	≥ 2"
		PVC	Sch 40	< 1½"
		Red Brass	Sch 50	Threaded
	Lateral Lines	Copper	Type "L"	
		Galvanized Steel	Sch 40	Any Size
		Polyethylene	UV-Resistant	Drip Systems
		Flexible PVC	Algae Resistant	Drip Systems
		PVC	Class 315	½"
		PVC	Class 200	≥ ¾"
		PVC	Sch 40	Any Size
	Fittings	Cast Iron	Class 250	Threaded
		Copper	Type "L"	Drip Systems
		Galvanized Steel	Sch 40	Any Size
		Nylon or ABS	Specialty	Threaded
		PVC	Sch 40	Any Size
		Red Brass	Sch 40	Threaded

NOTE: When dissimilar metals are connected together, dielectric fittings are required.

Acceptable Pipe Materials

Location	Use	Material	Type	Notes
Above grade	Pressure Mains	Copper	Type "L"	Any Size
		Galvanized Steel	Sch 40	Threaded
		Red Brass	Sch 40	Threaded
	Lateral Lines	Copper	Type "L"	Any Size
		Galvanized Steel	Sch 40	Threaded
		Polyethylene	UV-Resistant	Drip Systems and Mulch Required
		Flexible PVC	Algae Resistant	Drip Systems and Mulch Required
		PVC	Sch 40	< 2"
		PVC	UVR-Sch 409	Any Size
	Fittings	Copper	Type "L"	Any Size
		Galvanized Steel	Sch 40	Threaded
		Molded Plastic	UV Resistant	Drip Systems
		PVC	Sch 40	W/Flex PVC pipe
		PVC	Sch 40	Any Size*
		PVC	UVR-Sch 40	Any Size
		Red Brass	Sch 40	Threaded

NOTE: When dissimilar metals are connected together, dielectric fittings are required.
*Temporary systems only.

20. Trench Widths

a. Trenches for irrigation pressure lines shall be excavated wide enough to allow a minimum of 8 inches between parallel pipe lines, and 8 inches from lines of other trades.

b. Lines shall not be installed parallel and directly over one another.

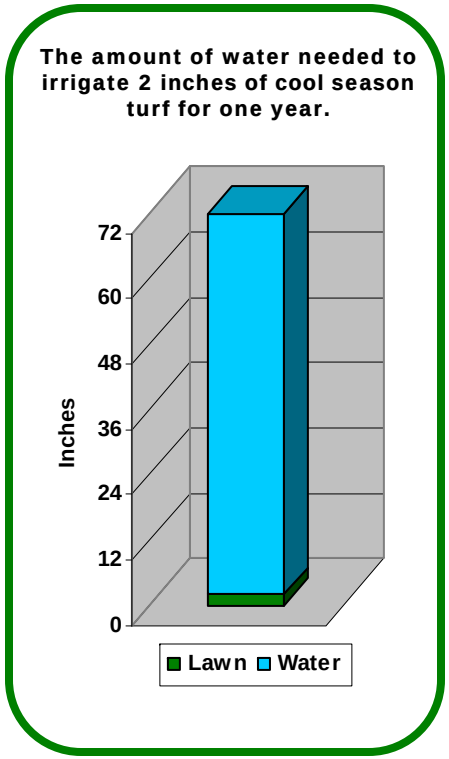
c. At least three inches of vertical clearance shall be maintained between crossing irrigation lines; and the minimum transverse angle shall be 45 degrees.

21. Trench Depths

The following trench depths shall be observed:

Trench Depths

Line Type	Location	Size	Depth (min.)
Pressure main	Within landscape	< 3" I.D.	18"
		≥ 3" I.D.	24"
		≥ 4" I.D.	30"
	Under vehicular paving	< 3" I.D.	30"
		< 3" I.D.	36"
		≥ 3" I.D.	36"
Non-pressure lateral	Within landscape	< 3" I.D.	12"
		≥ 3" I.D.	18"
	Under vehicular paving	< 3" I.D.	24"
		< 3" I.D.	30"
		≥ 3" I.D.	30"



22. Sleeving

a. All pipe and wire under vehicular paving shall be installed in PVC schedule 40 sleeves.

b. Sleeves shall be at least twice the diameter of the pipe or wire bundle to be enclosed, with a minimum two inch size.

c. Sleeving locations shall be marked at each end at the time of installation with a painted spot on the back face of the curb or other similar marking.

23. Backfill

a. Backfill material shall be clean and free of debris, large rocks, and objects with sharp edges.

b. Finish grade of all trenches must conform to adjacent grades without dips, sunken areas, humps or other irregularities.

24. On-Grade Irrigation Systems

a. Permanent on-grade systems may only be allowed for selective watering of native areas or areas with highly erosive or rocky soils where trenching would disturb or loosen unstable materials and requires approval of the Director of Planning and Land Use.

b. On-grade piping shall not be allowed adjacent to pedestrian traffic.

c. All on-grade lines shall be secured to slopes every ten feet or less. The ends of all laterals shall also be staked.

d. On-grade lateral piping is allowed for temporary systems and irrigation in revegetation areas.

25. Drip Irrigation Systems

a. All components shall be of non-corrosive materials.

b. Separate or multiple outlet emitters shall be of self-flushing, pressure compensating design.

c. The design of drip systems shall provide balanced water supplies to plant materials of different sizes irrigated with a common lateral line.

d. All drip systems shall be adequately filtered and regulated per the manufacture's recommended design parameters.

e. All systems shall be capable of flushing out accumulated particulate matter. Design shall provide a means for flushing with a minimum of erosion or disruption to the surrounding landscape. Water from flushing shall be accommodated back into the site, where feasible.

f. Emitters shall be protected from soil or root incursion and easily accessible. Metal studs may be required at underground emitters if necessary for easy location with a metal detector.

26. Special Irrigation Systems

Special systems shall be allowed at the discretion of the Director of Planning and Land Use.

F. Grading Design Plan

1. For the efficient use of water, grading of a project site shall be designed to minimize soil erosion, runoff, and water waste. Plans shall be signed by the project's licensed landscape professional.
2. Projects that require a grading permit and plans may submit a copy of these plans to satisfy the requirements of the Landscape Documentation Package as long as the required information is available on the plans.
3. The grading design plan should contain the following information:
   a. Finished configurations and elevations of the landscaped areas.
   b. Bottom and top of slope elevations.
   c. Drainage patterns.
   d. Finished grade and pad elevations.
   e. Stormwater retention improvements:

PLANTING HINTS

- **Plant in the fall when less water is required to establish the plants.**
- **Plant high water use plants in shady areas that are protected from the wind.**
- **For each irrigation zone, choose plants that need the same amount of water and sunlight.**
- **Use compost rather than fertilizer.**
- **Only use the minimum amount of fertilizer necessary.**
  - **Fertilizers result in higher water use.**
  - **Fertilizers encourage rapid growth which increases maintenance and green waste.**

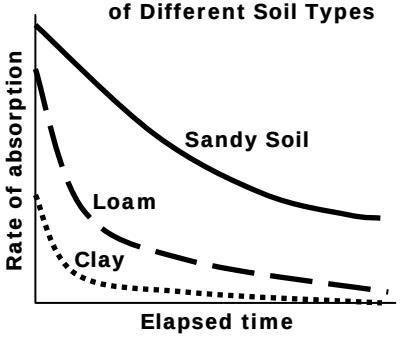
A rain barrel captures roof and gutter runoff to irrigate landscape.

Photograph Courtesy of Arid Solutions, Inc.

- Where feasible storm water must be captured and retained on site to improve water use efficiency and water quality.
- Where feasible, rain water harvesting methods must be implemented.
- Water harvesting containers must be operated in a manner that excludes trash, insects (including mosquitoes), animals, and children.
- Where feasible, pervious hard surfaces shall be installed to harvest and cleanse rain water.

4. Projects that are not required to prepare grading plans for a grading permit shall provide sufficient information on the landscape plans to verify slope heights and drainage patterns. All applicable grading, drainage, and stormwater improvement information must be shown on the landscape design plan or by separate sheet.
5. Areas planned for vegetation should be protected from soil compaction activities.
6. Retain and protect native topsoil and vegetation where practical.
7. Stockpile and reuse good quality topsoil.

Infiltration Rate of Different Soil Types



G. Soil Management Report

1. In order to reduce runoff and encourage healthy plant growth, a soil management report must be submitted.
2. The report must contain an analysis of the soil for the proposed landscaped areas of the project. The analysis should include information about the soil texture, soil infiltration rate, pH, total soluble salts, sodium and percent of organic matter.
3. The report should also contain recommendations about the type and amount of amendments necessary to sustain the vegetation proposed in the landscape design plan.

4. The information contained within the soils analysis report must be made available to the preparer of the required landscape and irrigation plans to make any necessary adjustments to the design relating to soil erosion, runoff, and plant establishment.

5. If movement of more than 5,000 cubic yards of soil is planned, the soil management report must be submitted as part of the Certificate of Completion. Otherwise the report must be submitted as part of the Landscape Documentation Package.

SECTION 3
CERTIFICATE OF COMPLETION PACKAGE

A. Landscape Certificate of Completion

1. A Certificate of Completion is only required for those projects that submit a Landscape Documentation Package.

2. The applicant shall provide this information to the Director of Planning and Land Use within 10 days after installation of the landscaping and irrigation system.

3. An irrigation schedule and a maintenance schedule must also be submitted. In addition, a soil management report will also be required if one was not submitted as part of the Landscape Documentation Package. See Appendix D for the Certificate of Completion form and the required documentation to be submitted, verified, and approved prior to obtaining use of the property

4. The Certificate of Completion certifies that the landscaping and irrigation system have been installed in compliance with the approved Landscape Documentation Package and that the irrigation system functions as designed and approved.

5. The landscape architect, civil engineer or architect shall conduct periodic site visits during construction to ensure that the landscaping and

CLAY SOIL

- **Clay soil does not absorb water as quickly as loam or sandy soil.**
- **Clay soil can be amended to increase the infiltration rate.**
- **Clay soil should be irrigated using short watering cycles with enough time in between each cycle to allow the soil to absorb the water.**

HOW QUICKLY DOES YOUR SOIL ABSORB WATER?

1. **Dig a hole 6 inches deep by 6 inches across.**
2. **Fill the hole with water and let it stand for one hour to saturate the soil.**
3. **Refill the hole with water. Measure depth of the water with a ruler.**
4. **Let stand one hour. Then measure depth of the water.**
5. **The difference in the water level between step 3 and step 4 is the amount of water absorbed by your soil in an hour.**

irrigation system are being installed per the approved Landscape Document Package and shall certify to such as part of the Certificate of Completion requirements. Preliminary inspection shall include, but not be limited to, mainline, lateral lines, control wires, communication wires, and sprinkler head layout.

6. An irrigation system evaluation must be conducted prior to submitting the Certificate of Completion. The evaluation must include a system test and inspection of the various components. The evaluation must indicate the efficiency of the controller and the overall system and must verify that the rain sensing override device functions properly.
7. The applicant shall submit two sets of the signed Landscape Certificate of Completion.

B. Irrigation Scheduling

An annual irrigation program with monthly or seasonal irrigation schedules shall be submitted with the Landscape Certificate of Completion and provide the following information:

1. A description of the automatic irrigation system that will be used for the project.
2. The time period when overhead irrigation will be scheduled and confirm that no overhead irrigation shall be used between 10:00 a.m. and 8:00 p.m.
3. The parameters used for setting the irrigation system controller for the following:
   a. The plant establishment period (monthly).
   b. The established landscape (seasonal).
   c. Temporarily irrigated areas (monthly).
   d. Different seasons during the year.

4. Each schedule for each station should consider all of the following that apply:
   a. Irrigation interval (days between irrigation).
   b. Irrigation run times (hours or minutes per irrigation event to avoid runoff).
   c. Number of cycle starts required for each irrigation event to avoid runoff.
   d. Amount of water scheduled to be applied on a monthly basis.
   e. Application rate setting, root depth setting, plant type setting, soil type, slope factor setting, shade factor setting, and irrigation efficiency setting.

C. Landscape and Irrigation Maintenance and Schedule

1. Landscapes shall be maintained by the property owner or the owner's designee to ensure water use efficiency and continuing compliance with the approved Landscape Documentation Package.
2. All required plantings shall be maintained in good growing condition and whenever necessary, shall be replaced with similar plant materials to ensure continued compliance with applicable landscaping, buffering, and screening requirements.
3. All landscaping and irrigation systems shall be properly maintained for the life of the permit and per the approved irrigation and maintenance schedules.
4. Broken or malfunctioning equipment and material shall be repaired or replaced immediately with equipment and material of the same type and operating characteristics as the original.
5. All irrigation systems shall be maintained in a fully operational condition. The irrigation system must function at a minimum average efficiency factor of 0.71.

Broken sprinkler heads can waste water at the rate of 10 gallons per minute.

HOW TO CHECK FOR LEAKS

- **Turn off all water (including ice makers).**
- **Record the reading on your water meter and mark the position of the needle.**
- **Wait 30 minutes to one hour and check the meter.**
- **If the needle has moved or the reading has changed, you have a leak.**

6. Plans shall include a statement indicating who is responsible for on-going maintenance, including runoff and overspray prevention, repairs of broken or malfunctioning irrigation equipment, replacement of dead, dying, or diseased vegetation, and continual compliance with the project's approved water calculations.
7. A regular maintenance schedule must be submitted as part of the Certificate of Completion and shall include, but not be limited to:
   a. Routine inspection of the irrigation system.
   b. Adjustments and repair of the irrigation system and its components.
   c. Aerating and dethatching turf areas.
   d. Replenishing mulch.
   e. Fertilizing of non-native vegetation.
   f. Pruning, weeding and removing any obstruction to emission devices.
   g. Brush management.
   h. Storm water management.

SECTION 4
DEFINITIONS

Automatic irrigation controller means an automatic timing device used to remotely control valves that operate an irrigation system. Automatic irrigation controllers schedule irrigation events using either evapotranspiration (weather-based) or soil moisture sensor data.

Cool season turf means a type of grass that grows during the cool months of the year. Examples include bluegrass and tall fescue.

Discretionary permit means any permit that requires a decision making body to exercise judgment prior to its approval, conditional approval or denial.

ET adjustment factor (ETAF) means a factor that when applied to reference evapotranspiration, adjusts for plant water requirements and irrigation efficiency, two major influences on the amount of water that is required for a healthy landscape.

Evapotranspiration rate means the quantity of water evaporated from adjacent soil and other surfaces and transpired by plants during a specified time period.

Graywater means untreated household waste water which has not come into contact with toilet waste. Examples include used water from bathtubs, showers, bathroom wash basins, and water from clothes washing machines and laundry tubs. Graywater does not include waste water from kitchen sinks, dishwashers, or laundry water from soiled diapers.

Hardscape means any durable surface material, pervious or non-pervious.

Hazardous Fire Area means any geographic area mapped by the State or designated by a local jurisdiction as a moderate, high or very high fire hazard area or which the fire authority having jurisdiction has determined is a hazardous fire area, because the type and condition of vegetation, topography, weather and structure density increase the probability that the area will be susceptible to a wildfire. (See County Code Section 96.1.202)

Hydrozone means a portion of the landscape area having plants with similar water needs. A hydrozone may be irrigated or non-irrigated.

Invasive species means non-native vegetation that spreads outside cultivated areas and may damage environmental or economic resources.

Irrigation efficiency means the measurement of the amount of water beneficially used divided by the water applied. Irrigation efficiency is derived from measurements and estimates of irrigation system characteristics and management practices.

Landscaped area means an area with outdoor plants, turf and other vegetation. A landscaped area includes a water feature either in an area with vegetation or that stands alone. A landscaped area may also include design features adjacent to an area with vegetation when allowed under the County Code of Regulatory Ordinances Section 86.714. A landscaped area does not include the footprint of a building, decks, patio, sidewalk, driveway, parking lot or other hardscape that does not meet the criteria of Section 86.714. A landscaped area also does not include an area without irrigation designated for non-development such as designated open space or area with existing native vegetation.

Low head drainage means a sprinkler head or other irrigation device that continues to emit water after the water to the zone in which the device is located has shut off.

Low volume irrigation means the application of irrigation water at low pressure through a system of tubing or lateral lines and low volume emitters such as drip lines or bubblers.

Maximum Applied Water Allowance (MAWA) means the maximum allowed annual water use for a specific landscaped area based on the square footage of the area, the ETAF and the reference ETo.

Mulch means an organic material such as leaves, bark, straw, compost or inorganic mineral materials such as rocks, gravel or decomposed granite left loose and applied to the soil surface to reduce evaporation, suppress weeds, moderate soil temperature or prevent soil erosion.

Overspray means the water from irrigation that is delivered outside an area targeted for the irrigation and makes contact with a surface not intended to be irrigated.

Pervious means any surface or material that allows the passage of water through the material and into underlying soil.

Plant factor means a factor, when multiplied by the ETo, that estimates the amount of water a plant needs.

Public water purveyor means a public utility, municipal water district, municipal irrigation district or municipality that delivers water to customers.

Recycled water means waste water that has been treated at the highest level required by the California Department of Health Services for water not intended for human consumption. "Tertiary treated recycled water" means water that has been through three levels of treatment including filtration and disinfection.

Reference evapotranspiration (ETo) means a standard measurement of environmental parameters which affect the water use of plants. ETo is given in inches per day, month, or year and is an estimate of the evapotranspiration of a large field of four-inch to seven-inch tall, cool season turf that is well watered. Reference evapotranspiration is used as the basis of determining the MAWA so that regional differences in climate can be accommodated.

Runoff means water that is not absorbed by the soil or landscape to which it is applied and flows from the landscaped area.

Special landscaped area means an area of the landscape dedicated to edible plants, an area irrigated with recycled water or an area dedicated to play such as a parks sports field or golf course where turf provides a playing surface.

Subsurface irrigation means an irrigation device with a delivery line and water emitters installed below the soil surface that slowly and frequently emit small amounts of water into the soil to irrigate plant roots.

Transitional area means a portion of a landscaped area that is adjacent to a natural or undisturbed area and is designed to ensure that the natural area remains unaffected by plantings and irrigation installed on the property.

Turf means a groundcover surface of grass that is classified in WUCOLS as a high water use plant.

Warm season turf means a type of grass that grows during the warmest months of the year. Examples include Bermuda grass, buffalo grass and St. Augustine grass.

Water feature means a design element where open water performs an aesthetic or recreational function. A water feature includes a pond, lake, waterfall, fountain, artificial streams, spa and swimming pool where a public water purveyor within the San Diego County Water Authority or the Borrego Water District provides water for the feature. Constructed wetlands used for on-site wastewater treatment or stormwater best management practices are not water features.

WUCOLS means Water Use Classification of Landscape Species and refers to the most recent version of the Department of Water Resources publication authored by the University of California Cooperative Extension.

APPENDICES

APPENDIX A
REFERENCE EVAPOTRANSPIRATION (ETO) DATA

Reference Evapotranspiration (ETo) Table

County Classification	CIMIS Station/ Location	Annual ETo	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Coastal	Torrey Pines	46.4	1.8	2.2	3.4	4.5	5.3	5.7	5.9	5.6	4.5	3.4	2.4	1.8
Coastal	Oceanside	48.7	2.1	2.4	3.7	4.8	5.4	5.7	6.0	6.0	4.6	3.6	2.4	2.0
Coastal	Chula Vista*	44.2	2.2	2.7	3.4	3.8	4.9	4.7	5.5	4.9	4.5	3.4	2.4	2.0
Coastal Corridor	San Diego	46.5	2.1	2.4	3.4	4.6	5.1	5.3	5.7	5.6	4.3	3.6	2.4	2.0
Coastal Corridor	Miramar	46.4	1.8	2.2	3.4	4.5	5.3	5.7	5.9	5.6	4.5	3.4	2.4	1.8
Inland	Otay Lake	50.5	1.3	1.9	3.3	4.7	5.9	7.0	7.8	6.8	5.2	3.5	2.0	1.2
Inland	Santee*	51.1	2.1	2.7	3.7	4.5	5.5	6.1	6.6	6.2	5.4	3.8	2.6	2.0
Inland	Ramona	51.6	2.1	2.1	3.4	4.6	5.2	6.3	6.7	6.8	5.3	4.1	2.8	2.1
Mountain	Escondido	57.0	2.5	2.7	3.9	5.3	6.1	6.9	7.3	7.0	5.5	4.2	3.0	2.5
Mountain	Pine Valley*	54.8	1.5	2.4	3.8	5.1	6.0	7.0	7.8	7.3	6.0	4.0	2.2	1.7
Mountain	Warner Springs*	56.0	1.6	2.7	3.7	4.7	5.7	7.6	8.3	7.7	6.3	4.0	2.5	1.3
Desert	Borrego Springs	75.4	2.7	3.5	5.9	7.7	9.7	10.1	9.3	8.3	6.9	5.5	3.4	2.2

APPENDIX A
REFERENCE EVAPOTRANSPIRATION (ETO) DATA

With the exception of those locations identified with an asterisk (*), the values in the ETo table are based on the monthly average ETo data available on the California Irrigation Management Information System (CIMIS) website (http://www.cimis.water.ca.gov) as of January 6, 2010. Locations identified with an asterisk (*) are included in the State's Model Efficient Landscape Ordinance ETo Table (Appendix A) but do not have data available on the CIMIS site. For these locations, the ETo table uses the data contained in the State's ETo table.

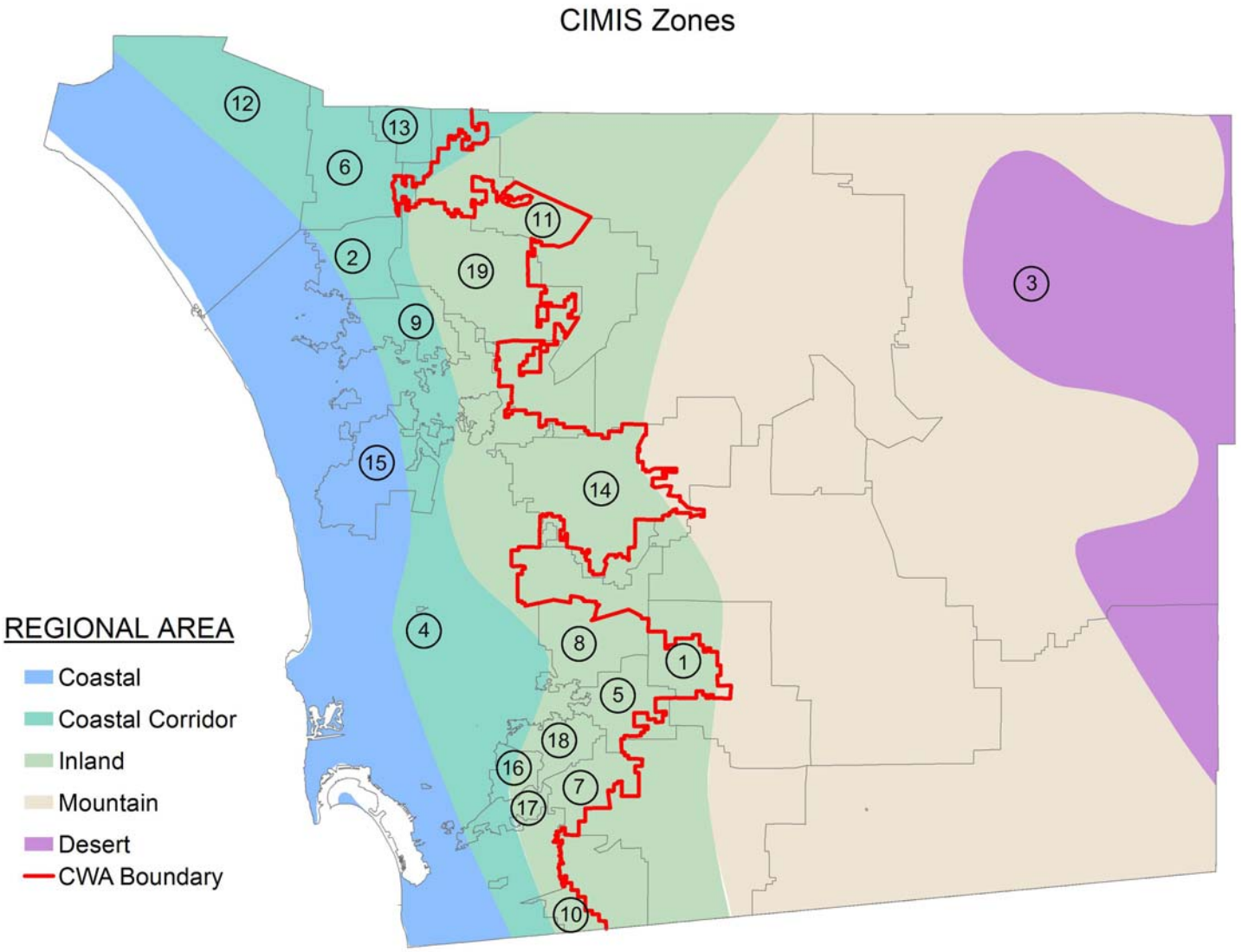
Monthly average ETo is a long-term average of monthly ETo. The time period over which the data is averaged varies from station to station depending on how long the station has been active. The minimum time requirement was five years. Stations with less than five years of data at the time of calculation (year 2000) were assigned regional averages.

County Classification Alternative

The following classifications have been assigned by the County to the various California Irrigation Management Information System (CIMIS) zones. (See the Reference Evapotranspiration (ETo) Table above and the CIMIS Zones map below). The average annual ETo for each classification is based on the average annual ETo of the CIMIS stations within the classification. For sites within geographical areas not included in the Reference Evapotranspiration (ETo) Table above, the average annual ETo from the table below may be used. This table has also been used to calculate the Maximum Applied Water Allowance for the Application for Residential Outdoor Water Use Compliance. (See Appendix B).

Classification	Average Annual ETo (inches per year)
Coastal	46.4
Coastal Corridor	46.4
Inland	51.1
Mountain	55.9
Desert	75.4

APPENDIX A
REFERENCE EVAPOTRANSPIRATION (ETO) DATA



APPENDIX A
REFERENCE EVAPOTRANSPIRATION (ETO) DATA

	Community Planning Area	County Classification	Average Annual ETo (inches per year)
1	Alpine	Inland	51.1
2	Bonsall	Coastal corridor	46.4
3	Borrego Springs	Desert	75.4
4	County Islands	Coastal corridor	46.4
5	Crest	Inland	51.1
6	Fallbrook	Coastal corridor	46.4
7	Jamul/Dulzura	Inland	51.1
8	Lakeside/Pepper Drive-Bostonia	Inland	51.1
9	North County Metro	Coastal corridor	46.4
10	Otay	Inland	51.1
11	Pala-Pauma	Inland	51.1
12	Pendleton/DeLuz	Coastal corridor	46.4
13	Rainbow	Coastal corridor	46.4
14	Ramona	Inland	51.1
15	San Dieguito	Coastal	46.4
16	Spring Valley	Inland	51.1
17	Sweetwater	Inland	51.1
18	Valle de Oro	Inland	51.1
19	Valley Center	Inland	51.1

NOTE: Only areas within the County Water Authority and the Borrego Water District are classified.

APPENDIX B

County of San Diego, Department of Planning and Land Use

APPLICATION FOR RESIDENTIAL OUTDOOR WATER USE COMPLIANCE

COUNTY LANDSCAPE ARCHITECT

This form must accompany the building permit application for construction of a single family primary residence with a proposed irrigated area of less than 5,000 square feet. If the irrigated area is 5,000 square feet or greater, please contact the Zoning Counter for more information at 858-565-5981.

Applicant Name:	Date:
Project Address:	Permit Application Number:
	APN:
Select type of water for irrigation: ☐ Potable *(Water district service)* ☐ Well ☐ Reclaimed	

1. Irrigable Landscaped Area Calculations in square feet:
   - **A.** Total lot size: **A.** _____ (sq. ft.)
   - **B.** Total impervious area after construction: **B.** _____ (sq. ft.)
   - **C.** Calculate maximum area available for landscaping: **A – B = C.** _____ (sq. ft.)
   - **D.** Actual proposed irrigated landscaped area: **D.** _____ (sq. ft.)

The actual proposed irrigated landscaped area, including water features such as pools, cannot exceed the total maximum area available for landscaping.

2. Check the water agency that will supply a water meter for the property:

☐ Borrego Water District	☐ Rincon Del Diablo Municipal District
☐ Fallbrook Public Utility District	☐ San Dieguito Water District
☐ Helix Water District	☐ Santa Fe Irrigation District
☐ Lakeside Water District	☐ Sweetwater Authority
☐ Olivenhain Water District	☐ Vallecitos Water District
☐ Otay Water District	☐ Valley Center Municipal Water District
☐ Padre Dam Municipal Water District	☐ Vista Irrigation District
☐ Rainbow Municipal Water District	☐ Yuima Municipal Water District
☐ Ramona Municipal Water District	☐ Not served by the above agencies

If you marked "Not served by the above agencies", STOP ***you do not need to complete this form.***

3. Select the regional area/community where the property is located:
   - ☐ Coastal: *San Dieguito*
   - ☐ Coastal Corridor: *Bonsall, County Islands, Fallbrook, North County Metro, Pendleton/De Luz, Rainbow*
   - ☐ Desert: *Borrego Springs*
   - ☐ Inland: *All other communities*

APPENDIX B

County of San Diego, Department of Planning and Land Use

APPLICATION FOR RESIDENTIAL OUTDOOR WATER USE COMPLIANCE

COUNTY LANDSCAPE ARCHITECT

Maximum Applied Water Allowance for Outdoor Use
(gallons per year)

REGIONAL AREA	SIZE OF LANDSCAPED AREA (SQUARE FEET)				
	0 – 999	*1,000 – 1,999*	*2,000 – 2,999*	*3,000 – 3,999*	*4,000 – 4,999*
Coastal	20,903	40,255	60,393	80,530	100,668
Coastal Corridor	20,903	40,255	60,393	80,530	100,668
Inland	22,155	44,333	66,510	88,687	110,865
Desert	32,691	65,414	98,138	130,862	163,585

Select the allowed water usage for the property from the table above and **CIRCLE IT.**

For more information on Maximum Applied Water Allowance (MAWA), please refer to the County's Water Conservation in Landscaping regulations* and the Water Efficient Landscape Design Manual*.

APPLICANT CERTIFICATION OF COMPLIANCE

I acknowledge that it is my responsibility to design, install and maintain this landscape project in accordance with the regulations and guidelines contained in the County's Water Conservation in Landscaping Ordinance* and the Water Efficient Landscape Design Manual*. I agree that the water used outdoors on this property shall not exceed the Maximum Applied Water Allowance authorized by the County as shown in this document. If after I install the landscaping and irrigation, the information I provided to the County in this certificate is not accurate, within 10 days after installation, I will contact the Department of Planning and Land Use (DPLU), Zoning Counter main phone line at (858) 565-5981 for further instructions. I certify under penalty of perjury under the laws of the State of California that the foregoing information is true and correct.

_____ _____

Signature of Property Owner or Agent *Date*

Original Form to County Landscape Architect **Copy to Applicant**

**The County of San Diego Water Conservation in Landscaping Ordinance and the Water Efficient Landscape Design Manual can be obtained from the cashier at the Department of Planning and Land Use, Building Division and are available online at the County's web site at:*

http://www.sdcounty.ca.gov/dplu/appforms/index.html

APPENDIX C

County of San Diego, Department of Planning and Land Use

WATER EFFICIENT LANDSCAPE WORKSHEET

COUNTY LANDSCAPE ARCHITECT

This worksheet is filled out by the project applicant and it is a required element of the Landscape Documentation Package. Please complete all section of the worksheet.

PROJECT INFORMATION

Project Name		
Name of Project Applicant	*Telephone No.*	
Title	*Fax No.*	
Company	*Email Address*	
Street Address		
City	*State*	*Zip Code*

APPENDIX C

County of San Diego, Department of Planning and Land Use

WATER EFFICIENT LANDSCAPE WORKSHEET

COUNTY LANDSCAPE ARCHITECT

SECTION A. HYDROZONE INFORMATION TABLE

Please complete the hydrozone table(s) for each irrigation point of connection. Use as many tables as necessary to provide information on the total landscaped area. Controller #, Hydrozone #, and Valve Circuit # should correspond to the landscape and irrigation system plans.

Irrigation Point of Connection (P.O.C.) #_____									
A	B	C	D	E	F	G	H	I	J
Controller #	Hydro zone #	Valve Circuit #	Irrigation Method (Code)	Plant Factor (average) (PF)	Hydro zone Area (HA) (sf)	% of Total Landscaped Area	PF x HA	IE	PF x HA / IE
				SLA				1.0	
				TOTAL		100%			

SLA = Special Landscaped Area

Hydrozone Category is based on the feature or plant within the hydrozone with the highest plant factor.

Hydrozone Category	PF – Plant Factor (average)
High Water Use	0.8
Moderate Water Use	0.5
Low Water Use	0.2
Special Landscaped Area	1.0

Artificial turf is considered Low Water Use.

Irrigation Method Code	IE – Irrigation Efficiency *
S = Spray	0.55
R = Rotor	0.70
D = Drip	0.80

* *Turf and Landscape Irrigation Best Management Practices,* April 2005, Water Management Committee of the Irrigation Association

County of San Diego, Department of Planning and Land Use

WATER EFFICIENT LANDSCAPE WORKSHEET

COUNTY LANDSCAPE ARCHITECT

SECTION B. WATER CALCULATIONS

SECTION B1. MAXIMUM APPLIED WATER ALLOWANCE (MAWA)

The project's Maximum Applied Water Allowance shall be calculated using this equation:

MAWA = (ETo)(0.62)[(0.7 x LA) + (0.3 x SLA)]

Where:

MAWA = Maximum Applied Water Allowance (gallons per year)

ETo = Reference Evapotranspiration Appendix A (inches per year)

0.7 = ET Adjustment Factor

LA = Landscaped Area including Special Landscape Area (square feet)

0.62 = Conversion factor (to gallons per square foot)

SLA = Portion of the landscaped area identified as Special Landscape Area (square feet)

0.3 = Additional ET adjustment Factor for Special Landscape Area (1.0 – 0.7 = 0.3)

Show values:

ETo = _____ in./yr.

LA = _____ sq. ft. (Total from Column F of Hydrozone Information Table)

SLA = _____ sq. ft.

Show calculation:

Maximum Applied Water Allowance = _____ gallons per year

APPENDIX C

SECTION B2. ESTIMATED TOTAL WATER USE (ETWU)

The project's Estimated Total Water Use is calculated using the following formula:

ETWU = (ETo)(0.62)(Total of Column J from the Hydrozone Information Table)

Where:
ETWU = Estimated total water use per year (gallons)
ETo = Reference Evapotranspiration (inches)

Show value: ETo = _____ in./yr.

Show calculation:

Estimated Total Water Use = _____ gallons per year.

_____ _____
Signature Date

APPENDIX D

County of San Diego, Department of Planning and Land Use

LANDSCAPE CERTIFICATE OF COMPLETION

COUNTY LANDSCAPE ARCHITECT

This certificate is filled out by the project applicant upon completion of the landscape project. Please complete all sections below.

SECTION A. PROJECT INFORMATION

Date		
Project Name		
Name of Project Applicant	*Telephone No.*	
	Fax No.	
Title	*Email Address*	
Company	*Street Address*	
City	*State*	*Zip Code*

Project Address and Location:

Street Address		*Parcel, tract or lot number, if available*
City		*Latitude/Longitude, if available*
State	*Zip Code*	

Property Owner:

Name	*Telephone No.*	
	Fax No.	
Title	*Email Address*	
Company	*Street Address*	
City	*State*	*Zip Code*

"I acknowledge that I have received copies of all documents within the Landscape Documentation Package and the Certificate of Completion and that it is my responsibility to maintain the landscaping and irrigation in accordance with the Schedule of Landscape and Irrigation Maintenance. I understand that I may be subject to fines or penalties if I fail to meet my responsibilities."

_____ _____

Property Owner Signature Date

Please answer the following questions:

1. Date on which the Landscape Documentation Package was submitted to the County. _____
2. Date on which the Landscape Documentation Package was approved by the County. _____

APPENDIX D

3. Maximum Applied Water Allowance (MAWA) from approved Landscape Documentation Package. _____
4. Estimated Total Water Use from approved Landscape Documentation Package. _____

SECTION B. CERTIFICATION OF INSTALLATION ACCORDING TO THE LANDSCAPE DOCUMENTATION PACKAGE

"I certify under penalty of perjury under the laws of California that 1) the landscaping and irrigation project approved by the County of San Diego has been completed, 2) the landscaping and irrigation installation conforms to the criteria and specifications of the approved Landscape Documentation Package and 3) the irrigation system operates and performs as designed and approved."

*Signature**	*Date*	
Name (print)	*Telephone No.*	
	Fax No.	
Title	*Email Address*	
License No. or Certification No.		
Company	*Street Address*	
City	*State*	*Zip Code*

*Signer of the Landscape Documentation Package.

SECTION C. IRRIGATION SCHEDULING

Attach the irrigation schedule for each controller as required by County Code Section 86.723.

SECTION D. SCHEDULE OF LANDSCAPE AND IRRIGATION MAINTENANCE

Attach the schedule of landscape and irrigation maintenance as required by County Code Section 86.724.

SECTION E. SOIL MANAGEMENT REPORT

Attach soil analysis report as required by County Code Section 86.708 if not previously submitted with the Landscape Documentation Package.

Attach documentation verifying implementation of recommendations from soil analysis report.

Acceptance and approval of this Certificate of Completion by the County will serve as the Outdoor Water Use Authorization per Section 86.704 of the County Code.

APPENDIX E

County of San Diego, Department of Planning and Land Use

LANDSCAPE DOCUMENTATION PACKAGE CHECKLIST

COUNTY LANDSCAPE ARCHITECT

Application Processing

All applications for a Landscape Documentation Package must meet the following requirements. Incomplete applications will not be accepted; or if accepted, will be returned to the applicant.

First Check: The first plan check turn around time is 30 days from the date of submittal. Please return the corrected plans to the Zoning Counter with a copy of the plan check letter. Plans will not be accepted without this letter.

Second Check: The second plan check turn around time is 1 week after resubmittal.

Third Check: The third plan check turn around time is 1 week after resubmittal. NOTE: If the landscape plan is not acceptable after the third plan check, a new fee and application will be required in order to continue.

General Requirements

Initial

_____ DPLU Application Form 346, signed, including Assessor's Parcel Numbers

_____ Two Complete Sets of the Landscape Design Plan

_____ Two Complete Sets of the Irrigation Plan

_____ Two Complete Sets of the Water Efficient Landscape Worksheet

_____ Two copies of the Grading Design Plan

_____ Two copies of the Soil Management Report

_____ All required information and layouts have been provided as per the Water Efficient Landscape Design Manual.

_____ One Copy of the project's Storm Water Management Plans (SWMPs) with all vegetated Best Management Practice's (BMPs) highlighted. Note: SWMPs are required for all landscape plan submittals, including Model Home Landscape Plans. SWMPs must be copy of approved set or most recent version, updated and highlighted for landscape review.

_____ Submittal fees for review and approval of Landscape Plans per the County's Fee Schedule.

_____ Plans are standard 24" X 36" blueprint sheets. **Any other size is not acceptable.**

_____ Scale is 1" = 20' or smaller (such as: 1" = 10' or 1" = 5')

County of San Diego, Department of Planning and Land Use

LANDSCAPE DOCUMENTATION PACKAGE CHECKLIST

COUNTY LANDSCAPE ARCHITECT

Initial

_____ Plans are legible, professionally prepared and a print of an original drawing. Photocopies are not acceptable.

_____ Plans show plants and irrigation for all areas that require vegetated protection for erosion control, storm water management, or fuel management and for all areas that contain decorative landscaping.

_____ If plans are for a single-family residential landscape project for a homeowner and the plans are prepared by a California licensed landscape contractor, evidence of a signed contract with the property owner acknowledging that the contactor will also install the landscaping has been submitted.

_____ All sheets in the document set are signed, stamped, and dated along with a renewal date by the landscape professional licensed by the State of California (landscape architect, civil engineer, or architect) who has prepared the plans. A landscape contractor may also perform this requirement if the landscaping is for the homeowner of the single-family residential project.

_____ Compliance Statement shall be provided on the title sheet for each set of plans as follows:

"I am familiar with the requirements for landscape and irrigation plans contained in the County Landscape Water Conservation regulations, in Title 8, Division 6, Chapter 7. I have prepared this plan in compliance with those regulations. I certify that the plan implements those regulations to provide efficient use of water."

NOTE: NO PLANS WILL BE ACCEPTED WITHOUT THIS STATEMENT.

Landscape Design Plan

_____ Plan includes location, botanical name, common name, size and quantity of all retained plants.

_____ Plan includes location, botanical name, common name, size and quantity of all new plants.

_____ Soil amendment specifications and planting specifications

_____ Mulch applied to a depth of at least 2" to all areas of bare soil

_____ All buildings, property lines, paving, fencing, walls, and above ground utilities are shown.

APPENDIX E

County of San Diego, Department of Planning and Land Use

LANDSCAPE DOCUMENTATION PACKAGE CHECKLIST

COUNTY LANDSCAPE ARCHITECT

Initial

_____ A finish grading note such as: All landscape areas shall be finish graded to remove rocks and to ensure surface drainage away from buildings.

_____ Details, specifications, guarantees and necessary notes on all parking plans. Construction details of walls, fencing, lighting and paving for clarity of intent may be required.

_____ All required street trees are planted outside of the public right-of-way on private property. If tree planting is proposed within the public right-of-way, a copy of an encroachment permit issued by the Department of Public Works has been included with this submittal.

_____ All required screening (parking lots, trash enclosures, etc.) is shown on plans. Plants spaced and sized to insure 100% screening within two growing seasons.

_____ Root barrier is provided for all trees within 5 feet of hardscape.

_____ Landscape improvements, including, but not limited to, plants, berms, walls (decorative or retaining), signs, and structures have been selected and positioned so as to avoid obstructing views of motorists near intersections or aisles, drives, and pedestrian walkways. Tree's have been selected (and shall be maintained) such that, at mature size, scaffold branches will be a minimum of 60 inches above the finished grade.

_____ A note on the plans indicates who is responsible for maintaining the landscape, including the public right-of-way, in a healthy, disease free condition.

_____ Plantings adjacent to open space lots do not contain any non-native, invasive plants.

_____ Erosion control planting is provided for all slopes over 3 feet in vertical height and additional planting (as per Section 87.417 of the Grading Ordinance) is provided for slopes over 15 feet in vertical height.

_____ All vegetated BMPs, as per the approved Storm Water Management Plans, are shown on landscape plans as required by Section 67.804 (g) of the Watershed Protection, Storm Water Management, and Discharge Control Ordinance.

County of San Diego, Department of Planning and Land Use

LANDSCAPE DOCUMENTATION PACKAGE CHECKLIST

COUNTY LANDSCAPE ARCHITECT

Irrigation Plan

Initial

_____ Water meter location, size and available pressure are shown.

_____ Point of connection and backflow prevention are shown on the irrigation plans. Include make and model number of backflow prevention device.

_____ The irrigation legend provides a complete description of all the irrigation equipment.

_____ Location, size, and type of valves and sprinklers (give make and model number in an irrigation legend).

_____ Location, depth, size and type of pressure and lateral lines. Use of sleeves for pipes under driveways and paved surfaces.

_____ All piping is sized, including sleeve pipe.

_____ The system design pressure and the recorded static pressure or hydraulic gradeline information (with recording date) is indicated on the plans.

_____ An automatic controller with a rain sensing override device is shown both graphically and described in the legend.

_____ Details such as water filters and pressure regulators on any drip irrigation systems.

_____ Irrigation layout is consistent with the Water Efficient Landscape Design Manual.

_____ Avoid sprinkler risers in corner, along walls and parking areas. No overhead irrigation within 24" of an impermeable surface or in areas less than 8' wide in any direction.

_____ Check valves/anti-drain valves shown on slopes where needed.

_____ Temporary, on-grade irrigation is shown for areas planted solely with native vegetation. Temporary irrigation is required to help establish native vegetation and then shall be removed (typically two to three years after initial planting).

County of San Diego, Department of Planning and Land Use

LANDSCAPE DOCUMENTATION PACKAGE CHECKLIST

COUNTY LANDSCAPE ARCHITECT

Initial

_____ An overspray note such as: "Field adjust all sprinklers to eliminate overspray onto sidewalks or driveways."

_____ Details/specifications and guarantees on all irrigation plans.

Reclaimed Water: For Projects Using Reclaimed Water or Projects Where Reclaimed Water Will Be Available in the Future

_____ The local water district has confirmed that reclaimed water is available and plans have been submitted and approved by the Department of Environmental Health prior to submittal to the Department of Planning and Land Use. Irrigation plans have the required RW# posted as required by DEH.
RW#_____

_____ The local water district has confirmed that reclaimed water will be available in the future, or is currently available, and the submitted plans provide for a dual distribution system for all landscaped areas (dual distribution is required if potable water is used for areas where food is served or consumed).

Water Efficient Landscape Worksheet

_____ Hydrozone Information Table is complete and accurately conforms to the landscape design plan, irrigation plan and County regulatory requirements.

_____ Calculations of estimated total water use and maximum applied water allowance (water budget).

_____ CONFIRM THAT ESTIMATED TOTAL WATER USE DOES NOT EXCEED THE MAXIMUM APPLIED WATER ALLOWANCE.

Grading Design Plan

_____ Demonstrate the elimination or minimization of soil erosion, runoff and water waste resulting from precipitation or irrigation.

_____ Finished configuration and elevations of each landscaped area shown.

_____ Height of graded slopes shown.

_____ Drainage pattern shown.

_____ Pad elevations shown.

County of San Diego, Department of Planning and Land Use

LANDSCAPE DOCUMENTATION PACKAGE CHECKLIST

COUNTY LANDSCAPE ARCHITECT

Initial

_____ Finish grade shown.

_____ Any stormwater retention improvements shown.

Grading permit in lieu of grading design plan. If the project requires a grading permit and a plan, that grading plan may be used in lieu of a grading design plan provided it meets all of the grading design plan requirements listed above and the additional requirements of the Grading Ordinance listed below.

_____ All planting shown as required by Section 87.417 of the Grading Ordinance.

_____ All irrigation shown as required by Section 87.418 of the Grading Ordinance.

_____ Certification statement, as required by Section 87.401.a.2 (cuts) and 87.406.a (fills) for all slopes steeper than 2:1.

_____ Compliance Statement - per the Department of Public Works (DPW) – is provided on all sheets in document set prepared by, or under the direct supervision of, the California licensed landscape professional of record.

The required signed and dated compliance statements are as follows:

"I, _____, certify that the Landscape and Irrigation Plan as shown hereon per this grading plan L- _____ satisfy the grading ordinance requirements as stated per section 87.417 (planting) and section 87.418 (irrigation)."

Prior to the approval of the record plan, the licensed landscape professional of record shall certify that the landscape and irrigation has been constructed per the approved landscape and irrigation as is shown hereon.

Soil Management Report

If the project requires mass grading, the soil management report should be submitted with the Certificate of Completion. Otherwise it must be submitted as part of the Landscape Documentation Package.

_____ Soil analysis of the landscaped areas with information on the soil texture, soil infiltration rate, pH, total soluble salts, sodium, and percent of organic matter.

_____ Recommendations for improving the soil to efficiently utilize irrigation to sustain the health of landscape plantings.

APPENDIX E

County of San Diego, Department of Planning and Land Use

LANDSCAPE DOCUMENTATION PACKAGE CHECKLIST

COUNTY LANDSCAPE ARCHITECT

NOTE: For all building permit applications not requiring a discretionary review (per the zoning of the property), landscape plans shall be submitted to the Department of Planning and Land Use, when there is 5,000 square feet or more of single-family residential landscaped area or 1,000 square feet or more of any other type of landscaped area. All submittal requirements, certification of landscape plan compliance, reclaimed water, and off-street parking standards mentioned above are applicable and shall be addressed and initialed by the California licensed landscape professional of record upon submittal.

NOTE: All built structures proposed with the approval of these landscape plans shall require the applicant to obtain necessary building permit's to comply with the most current version of the County's Building, Electrical, Fire, and Plumbing Codes.

NOTE: When a Fire District requires District review and approval, the applicant shall first submit landscape plans for review to the Department of Planning and Land Use (DPLU). If plans require corrections, the applicant will be issued a comment letter outlining necessary revisions. At this time, the applicant shall make the corrections and then submit those 'revised' plans to the local Fire District for their review. Once the landscape plans have been approved by the Fire District, resubmit two sets of plans to the Department of Planning and Land Use (with the Fire District's approval stamp and signatures on plans). At this stage the plans should be ready for approval and there should be no further iteration submittals. The DPLU will review to assure corrections have been made and will then stamp the plans approved. The approved plans (two sets) will have both the DPLU and Fire District's approval stamp on the title sheet. If the plans are ready for approval after the first submittal, the DPLU will require the applicant to pick up the plans and proceed with the Fire District review as mentioned above. All other submittal procedures shall remain the same.

NOTE: Per Sections 86.720 and 86.722 of the San Diego County Code, the landscape professional who prepared the Landscape Documentation Package is required to submit (to the County Landscape Architect), prior to the issuance of a certificate of occupancy, or notice of completion, whichever is applicable, a Certificate of Completion acknowledging that the landscape improvements have been installed per the approved landscape plans. Periodic inspections may be conducted by the Department to verify conformance and corrections may be required if needed.

For additional information, please contact:

David Kahler
County Landscape Architect, RLA 3945
Department of Planning and Land Use
(858) 694-3040
(858) 694-3373 (fax)
David.Kahler@sdcounty.ca.gov

APPENDIX E

County of San Diego, Department of Planning and Land Use

LANDSCAPE DOCUMENTATION PACKAGE CHECKLIST

COUNTY LANDSCAPE ARCHITECT

As a landscape professional licensed by the State of California, I hereby acknowledge that the preceding items initialed by me are provided on the attached landscape plans. I understand that the Department of Planning and Land Use may verify compliance.

Signature	Date
Name	Phone No.
License No.	Renewal Date

SUMMARY OF LANDSCAPE APPROVAL PROCESS

SINGLE-FAMILY LANDSCAPES 5,000 SQUARE FEET OR MORE

- Submit LDP and receive approval
- Receive Building Permit
- Install landscaping & irrigation
- Submit Certificate of Completion Package and receive approval
- Receive Outdoor Water Use Authorization and final inspection approval for occupancy

SINGLE-FAMILY RESIDENTIAL SUBDIVISIONS WITH DEVELOPER-INSTALLED LANDSCAPING

- Submit LDP and receive approval
- Receive Building Permit for lot
- Install landscaping & irrigation per LDP
- Submit Certificate of Completion Package and receive approval
- For each partially landscaped lot, receive Outdoor Water Use Authorization for up to 4,999 square feet of landscaped area
- Agree to notify each buyer of conditions and responsibilities under the Authorization and receive approval for occupancy

LANDSCAPES FOR COMMERCIAL, INDUSTRIAL, CIVIC, MULTIFAMILY AND COMMON AREA FOR SINGLE FAMILY OVER 1,000 SQUARE FEET

- Submit Concept Plan as part of discretionary permit approval process
- Receive discretionary permit approval
- Submit Landscape Documentation Package and receive approval
- Receive Building Permit
- Install landscaping and irrigation
- Submit Certificate of Completion Package and receive approval
- Receive Outdoor Water Use Authorization and final inspection approval for occupancy

APPENDIX F

County of San Diego, Department of Planning and Land Use

LANDSCAPE CERTIFICATE OF COMPLETION CHECKLIST

COUNTY LANDSCAPE ARCHITECT

The Landscape Certificate of Completion must be submitted to the County Landscape Architect and approved before the project site can receive approval for occupancy.

Initial

General Requirements

_____ Two copies of the completed and signed Landscape Certificate of Completion form

_____ Two copies of the Irrigation Schedule

_____ Two copies of the Landscape and Irrigation Maintenance schedule

_____ Two copies of the Soil Management Report, if not previously submitted

Landscape Certificate of Completion

_____ Completed and signed form certifying that the installed landscaping and irrigation system conform to the approved plans and the requirements of the County's Water Conservation in Landscaping Ordinance.

_____ Signed acknowledgment by property owner of ongoing responsibility to maintain the landscape and irrigation system in compliance with approved plans.

Irrigation Schedule

_____ Description of irrigation system and name of responsible party.

_____ Schedule of irrigation events and parameters used for setting the system controller per Section 86.723. No overhead irrigation allowed between 10:00 a.m. and 8:00 p.m.

_____ Irrigation schedules for plant establishment period, established landscaping, temporarily irrigated areas, and different seasons during the year.

Landscape and Irrigation Maintenance Schedule

_____ Maintenance schedule is designed to ensure continuing compliance with the maximum applied water allowance authorized by the County.

_____ Schedule of irrigation system inspection and repair and name of responsible party.

_____ Schedule of landscape maintenance including pruning, feeding, weeding and mowing as well as removal of dead and dying plants. Name of responsible party.

_____ Schedule to replenish mulch.

APPENDIX F

County of San Diego, Department of Planning and Land Use

LANDSCAPE CERTIFICATE OF COMPLETION CHECKLIST

COUNTY LANDSCAPE ARCHITECT

Initial

_____ Schedule of inspection and eradication of invasive species in transitional areas.

_____ Instructions to replace broken irrigation components with the same or equivalent parts and to maintain an average irrigation efficiency factor of at least 0.71.

_____ Instructions to replace a removed plant with a plant that is classified within the same hydrozone.

Soil Management Report

_____ Was a grading permit required for the project? (If not, skip this section.)

_____ Soil analysis of the landscaped areas with information on the soil texture, soil infiltration rate, pH, total soluble salts, sodium, and percent of organic matter.

_____ Recommendations for improving the soil to efficiently utilize irrigation to sustain the health of landscape plantings.

Random audits may be conducted by the County to verify conformance, and corrections may be required if needed.

As a landscape professional licensed by the State of California, I hereby acknowledge that the preceding items initialed by me are being provided to the County. Upon approval, I will provide copies to the property owner. I understand that the County may verify compliance.

_____ _____
Signature Date

_____ _____
Name Phone No.

_____ _____
License No. Renewal Date

For additional information, please contact:

David Kahler
County Landscape Architect, RLA 3945
Department of Planning and Land Use
(858) 694-3040
(858) 694-3373 (fax)
David.Kahler@sdcounty.ca.gov

APPENDIX G
LOW WATER USE, IGNITION RESISTIVE PLANTS

Courtesy of Dixie Switzer

The intent of this list is to provide examples of plants that are less prone to ignite or spread flames to other vegetation during a fire and that can naturalize or survive without irrigation after growth has been established. This list indicates those plants that are considered native to California. It also excludes non-native invasive species that easily spread into natural, non-irrigated areas.

No plant is totally fire resistant. The plants listed have been chosen because they contain minimal amounts of flammable resins and have a low fuel volume. All plants on this list are considered to be drought-tolerant.

When first planting drought-tolerant plants, it is necessary to water deeply to encourage the plant roots to seek natural moisture in the soil. During this establishment period, many plants will require more water in summer than in winter but be careful not to overwater. Even in summer some natives will die if watered too much. Over a three year establishment period, these plants should be weaned off supplemental irrigation. Once established, these plants can grow and reproduce with only natural moisture such as rainfall. Occasional irrigation is necessary only in extreme drought conditions.

APPENDIX G
LOW WATER USE, IGNITION RESISTIVE PLANTS

LEGEND

* Native plant as identified in the Native Plant list published by the San Diego Chapter of the California Native Plant Society or the California Native Plant Link Exchange for San Diego County www.cnplx.info.

TYPE: A = Annual
C = Succulent
G = Groundcover
P = Perennial
S = Shrub
T = Tree

The following references were used to avoid any listing of invasive plants:

Los Angeles Regional Guide to Invasive Plants http://weedwatch.lasgrwc.org/Matrix_Master_20071022.pdf.

California Invasive Plant Council Inventory of California Invasive Plants http://www.cal-ipc.org/ip/inventory/index.php.

American Society of Landscape Architects, San Diego Chapter: Invasive Ornamental Plant Guide http://www.asla-sandiego.org/Download/PG_08_mod.pdf.

APPENDIX G
LOW WATER USE, IGNITION RESISTIVE PLANTS

Used with permission of www.laspilitas.com

Yarrow

Used with permission of www.laspilitas.com

California Buckeye

Used with permission of www.laspilitas.com

Desert Century

Used with permission of www.laspilitas.com

Shaw's Century

BOTANICAL NAME	COMMON NAME	TYPE
Achillea Tomentosa*	Wooly Yarrow	G
Aesculus californica*	California Buckeye	T/S
Agave		
americana	Century Plant	C
deserti*	Desert Century Plant	C
shawii*	Shaw's Century Plant	C
Aloe arborescens	Tree Aloe	C
Alyogyne huegelii	Blue Hibiscus	S
Antigonon leptopus*	San Miguel Coral Vine	V
Arbutus unedo	Strawberry Tree	T
Baccharis glutinosa*	Mule Fat	S
Brachychiton populneus	Bottle Tree	T
Caesalpinia gilliesii	Bird of Paradise Bush	S
Calliandra californica*	Baja Fairy Duster	S
Cassia artemisioides	Feathey Senna	S
Ceanothus spp.*	California Lilac	S/G
Ceratonia siliqua	Carob	T
Cercidium floridum	Blue Palo Verde	T
Cercis occidentalis*	Western Redbud	T/S

Used with permission of www.laspilitas.com

Mule Fat

Used with permission of www.laspilitas.com

California Mountain Lilac (Ceanothus)

Used with permission of www.laspilitas.com

Western Redbud

APPENDIX G
LOW WATER USE, IGNITION RESISTIVE PLANTS

Used with permission of www.laspilitas.com

Summer Holly

Used with permission of www.laspilitas.com

Coast Sunflower

Used with permission of www.laspilitas.com

Giant Coreopsis

BOTANICAL NAME	COMMON NAME	TYPE
Comarostaphylis diversifolia*	Summer Holly	S
Convolvulus cneorum	Bush Morning Glory	S
Coreopsis		
gigantea*	Giant Coreopsis	P
maritima*	Sea Dahlia	P
verticillata	Coreopsis	P
Dalea		
orcuttii	Orcutt's Delea	S
spinosa	Smoke Tree	S
Delosperma alba	White Trailing Ice Plant	G
Dudleya		
brittonii*	Britton's Chalk Dudleya	G
pulverulenta*	Chalk Dudleya	G
virens*	Island Live-Forever	G
Elaeagnus pungens	Silverberry	S
Encelia		
californica*	Coast Sunflower	P
farinosa*	White Brittlebush	P
Eriophyllum confertiflorum*	Golden Yarrow	S
Erythrina caffra	Kaffirboom Coral Tree	T

Used with permission of www.laspilitas.com

Sea Dahlia

Used with permission of www.laspilitas.com

Chalk Dudleya

Used with permission of www.laspilitas.com

White Brittlebush

APPENDIX G
LOW WATER USE, IGNITION RESISTIVE PLANTS

Used with permission of www.laspilitas.com

Golden Yarrow

Used with permission of www.laspilitas.com

California Poppy

Used with permission of www.laspilitas.com

Island Bush-Snapdragon

BOTANICAL NAME	COMMON NAME	TYPE
Eschscholzia californica*	California Poppy	G/A
Ferocactus viridescens*	Coast Barrel Cactus	C
Fouquieria splendens*	Ocotillo	C
Galvezia		
Juncea*	Baja Bush-Snapdragon	S
speciosa*	Island Bush-Snapdragon	S
Garrya flavescens*	Ashy Silktassel	S
Grevillea spp.	Grevillea	T/S/G
Helianthemum spp.*	Sunrose	G
Hesperaloe parviflora	Red Yucca	C
Heteromeles arbutifolia*	Toyon	S
Iva hayesiana*	Poverty Weed	P
Juglans		
californica*	California Walnut	T
hindsii	California Black Walnut	T
Keckiella cordifolia*	Heart-Leaved Penstemon	V
Kniphofia uvaria	Red-Hot Poker	P
Lampranthus aurantiacus	Ice Plant	G
Lantana spp.	Lantana	S/G

Used with permission of www.laspilitas.com

Ashy Silktassel

Used with permission of www.laspilitas.com

Sunrose

Used with permission of www.laspilitas.com

Toyon

Used with permission of www.laspilitas.com

Poverty Weed

APPENDIX G
LOW WATER USE, IGNITION RESISTIVE PLANTS

Used with permission of www.laspilitas.com

California Walnut

Used with permission of www.laspilitas.com

Heart-Leaved Penstemon

Used with permission of www.laspilitas.com

Chaparral Honeysuckle

BOTANICAL NAME	COMMON NAME	TYPE
Lasthenia californica*	Common Goldfields	G
Laurus nobilis	Sweet Bay	T/S
Lavandula spp.	Lavender	P
Leucophyllum frutescens	Texas Ranger	S
Lonicera subspicata*	Chaparral Honeysuckle	V
Lotus scoparius*	Deerweed	S
Lupinus spp.	Lupine	G/A
Lyonothamnus floribundus spp.		
asplenifolius*	Fernleaf Catalina Ironwood	T
Malacothamnus fasciculatus*	Mesa Bushmallow	S
Nolina		
parryi*	Parry's Nolina	C
parryi spp. Wolfii*	Wolf's Bear Grass	C
Penstemon spp. (wild)*	Penstemon wild	P
Pittosporum phillyraeoides	Willow Pittosporum	T
Portulacaria afra	Elephant's Food	T/S
Prunus		
ilicifolia*	Hollyleaf Cherry	T/S
lyonii	Catalina Cherry	T/S

Used with permission of www.laspilitas.com

Deerweed

Used with permission of www.laspilitas.com

Fernleaf Catalina

Used with permission of www.laspilitas.com

Mesa Bushmallow

APPENDIX G
LOW WATER USE, IGNITION RESISTIVE PLANTS

Used with permission of www.laspilitas.com

Wild Penstemon

Used with permission of www.laspilitas.com

Hollyleaf Cherry

Courtesy of Dixie Switzer

Coast Live Oak

BOTANICAL NAME	COMMON NAME	TYPE
Quercus		
agrifolia*	Coast Live Oak	T
dumosa*	Scrub Oak	S
engelmannii*	Engelmann Oak	T
suber	Cork Oak	T
Rhamnus californica*	Coffeeberry	S
Robinia Ambigua 'Purple Robe'	Purple Robe Locust	T
Romneya coulteri*	Matilija Poppy	S
Rosa		
californica*	California Wild Rose	S
minutifolia*	Baja California Wild Rose	S
Sambucus spp.	Elderberry	S
Santolina		
chamaecyparissus	Lavender Cotton	P
virens	Santolina	P
Sedum spp.	Stonecrops	C
Senecio cineraria	Dusty Miller	P
Sisyrinchium bellum*	Blue-Eyed Grass	P
Symphoricarpos mollis*	Creeping Snowberry	S

Used with permission of www.laspilitas.com

Engelmann Oak

Used with permission of www.laspilitas.com

Coffeeberry

Used with permission of www.laspilitas.com

Matilija Poppy

APPENDIX G
LOW WATER USE, IGNITION RESISTIVE PLANTS

Used with permission of www.laspilitas.com

California Wild

Used with permission of www.laspilitas.com

Blue-Eyed Grass

Used with permission of www.laspilitas.com

Creeping Snowberry

BOTANICAL NAME	COMMON NAME	TYPE
Tagetes lemmonii	Copper Canyon Daisy	P
Teucrium fruticans	Bush Germander	S
Ulmus pumila	Siberian Elm	T
Verbena lilacina*	Lilac Verbena	P
Viguiera laciniata*	San Diego Sunflower	G
Westringia fruticosa	Coast Rosemary	S
Yucca		
schidigera*	Mojave Yucca	C
whipplei*	Foothill Yucca	C
Zauschneria		
californica	California Fuschia	P
cana	Hoary California Fuschia	P
'Catalina'	Catalina Fuschia	P

Used with permission of www.laspilitas.com

San Diego Sunflower

Used with permission of www.laspilitas.com

Mojave Yucca

Used with permission of www.laspilitas.com

Foothill Yucca

Please note: The above list is not intended as a comprehensive compilation of all plants that meets the criteria of low water use, ignition resistive, and non-invasive. It only suggests some plants that meet the criteria.

APPENDIX H
UNDESIRABLE PLANTS

The following vegetation is more susceptible to burning due to rough or peeling bark, production of large amounts of litter, vegetation that contains oils, resin, wax or pitch, large amounts of dead material in the plant, or plantings with a high dead to live fuel ratio. To reduce the possibility of fire spreading to structures, these plants should be avoided within the first 50 feet adjacent to a structure.

- ⇒ Eucalyptus
- ⇒ Pines
- ⇒ Rosemary
- ⇒ Larger California sagebrush
- ⇒ Chamise
- ⇒ Tea trees
- ⇒ Pepper trees
- ⇒ Acacias
- ⇒ Junipers
- ⇒ Pampas grass
- ⇒ Palms

If the owner wishes to retain these plants, they must be adequately maintained (pruning, thinning, irrigation, litter removal and weeding) to reduce the potential for spreading a fire.

APPENDIX I
INVASIVE SPECIES

BOTANICAL NAME	COMMON NAME
Acacia baileyana	Bailey Acacia
Acacia cyclops	Coastal Wattle
Acacia dealbata	Silver Wattle
Acacia longifolia (A. latifolia)	Golden Wattle
Ailanthus altissima	Tree of Heaven
Anthemis cotula	Mayweed
Aptenia cordifolia	Red Apple Iceplant
Arctotheca calendula	Cape Weed
Arundo donax	Giant Cane
Asparagas asparagoides	Bridal Creeper
Asparagus densiflorus & all varieties	Asparagus Fern
Asparagus setaceus	Fern Asparagus
Asphodelus fistulosa	Onionweed
Atriplex semibaccata	Australian Saltbush
Brassica nigra	Black Mustard
Brassica rapa	Field Mustard
Brassica tournefortii	Asian Mustard, Sahara Mustard

BOTANICAL NAME	COMMON NAME
Callistemon viminalis	Weeping Bottlebrush
Carpobrotus chilensis	Sea Fig, Highway Ice Plant
Carpobrotus edulis	Ice Plant
Centaurea solstitialis	Yellow Starthistle
Centranthus ruber	Red Valerian, Jupiter's Beard
Chrysanthemum coronarium	Garland or Crown Daisy
*Cirsium vulgare**	Wild Artichoke
Conium maculatum	Poison Hemlock
Cortaderia jubata & all varieties	Jubata Grass & all varieties
Cortaderia selloana & all varieties	Pampas Grass & all varieties
Cotoneaster lacteus	Cotoneaster
Cotoneaster pannosus	Silverleaf Cotoneaster
Crassula ovata (C. argentea)	Jade Plant
Cupaniopsis anacardioides	Carrot Wood
*Cynara cardunculus**	Artichoke Thistle
Cyperus involucratus (C. alternifolius)	African Umbrella Plant
Echium candicans (E. fastuosum)	Pride of Madeira

APPENDIX I
INVASIVE SPECIES

BOTANICAL NAME	COMMON NAME
Ehrharta longiflora	Long-flowered/Annual Veldt Grass
Eucalyptus camaldulensis (E. rostrata)	Red Gum, River Red Gum
Eucalyptus globulus	Eucalyptus Blue Gum
Ficus carica	Edible Fig
Foeniculum vulgare	Sweet Fennel, Wild Fennel
Fraxinus uhdei	Evergreen/Shamel/ Mexican/Tropical Ash
Gazania linearis (Gazania longiscapa)	Gazania, Gazania Daisy, Colorado Gold
Genista monspessulana	French Broom
Hedera canariensis	Algerian Ivy
Hedera helix	English Ivy
Hypericum canariense	Canary Island Hypericum
Hypericum perforatum	St. John's Wort
Ipomoea purpurea	Common Morning Glory
Iris pseudacorus	Yellow Iris

BOTANICAL NAME	COMMON NAME
Koelreuteria paniculata	Goldenrain Tree
*Lactuca serriola**	Prickly Lettuce
Lepidium latifolium	Perennial Pepperweed
Limonium perezii	Perez's Marsh-rosemary, Sea Lavender
Limonium ramosissimum	Algerian Sea Lavender
Limonium sinuatum	Wavy Leaf Sea Lavender, Statice
Lobularia maritima	Sweet Allyssum
Lonicera japonica & all varieties	Japanese Honeysuckle & all varieties
Lotus corniculatus	Birdfoot Trefoil
Ludwigia hexapetala (L. uruguayensis)	Uruguay Marsh-Purslane, Water Primrose
Lythrum salicaria	Purple Loosestrife
Malephora crocea	Red-flowered Ice Plant, Croceum Ice Plant
Melinus repens (Rhynchelytrum repens)	Natal Grass, Natal Ruby Grass, Red Top
Mentha pulegium	Pennyroyal

APPENDIX I
INVASIVE SPECIES

BOTANICAL NAME	COMMON NAME
Ehrharta calycina	Perennial Veldt Grass
Ehrharta erecta	Panic Veldt Grass
Mentha spicata	Spearmint
Mesembryanthemum crystallinum	Crystalline Ice Plant
Mesembryanthemum nodiflorum	Slender-leaved Ice Plant
Mirabilis jalapa (M. lindheimeri)	Four O-Clock, Marvel of Peru
Myoporum laetum	Ngaio Tree, Myoporum
Myriophyllum aquaticum	Parrotfeather
Myriophyllum spicatum	Eurasian Watermilfoil
Nassella tenuissima	Finestem Needlegrass, Mexican Feather Grass
Nerium oleanader	Oleander
Nicotiana glauca	Tree Tobacco
Oenothera speciosa	Mexican Evening Primose
Olea europaea (fruiting varieties)	Olive Tree

BOTANICAL NAME	COMMON NAME
Opuntia ficus-indica	Mission Prickly-Pear, Indian Fig, Tuna Cactus
Osteospermum fruticosum (Dimorphotheca fruticosa)	Trailing African Daisy, Freeway Daisy
Parkinsonia aculeata	Mexican Palo Verde, Jerusalem Thorn
Pennisetum villosum (Cenchrus villosus)	Feathertop Fountain Grass
Pennisetum ciliare (Cenchrus ciliare)	Buffelgrass
Pennisetum clandestinum (Cenchrus clandestinum)	Kikuyu Grass
Pennisetum setaceum (Cenchrus setaceum) & all varieties except 'Rubrum'/'Cupreum'	Fountain Grass
Phoenix canariensis	Canary Island Date Palm
Pittosporum undulatum	Victorian Box
Platanus x acerifolia	London Plane Tree
Prunus lyonii (Prunus ilicifolia ssp. lyonii*)*	Catalina Cherry
Retama monosperma (Genista monosperma)	Bridal Veil Broom
Ricinus communis	Castor Bean
Robinia pseudoacacia	Black Locust

APPENDIX I
INVASIVE SPECIES

BOTANICAL NAME	COMMON NAME
Salsola tragus	Russian Thistle
Schinus molle	California Pepper
Schinus terebinthifolius	Brazilian Pepper
Senna didymobotrya (Cassia didymobotrya)	Popcorn Senna, Popcorn Cassia, African Senna
Silybum marianum	Milk Thistle
Spartium junceum	Spanish Broom

BOTANICAL NAME	COMMON NAME
Tamarix species	Tamarisk
Tropaeolum majus	Garden Nasturtium
Ulmus parvifolia	Chinese Elm Tree
Vinca major	Periwinkle
Washington robusta	Mexican Fan Palm
Zantedeschia aethiopica (Calla aethiopica)	Calla-lily

The following references were used:

Los Angeles Regional Guide to Invasive Plants http://weedwatch.lasgrwc.org/Matrix_Master_20071022.pdf.

California Invasive Plant Council Inventory of California Invasive Plants http://www.cal-ipc.org/ip/inventory/index.php.

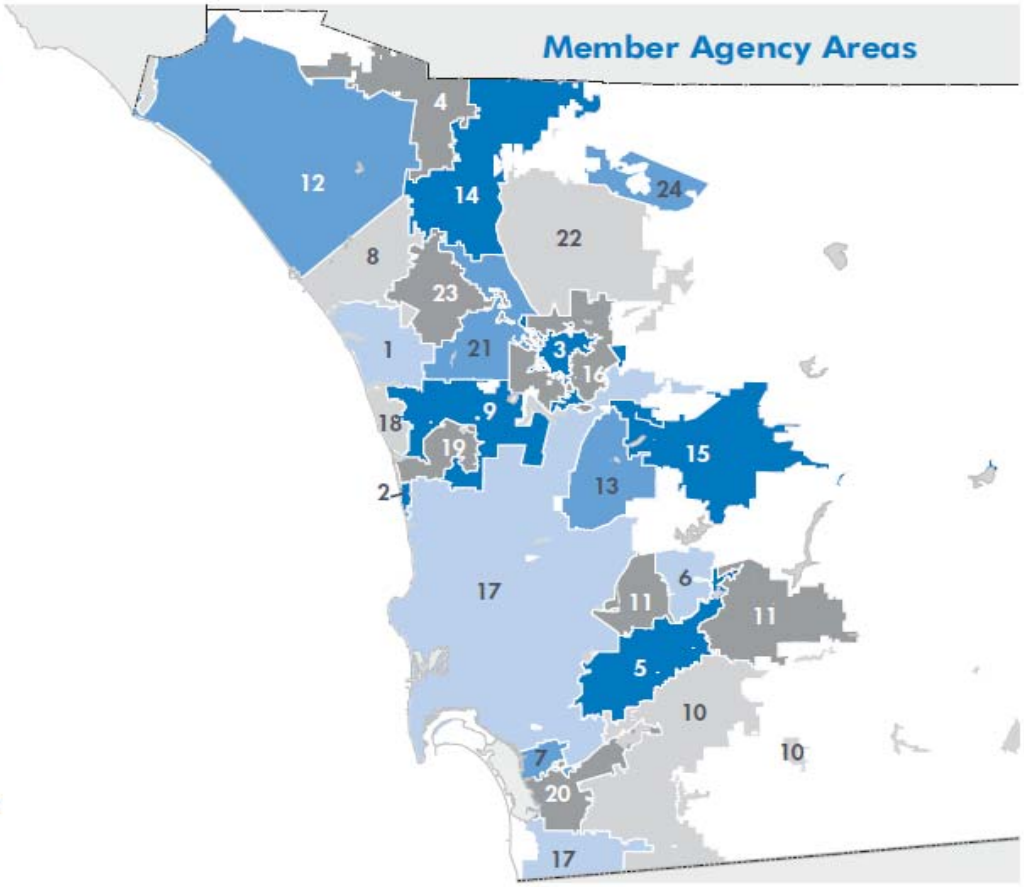
American Society of Landscape Architects, San Diego Chapter: Invasive Ornamental Plant Guide http://www.asla-sandiego.org/Download/PG_08_mod.pdf.

APPENDIX J

San Diego County Water Authority

Water Authority Member Agencies

CONTACT YOUR LOCAL WATER AGENCY FOR INFORMATION ON RESTRICTIONS, RATES



1 Carlsbad Municipal Water District
www.carlsbadca.gov/water
Ph: 760-438-2722

2 City of Del Mar
www.delmar.ca.us
Ph: 858-755-3294

3 City of Escondido
www.ci.escondido.ca.us
Ph: 760-839-4658

4 Fallbrook Public Utility District
www.fpud.com
Ph: 760-728-1125

5 Helix Water District
www.hwd.com
Ph: 619-466-0585

6 Lakeside Water District
www.lakesidewaterdistrict.com
Ph: 619-443-3805

7 City of National City*
www.ci.national-city.ca.us
Ph: 619-336-4241
www.sweetwater.org
Ph: 619-420-1413

8 City of Oceanside
www.ci.oceanside.ca.us
Ph: 760-435-5800

9 Olivenhain Municipal Water District
www.olivenhain.com
Ph: 760-753-6466

10 Otay Water District
http://www.otaywater.gov
Ph: 619-670-2222

11 Padre Dam Municipal Water District
www.padredam.org
Ph: 619 448-3111

12 Camp Pendleton Marine Corps Base
www.cpp.usmc.mil
Ph: 760-725-4743

13 City of Poway
www.poway.org
Ph: 858-668-4700

14 Rainbow Municipal Water District
www.rainbowmwd.com
Ph: 760-728-1178

15 Ramona Municipal Water District
www.rmwd.org
Ph: 760-789-1330

16 Rincon del Diablo Municipal Water District
www.rinconwater.org
Ph: 760-745-5522

17 City of San Diego
www.sandiego.gov/water
Ph: 619-515-3500

18 San Dieguito Water District
www.ci.encinitas.ca.us
Ph: 760-633-2810

19 Santa Fe Irrigation District
www.sfidwater.org
Ph: 858-756-2424

20 South Bay Irrigation District*
www.sbid.us
Ph: 619-427-0868
www.sweetwater.org
Ph: 619-420-1413

21 Vallecitos Water District
www.vwd.org
Ph: 760-744-0460

22 Valley Center Municipal Water District
www.vcmwd.org
Ph: 760-749-1600

23 Vista Irrigation District
www.vid-h2o.org
Ph: 760-597-3100

24 Yuima Municipal Water District
www.yuimamwd.com
Ph: 760-742-3704

*Sweetwater Authority manages City of National City and South Bay Irrigation District.

APRIL 2009

APPENDIX K
WATER CONSERVATION PROGRAM FOR ESTABLISHED LANDSCAPES

ESTABLISH A WATER BUDGET FOR LANDSCAPE IRRIGATION

The water applied to your landscape, including any water features such as swimming pools, should not exceed your water budget.

For properties served by public water providers, figure your water budget as follows:

1. Locate your community planning area in the table.
2. Multiply the corresponding Water Budget Factor by the area of your irrigated landscape, including the surface area of any water features. The size of your landscape should be in square feet.

Budget = Water Budget Factor * landscaped area (sq. ft.)

The water budget sets the maximum number of gallons per year that should be used to water your landscape.

The water you actually use should not exceed your budget.

Community Planning Area	Water Budget Factor
Alpine	22.2
Bonsall	20.1
Borrego Springs	32.7
County Islands	20.1
Crest	22.2
Fallbrook	20.1
Jamul/Dulzura	22.2
Lakeside/Pepper Drive-Bostonia	22.2
North County Metro	20.1
Otay	22.2
Pala-Pauma	22.2
Pendleton/DeLuz	20.1
Rainbow	20.1
Ramona	22.2
San Dieguito	20.1
Spring Valley	22.2
Sweetwater	22.2
Valle de Oro	22.2
Valley Center	22.2

APPENDIX K
WATER CONSERVATION PROGRAM FOR ESTABLISHED LANDSCAPES

ELIMINATE OVER-WATERING

This is the easiest and most effective way to conserve water.

You will use less water.

Your water bill will be reduced.

You will prevent runoff which contaminates our beaches.

Over-watering occurs when the soil is not able to absorb water as quickly as the water is applied. If your soil does not absorb water very quickly, you should irrigate for only a short time, wait until that water has completely infiltrated the soil, and then irrigate for another short time.

FIX LEAKS

How to check for leaks in your plumbing:

1. Record the reading on your water meter and mark the position of the needle.
2. Turn off all water inside and outside, including an ice maker.
3. Wait at least 30 minutes to one hour.
4. Check the water meter.
5. If the reading has changed or the needle has moved, there is a leak in your plumbing.

FIX BROKEN IRRIGATION EQUIPMENT

A broken sprinkler head can waste water at a rate of 10 gallons per minute. That's equal to 100 gallons during a 10 minute irrigation cycle.

Check your irrigation system at least once a month.

1. Manually start the system.
2. Check the valves for leaks.
3. Check each head for leaks or puddling around the head.

4. Check for overspray onto surfaces that should not be watered such as sidewalks, structures, or patios.
5. Adjust and properly align heads.
6. Check for vegetation or other obstacles that block spray.
7. Check for over-watering or runoff.
8. Shorten the watering cycle if necessary.

ADJUST THE IRRIGATION SCHEDULE

The amount of water that is necessary for a healthy landscape will vary depending on the time of year and the type of plants.

- During the summer months, water 2 or 3 days per week for grass and 1 or 2 days per week for other plants.
- In winter, irrigate only when the top 2 to 3 inches of soil is dry.

Force plants and lawns to develop deep roots rather than shallow roots. Plants with deep roots can be watered less often, once a week may be sufficient. Shallow roots develop from frequent watering. To develop deep roots:

1. Apply water using 2 or 3 short cycles rather than one long cycle.
2. Add one extra day between waterings.
3. After three weeks, add another day between waterings and, for overhead spray systems, increase the watering time by 1 to 3 minutes.
4. If the plants respond well, try adding another day between waterings.

Your irrigation schedule should be adjusted at least once a month.

Learn how to use your irrigation controller. Replace an old controller with a smart controller which will automatically suspend irrigation during rainy weather conditions.

Do not water when it rains. Wait until the soil dries out.

Water between midnight and 6 a.m. to reduce water loss due to evaporation and wind.

For overhead spray systems, water between 4 a.m. and 6 a.m. to allow the morning sun to dry the vegetation.

Experiment to find the most efficient schedule for your landscape.

Check the following website for a calculator that provides estimates for irrigation schedules:

http://www.bewaterwise.com/calculator.html

PERFORM REGULAR MAINTENANCE

Turf

- Do not mow lawns any shorter than 3 inches to encourage deep roots.
- Leave grass clippings on the lawn to provide nutrients and reduce green waste.
- Use a mulching mower.
- Dethatch or aerate your lawn to allow water to penetrate into the soil.
- Sporadic brown spots on your lawn are usually caused by the uneven distribution of water from your spray heads. Check the heads to be sure they are not blocked and that vegetation is not obstructing the spray. Adjust the spray heads or the pressure of your irrigation system if necessary. Using more water is not the solution.

Plants

- Plant in the fall when less water is required to establish plants.
- Do not overprune shrubs and trees.
- Ornamental grasses should be groomed once a year. Do not mow.
- Use plants that are well-suited to the type of soil on your site.

Mulch

- Place a 2 or 3 inch layer of mulch over bare dirt to reduce water evaporation, improve the soil, and control weeds.
- Organic mulch absorbs and retains water. If it gets wet during irrigation, allow it to dry out. Otherwise is will become vulnerable to molds, fungi and other diseases that may spread to the plants.
- Re-mulch every 1—2 years.
- Use gravel mulch around succulents to keep the plants from becoming too wet.

Soil

- Amend the soil with compost to improve filtration, texture and nutrients which will produce healthy plants with less water.
  - For turf, 1—2 inches of compost tilled into an 8-inch depth.
  - For trees and shrubs, 2—4 inches compost tilled at least 12 inches deep.
  - If not tilling the soil, mulch with compost, then put wood chips on top for weed control.
- Use only the minimum amount of fertilizer necessary. Fertilizers result in higher water use, increased maintenance, and more green waste.
- When using fertilizer, try more frequent applications using smaller amounts. Fertilizer is toxic and any excess washes into waterways.
- Select slow-release or natural organic fertilizers to reduce runoff pollution.

Pests

- Select pest-resistant plants.
- If necessary, spot treat with non-toxic insecticide.

GIVE YOUR LANDSCAPE A MAKEOVER

Simple design changes can save water and give your landscape a fresh, new look.

Design

- Attend classes on water smart landscaping.
- Visit the Water Conservation Garden at Cuyamaca College or the Quail Botanical Gardens in Encinitas.
- Choose plants that require the same amount of water and sunlight for each irrigation zone (or hydrozone).
- Use permeable landscaping materials to create pathways and borders.

Plants

- Replace high water use lawns with water smart groundcovers, trees and shrubs.
- Plant drought-tolerant plants. After 1 to 3 years of regular watering, the plants will be able to survive with little or no irrigation.
- Plant high water use plants in shady areas that are protected from the wind.
- Consider plants native to the region. They require less maintenance and less water.
- Do not plant invasive species or plants that can easily burn or spread fire. (See Appendices G, H, and I)
- Look for low water use plants at local nurseries.

Irrigation System

- Install a water smart controller.
- Switch to drip irrigation for trees and shrubs.
- Replace old sprinkler heads with newer, more efficient heads.
- Replace sprinkler heads with mini rotors to reduce runoff. Mini rotors have a reduced precipitation rate which allows time for water to penetrate the soil.
- Use rotors to water large areas of 25 feet by 25 feet or larger.

- Check with your water agency or equipment retailer for rebates on water smart irrigation equipment.

WATERING WITHOUT AN AUTOMATED IRRIGATION SYSTEM

When watering with a garden hose:

- Always attach a trigger nozzle or a watering wand with a ball valve to a garden hose. The trigger nozzle should be the type that must be depressed continuously by hand in order to allow water to flow.
- Shut off the water when moving from plant to plant during garden watering.
- Check your hose and fittings to make sure they are in good condition, and replace with quality fittings if required. Worn hoses and fittings are more likely to leak.
- Remember to shut off the water at the faucet after use.

When watering with portable lawn sprinklers:

- Do not leave the water running unattended. Set an alarm to remind you to turn it off.
- Adjust the water pressure to avoid overspray and runoff
- Use a hose timer between the faucet and the hose to automatically shut off the water.
- Remember to shut off the water at the faucet when you are done.

HOW TO READ A WATER METER

A water meter records the amount of water used in the same way the odometer in a car records the number of miles traveled. A water meter measures water use by the cubic foot. One cubic foot equals 7.48 gallons.

To check your daily water use:

1. Record the reading on your meter.
2. Twenty-four hours later, record the reading on the meter again.
3. Subtract the reading in Step 1 from the reading in Step 2.

4. Multiply the result in Step 3 by 7.48.
5. The answer in Step 4 is the number of gallons used over the twenty-four hour period.

HOW TO DETERMINE THE AMOUNT OF WATER USED FOR OUTSIDE IRRIGATION

Most water meters measure all water used by the customer regardless of how the water is used. However, there are some methods to estimate the amount of water used for irrigation.

1. Install a water sub-meter.

   The meter can be attached to the branch off the main water line that supplies water to the irrigation system. This method allows you to accurately track the amount of water used for irrigation. Be sure the sub-meter meets AWWA standards.

2. Read the main water meter.

   - Check the reading on your meter.
   - Turn off all water, including ice makers and manually run the full cycle of your irrigation system.
     - Check the new reading on your meter.
     - The difference between the two readings is the amount of water used by the irrigation system.

3. Check your water bill.

   Each water agency has its own billing system. Some water agencies charge customers for sewer service based on the amount of water that went into the customer's sewer. Check your bill. Subtract this amount from the total amount of water used. The result gives a rough estimate of how much water was used for irrigation and outdoor use during the billing period.

   Please contact your water agency if you need help reading your water bill or for information on how sewer service is billed.

APPENDIX L
WATER CONSERVATION IN LANDSCAPING ORDINANCE

ORDINANCE NO. 10032 (N.S.)
01/13/2010 (9)

AN ORDINANCE AMENDING THE SAN DIEGO COUNTY CODE TO ADD TITLE 8, DIVISION 6, CHAPTER 7, ADOPTING REGULATIONS RELATING TO WATER CONSERVATION IN LANDSCAPING

The Board of Supervisors of the County of San Diego ordains as follows:

Section 1. The Board of Supervisors finds and determines as follows:

(a) The State of California adopted the Water Conservation in Landscaping Act, Government Code sections 65590 et seq. in 1990. The Act required the State Department of Water Resources to adopt a model water efficient landscape ordinance by January 1, 1992. The Act further provided that if a local agency had not by January 1, 1993 either: (1) adopted findings based on climatic, geological or topographical conditions or water availability stating a water efficient landscape ordinance is unnecessary or (2) adopted a water efficient landscape ordinance, then the model water efficient landscape ordinance adopted by the Department of Water Resources would take effect within the local jurisdiction and be enforced by the local agency. The County amended the County Zoning Ordinance adopting water efficient landscape regulations before the January 1, 1993 deadline.

(b) In 2006 the State repealed the Water Conservation in Landscaping Act and adopted a new Water Conservation in Landscaping Act, Government Code sections 65591 et seq. The new Act requires the Department of Water Resources to update the previously adopted model water efficient landscape ordinance that provides for greater efforts at water conservation and more efficient use of water in landscaping. The model ordinance is required to include provisions for: (1) water conservation by the appropriate use and groupings of plants that are well adapted to particular sites and local conditions, (2) a landscape water budget that establishes the maximum amount of water to be applied through the irrigation system, (3) automatic irrigation systems and irrigation schedules based on climatic conditions, terrains and soil types and other environmental conditions, (4) onsite soil assessment and soil management plans that include grading and drainage to promote healthy plant growth and prevent excessive erosion and runoff and (5) promoting the use of recycled water for landscaping when it is available and the use is consistent with State law.

(c) Government Code section 65595 requires that on or before January 1, 2010 a local agency shall adopt a water efficient landscape ordinance that is at least as effective in conserving water as the updated model

ordinance or adopt the model ordinance. If a local agency does not adopt a water efficient landscape ordinance by the deadline, the updated model ordinance shall apply within the local agency's jurisdiction and shall be enforced by the local agency.

(d) The water efficient landscape regulations in the County Zoning Ordinance are not as effective in conserving water as the updated model ordinance and need to be replaced by more comprehensive regulations.

(e) This ordinance adopts water efficient landscape regulations for the unincorporated area of the County that include provisions for: (1) water conservation by the appropriate use and groupings of plants that are well adapted to particular sites and local conditions, (2) a landscape water budget that establishes the maximum amount of water to be applied through the irrigation system, (3) automatic irrigation systems and irrigation schedules based on climatic conditions, terrains and soil types and other environmental conditions, (4) onsite soil assessment and soil management plans that include grading and drainage to promote healthy plant growth and prevent excessive erosion and runoff and (5) promoting the use of recycled water for landscaping when it is available and the use is consistent with State law.

(f) This ordinance will: (1) increase water use efficiency by establishing and monitoring water budgets, promoting installation and maintenance of efficient irrigation systems and encouraging use of plants that use water efficiently based on climate, soil type and site features and (2) reduce water waste that occurs from irrigation runoff and overspray.

(g) This ordinance is consistent with the findings and declarations the State Legislature made when adopting the new Water Conservation in Landscaping Act and is as effective as the State's updated model water efficient landscape ordinance.

Section 2. Title 8, Division 6, Chapter 7 is added to the San Diego County Code to read as follows:

CHAPTER 7. WATER CONSERVATION IN LANDSCAPING

SEC. 86.701. PURPOSE.

The State Legislature determined in the Water Conservation in Landscaping Act (the "Act"), Government Code sections 65591 et seq., that the State's water resources are in limited supply. The Legislature also recognized

that while landscaping is essential to the quality of life in California, landscape design, installation, maintenance and management must be water efficient. The general purpose of this chapter is to establish water use standards for landscaping in the unincorporated area of the County that implement the 2006 development landscape design requirements established by the Act. Consistent with the Legislature's findings the purpose of this chapter is to:

(a) Promote the values and benefits of landscapes while recognizing the need to utilize water and other resources as efficiently as possible.

(b) Establish a structure for planning, designing, installing, maintaining and managing water efficient landscapes in new construction.

(c) Promote the use, when available, of tertiary treated recycled water, for irrigating landscaping.

(d) Use water efficiently without waste by setting a Maximum Applied Water Allowance for new projects as an upper limit for water use and reduce water use to the lowest practical amount.

(e) Encourage water users of existing landscapes to use water efficiently and without waste.

SEC. 86.702. DEFINITIONS.

The following definitions shall apply to this chapter:

(a) "Automatic irrigation controller" means an automatic timing device used to remotely control valves that operate an irrigation system. Automatic irrigation controllers schedule irrigation events using either evapotranspiration (weather-based) or soil moisture sensor data.

(b) "Building permit" means a permit issued by the County Building Department authorizing the permit holder to among other things, erect, construct, enlarge, alter, repair or improve a building or structure.

(c) "Certified landscape irrigation auditor" means a person certified to perform landscape irrigation audits by an accredited academic institution, a professional trade organization or other accredited certification program.

(d) "Cool season grass" means a type of grass that remains green in the winter months.

(e) "Developer" includes a developer's partner, associate, employee, consultant, trustee or agent or any other person who has any other business or financial relationship with the developer.

(f) "Director DPLU" means the means the Director of Planning and Land Use or anyone whom the Director has appointed or hired to administer or enforce this chapter.

(g) "Discretionary permit" means any permit requiring a decision making body to exercise judgment prior to its approval, conditional approval or denial.

(h) "Estimated total water use" (ETWU) means the estimated total water use in gallons per year for a landscaped area.

(i) "ET adjustment factor" (ETAF) means a factor that when applied to reference evapotranspiration, adjusts for plant water requirements and irrigation efficiency, two major influences on the amount of water that is required for a healthy landscape.

(j) "Evapotranspiration rate" means the quantity of water evaporated from adjacent soil and other surfaces and transpired by plants during a specified time period. "Reference evapotranspiration" (ETo) means a standard measurement of environmental parameters which affect the water use of plants. ETo is expressed in inches per day, month, or year and is an estimate of the evapotranspiration of a large field of four-inches to seven-inches tall, cool season grass that is well watered. Reference evapotranspiration is used as the basis of determining the MAWA so that regional differences in climate can be accommodated.

(k) "Grading" means any importation, excavation, movement, loosening or compaction of soil or rock.

(l) "Hardscape" means any durable surface material, pervious or non-pervious.

(m) "Hydrozone" means a portion of the landscape area having plants with similar water needs. A hydrozone may be irrigated or non-irrigated.

(n) "Invasive plant species" means species of plants not historically found in California that spread outside cultivated areas and may damage environmental or economic resources.

(o) "Irrigation audit" means an in depth evaluation of the performance of an irrigation system conducted by a certified landscape irrigation auditor. An irrigation audit includes, but is not limited to, inspection, system tune-up, system test with distribution uniformity or emission uniformity, reporting overspray or runoff that causes overland flow and preparation of an irrigation schedule.

(p) "Irrigation efficiency" means the measurement of the amount of water beneficially used divided by the water applied. Irrigation efficiency is derived from measurements and estimates of irrigation system characteristics and management practices.

(q) "Landscaped area" means an area with outdoor plants, turf and other vegetation. A landscaped area includes a water feature either in an area with vegetation or that stands alone. A landscaped area may also include design features adjacent to an area with vegetation when allowed under section 86.714. A landscaped area does not include the footprint of a building, decks, patio, sidewalk, driveway, parking lot or other hardscape that does not meet the criteria in section 86.714. A landscaped area also does not include an area without irrigation designated for non-development such as designated open space or area with existing native vegetation.

(r) "Licensed landscape contractor" means a person licensed by the State of California as a specialty contractor in the C-27 category, to construct, maintain, repair, install or subcontract the development of a landscape system.

(s) "Landscape design manual" means the manual, approved by the Director of Planning and Land Use that establishes specific design criteria and guidance to implement the requirements of this chapter.

(t) "Low head drainage" means a sprinkler head or other irrigation device that continues to emit water after the water to the zone in which the device is located has shut off.

(u) "Low volume irrigation" means the application of irrigation water at low pressure through a system of tubing or lateral lines and low volume emitters such as drip lines or bubblers.

(v) "Mass grading" means the movement of more than 5000 cubic yards of soil by mechanical means to alter the topographic features of a site.

(w) "Maximum applied water allowance" (MAWA) means the maximum allowed annual water use for a specific landscaped area based on the square footage of the area, the ETAF and the ETo.

(x) "Mulch" means an organic material such as leaves, bark, straw, compost or inorganic mineral materials such as rocks, gravel or decomposed granite left loose and applied to the soil surface to reduce evaporation, suppress weeds, moderate soil temperature or prevent soil erosion.

(y) "Overspray" means the water from irrigation that is delivered outside an area targeted for the irrigation and makes contact with a surface not intended to be irrigated.

(z) "Pervious" means any surface or material that allows the passage of water through the material and into underlying soil.

(aa) "Plant factor" means a factor that when multiplied by the ETo, estimates the amount of water a plant needs.

(bb) "Public water purveyor" means a public utility, municipal water district, municipal irrigation district or municipality that delivers water to customers.

(cc) "Recycled water" means waste water that has been treated at the highest level required by the California Department of Health Services for water not intended for human consumption. "Tertiary treated recycled water" means water that has been through three levels of treatment including filtration and disinfection.

(dd) "Runoff" means water that is not absorbed by the soil or landscape to which it is applied and flows from the landscaped area.

(ee) "Special landscaped area" means an area of the landscape dedicated to edible plants, an area irrigated with recycled water or an area dedicated to play such as a park, sports field or golf course where turf provides a playing surface.

(ff) "Subsurface irrigation" means an irrigation device with a delivery line and water emitters installed below the soil surface that slowly and frequently emit small amounts of water into the soil to irrigate plant roots.

(gg) "Transitional area" means a portion of a landscaped area that is adjacent to a natural or undisturbed area and is designated to insure that the natural area remains unaffected by plantings and irrigation installed on the property.

(hh) "Turf" means a groundcover surface of cool season or warm season mowed grass. Annual bluegrass, Kentucky bluegrass, perennial ryegrass, red fescue and tall fescue are cool season grasses. Bermuda grass, kikuyu grass, seashore paspalum, St. Augustine grass, zoysias grass and buffalo grass are warm season grasses.

(ii) "Water feature" means a design element where open water performs an aesthetic or recreational function. A water feature includes a pond, lake, waterfall, fountain, artificial streams, spa and swimming pool where a public water purveyor within the San Diego County Water Authority or the Borrego Water District provides water for the feature. Constructed wetlands used for on-site wastewater treatment or stormwater best management practices are not water features.

(jj) "WUCOLS" means Water Use Classification of Landscape Species and refers to the most recent version of the Department of Water Resources publication authored by the University of California Cooperative Extension.

SEC. 86.703. APPLICABILITY.

(a) The following projects in the unincorporated area of the County for which the County issues a building permit or a discretionary permit after the chapter's effective date shall be required to obtain an outdoor water use authorization as part of the permitting process:

(1) A project for an industrial, commercial, civic or multi-family residential use where the landscaped area is 1000 square feet or more.

(2) A single family residential development where the total landscaped common area of the project area is 1000 square feet or more or where the developer or the developer's agent installs landscaping on one or more lots in the development.

(3) A new single family residence served by a public water purveyor within the San Diego County Water Authority or the Borrego Water District. As used in this subsection, a new single family residence does not include

a single family residence that is being rebuilt after it was destroyed due to a natural disaster, such as a fire, earthquake, hurricane or tornado.

(4) A model home that includes a landscaped area, where the home is served by a public water purveyor within the San Diego County Water Authority or by the Borrego Water District.

(5) A public agency project that contains a landscaped area 1000 square feet or more.

(6) A project not included in categories (a)(1) through (a)(5) that requires a new grading permit and contains an area served by temporary or permanent irrigation.

(7) A cemetery.

(b) The following projects shall be exempt from the requirements of this chapter:

(1) A registered local, State or federal historical site.

(2) An ecological restoration project that does not require a permanent irrigation system.

(3) A mined land reclamation project that does not require a permanent irrigation system.

(4) A botanical garden or arboretum that is open to the public.

(c) Sections 86.725 and 86.726 shall apply to the owners and occupants of all property in the unincorporated area of the County, other than projects listed in subsection (b). Existing landscape projects that were installed before the effective date of this chapter where the landscape area is greater than one acre shall also be subject to section 86.727(b).

SEC. 86.704. OUTDOOR WATER USE AUTHORIZATION.

(a) No person who constructs a project subject to section 86.703(a) shall use water for irrigation or a water feature without the authorization required by this chapter.

(b) A person constructing a project subject to section 86.703(a) shall obtain a water use authorization to provide water to a landscaped area as follows:

(1) A person applying for a building permit for a single family residence shall obtain a water use authorization from the County as part of the permitting process.

(2) A person applying for a discretionary permit shall submit a landscape concept plan with the discretionary permit application. As used in this chapter, a landscape concept plan means a drawing of the site where the project will be located that includes a representation of the site features, proposed plantings areas and the proposed method and type of irrigation.

(3) A person issued a discretionary permit shall obtain a water use authorization as part of the permitting process for each building permit for each project segment that requires installation of a water meter or connection to an existing water meter.

(c) A water use authorization issued by the County shall establish the allowed MAWA for property on which a project that is subject to this chapter is located.

(d) Once the County establishes the MAWA for a property, no person who obtains water for the property from a public water purveyor in the unincorporated area of the County shall exceed the MAWA on that property, unless the County agrees to modify the MAWA, as provided in section 86.721.

(e) Any person may examine the water use authorization establishing the MAWA for a property at the Department of Planning and Land Use during normal business hours.

SEC. 86.705. ADMINISTRATION, ENFORCEMENT AND LANDSCAPE MANUAL.

(a) The Director DPLU shall administer and enforce this chapter, except that the Director DPLU may refer an application for a water use authorization to the Director of Public Works or the Director of General Services for processing.

(b) The Director DPLU shall prepare a landscape design manual that provides guidance to applicants on how to comply with the requirements of this chapter. The manual shall also provide guidance for a person with an existing landscaped area on how to increase water use efficiency and avoid wasting water.

SEC. 86.706. NEW SINGLE FAMILY RESIDENTIAL PROJECTS WITH LIMITED LANDSCAPING.

An applicant for a building permit for a new single family residence subject to this chapter where the landscaped area of the project is less than 5,000 square feet shall, as a condition of obtaining a building permit, submit an application for an outdoor water use authorization on a form provided by the Director. The application process shall include establishing a MAWA for the project.

SEC. 86.707. LANDSCAPE DOCUMENTATION PACKAGE.

(a) Except as provided in subsection (b) an applicant for a building permit for a project described in section 86.703(a) shall submit a landscape documentation package with the permit application.

(b) An applicant for a building permit for a single family residence with a landscaped area less than 5,000 square feet is not required to submit a landscape documentation package with the permit application, but shall comply with section 86.706. This subsection does not apply to a person who is applying for one or more building permits for single family residences in a residential development where the person applying is the developer.

(c) The landscape documentation package required by subsection (a) shall contain the following:

(1) A soil management report that complies with section 86.708 that analyzes soil composition within each landscaped area of the project.

(2) A landscaping and irrigation plan that complies with section 86.709 that describes the landscaping and irrigation for the project.

(3) A water efficient landscape worksheet that complies with section 86.711 that calculates the MAWA and the ETWU for the project.

(4) A grading design plan that complies with section 86.710 that describes the grading of the project.

SEC. 86.708. SOIL MANAGEMENT REPORT.

(a) The soil management report required by section 86.707(c)(1) shall contain the following information:

(1) An analysis of the soil for the proposed landscaped areas of the project that includes information about the soil texture, soil infiltration rate, pH, total soluble salts, sodium, percent organic matter.

(2) Recommendations about soil amendments that may be necessary to foster plant growth and plant survival in the landscaped area using efficient irrigation techniques.

(b) When a project involves mass grading of a site the applicant shall submit a soil management report that complies with subsection (a) above with the certificate of completion required by section 86.722.

SEC. 86.709. LANDSCAPING AND IRRIGATION PLAN.

(a) The landscaping and irrigation plan required by section 86.707(c)(2) shall be prepared by a landscape architect, civil engineer or architect licensed by the State of California. A homeowner of a single family residence required to submit a landscape and irrigation plan may have a licensed landscape contractor prepare the landscaping and irrigation plan if the homeowner has contracted with that contractor to install the landscaping and irrigation pursuant to the plan.

(b) The landscaping and irrigation plan shall contain the following information:

(1) A list of all vegetation by common and botanical plant name which exists in the proposed landscaped area. The plan shall state what vegetation will be retained and what will be removed.

(2) A list of all vegetation by common and botanical plant name which will be added to each landscaped area. The plan shall include the total quantities by container size and species. If the applicant intends to plant seeds, the plan shall describe the seed mixes and applicable germination specifications.

(3) A detailed description of each water feature that will be included in the landscaped area.

(4) The plan shall be accompanied by a drawing showing on a page or pages, the specific location of all

vegetation, retained or planted, the plant spacing and plant size, natural features, water features and hardscape areas. The drawing shall include a legend listing the common and botanical plant name of each plant shown on the drawing.

(5) The location, type and size of all components of the irrigation system that will provide water to the landscaped area, including the controller, water lines, valves, sprinkler heads, moisture sensing devices, rain switches, quick couplers, pressure regulators and backflow prevention devices.

(6) The static water pressure at the point of connection to the public water supply and the flow rate in gallons, the application rate in inches per hour and the design operating pressure in pressure per square inch for each station.

(7) The MAWA for the plan, including the calculations used to determine the MAWA. The calculations shall be based on the formula in section 86.712.

(8) The ETWU for the plan, including the calculations used to determine the ETWU. The calculations shall be based on the formula in section 86.713.

(9) A statement signed under penalty of perjury by the person who prepared the plan that provides, "I am familiar with the requirements for landscape and irrigation plans contained in the County Landscape Water Conservation Regulations, in Title 8, Division 6, Chapter 7. I have prepared this plan in compliance with those regulations. I certify that the plan implements those regulations to provide efficient use of water."

(c) The landscape and irrigation plan shall be designed as follows:

(1) All plants shall be grouped in hydrozones and the irrigation system shall be designed to deliver water to hydrozones based on the moisture requirements of the plant grouping. A hydrozone may mix plants of moderate and low water use, and mix plants of high water use with plants of moderate water use, but no high water use plants shall be allowed in a low water use hydrozone. A high water use hydrozone may, however, provide for some low water use plants if the low water use plants are of a type that are likely to thrive and flourish with the additional water. The plan shall also demonstrate how the plant groupings accomplish the most efficient use of water.

(2) The irrigation system shall be designed to prevent standing water and any condition such as runoff, overspray and low-head drainage where irrigation water flows or sprays onto areas not intended for irrigation. The plan shall also demonstrate how grading and drainage techniques promote healthy plant growth and prevent standing water, erosion and runoff.

(3) The plan shall provide for use of mulch as follows:

(A) A minimum two inch layer of mulch shall be applied on all exposed soil surfaces in each landscaped area except in turf areas, creeping or rooting ground covers or direct seeding applications where mulch is contraindicated.

(B) Stabilizing mulch shall be applied on slopes.

(C) The mulching portion of a seed/mulch slurry in hydro-seeded applications shall comply with subsection (B) above.

(D) Highly flammable mulch material, such as straw or small or mini size wood chips, shall not be used in a "Hazardous Fire Area," as that term is defined in the County Fire Code.

(4) The plan shall identify the type and amount of mulch for each area where mulch is applied.

(5) On a project other than a single family residence, the plan shall identify recreational areas.

(6) The plan shall identify areas permanently and solely dedicated to edible plants.

(7) The plan shall identify each area irrigated with recycled water, gray water and other non-potable water.

(8) The plan shall identify any soils amendments and their type and quantity.

(9) The plan shall demonstrate that landscaping when installed and at maturity will be positioned to avoid obstructing motorists' views of pedestrian crossings, driveways, roadways and other vehicular travel ways. If the landscaping will require maintenance to avoid obstructing motorist's views, the plan shall describe the maintenance and the frequency of the proposed maintenance.

(10) The plan shall avoid the use of landscaping with known surface root problems adjacent to a paved area, unless the plan provides for installation of root control barriers or other appropriate devices to control surface roots.

(11) The plan shall provide that any slope greater than 25 percent will be irrigated with an irrigation system with a precipitation rate of .75 inches per hour or less to prevent runoff and erosion. As used in this chapter, 25 percent grade means one foot of vertical elevation change for every four feet of horizontal length. An applicant may employ an alternative design if the plan demonstrates that no runoff or erosion will occur.

(12) The plan shall provide that all wiring and piping under a paved area that a vehicle may use, such as a parking area, driveway or roadway, will be installed inside a PVC conduit.

(13) The plan shall provide that irrigation piping and irrigation devices that deliver water, such as sprinkler heads, shall be installed below grade if they are within 24 inches of a vehicle or pedestrian use area. The Director DPLU may allow on-grade piping where landform constraints make below grade piping infeasible.

(14) That plan shall provide that only low volume or subsurface irrigation shall be use to irrigate any vegetation within 24 inches of an impermeable surface unless the adjacent impermeable surfaces are designed and constructed to cause water to drain entirely into a landscaped area.

(15) The plan shall provide that plants in a transitional area consist of a combination of site adaptive and compatible native and non-native species. The plan shall also provide that no invasive plant species shall be introduced or tolerated in a transitional area. The irrigation in a transitional area shall be designed so that no overspray or runoff shall enter an adjacent area that is not irrigated.

(16) The plan shall demonstrate compliance with best management practices required by sections 67.801 et seq. (Watershed Protection, Stormwater Management and Discharge Control regulations).

(17) The plan shall address fire safety issues and demonstrate compliance with State and County requirements for defensible space around buildings and structures and shall avoid the use of fire prone vegetation.

(18) The irrigation system shall provide for the installation of an easily accessible manual shutoff valve as close as possible to the water supply. Additional manual shutoff valves shall be installed between each zone of the irrigation system and the water supply.

(19) The irrigation system shall provide that irrigation for any landscaped area will be regulated by an automatic irrigation controller.

(20) The irrigation system shall be designed to meet or exceed an average landscape irrigation efficiency of 0.71.

(d) The landscaping and irrigation plan shall describe each automatic irrigation controller the system uses to regulate the irrigation schedule and whether it is a weather based system or moisture detection system. The plan shall depict the location of electrical service for the automatic irrigation controller or describe the use of batteries or solar power that will power valves or an automatic irrigation controller.

SEC. 86.710. GRADING DESIGN PLAN.

(a) The grading design plan required by section 86.707(c)(4) shall be prepared by a landscape architect, civil engineer or architect licensed by the State of California. A homeowner of a single family residence required to submit a grading design plan may have a licensed landscape contractor prepare the grading design plan if the homeowner has contracted with that contractor to do the work covered by the plan. The grading design plan shall comply with following requirements:

(1) The grading on the project site shall be designed for the efficient use of water by minimizing soil erosion, runoff and water waste, resulting from precipitation and irrigation.

(2) The plan shall show the finished configurations and elevations of each landscaped area including the height of graded slopes, the drainage pattern, pad elevations, finish grade and any stormwater retention improvements.

(b) If the project applicant has submitted a grading plan with the application for the project the Director DPLU may accept that grading plan in lieu of the grading design plan required by this section, if the grading plan complies with subsection (a) above.

APPENDIX L
WATER CONSERVATION IN LANDSCAPING ORDINANCE

SEC. 86.711. WATER EFFICIENT LANDSCAPE WORKSHEET.

The water efficient landscape worksheet required by section 86.707(c)(3) shall be prepared by a landscape architect, civil engineer or architect licensed by the State of California. A homeowner of a single family residence required to submit a water efficient landscape worksheet may have a licensed landscape contractor prepare the water efficient worksheet if the homeowner has contracted with that landscape contractor to install the landscaping and irrigation covered by the plan for which the worksheet was prepared. The water efficient worksheet shall contain all of the following:

(a) A hydrozone information table that contains a list of each hydrozone in the landscaped area of the project. For each hydrozone listed the applicant shall provide all of the following information:

(1) The square footage of the hydrozone and the percentage of the total landscaped area of the project the hydrozone represents.

(2) The irrigation methods proposed to be used within the hydrozone.

(3) The category of the hydrozone as high, moderate or low water use and the median plant factor for the hydrozone. The category of the hydrozone and median plant factor shall be determined as follows:

(A) The plant factor used shall be from WUCOLS. The plant factor ranges from 0 to 0.3 for low water use plants, from 0.4 to 0.6 for moderate water use plants and from 0.7 to 1.0 for high water use plants. The median plant factor for low water use plants is 0.2, for moderate water use plants is 0.5 and for high water use plants is 0.8. If plants within a hydrozone have different water use requirements the hydrozone category shall be determined using the highest water using plant. The median plant factor shall be assigned based on the category determined.

(B) Temporarily irrigated areas shall be included in the low water use hydrozone. Temporarily irrigated as used in this chapter means the period of time when plantings only receive water until they become established.

(C) The surface area of a water feature shall be included in a high water use hydrozone unless the water feature is a pool or a spa with a durable cover. In that case, the water feature may be included in a moderate water use hydrozone.

(4) Each special landscaped area and the area's water use calculated using an ETAF of 1.0.

(b) Budget calculations for the MAWA and the ETWU. The calculations shall use the formula for the MAWA in section 86.712 and for the ETWU in section 86.713.

SEC. 86.712. MAXIMUM APPLIED WATER ALLOWANCE.

(a) A landscape project subject to this chapter shall not exceed the MAWA. The MAWA for a new landscape project shall be determined by the following calculation:

$$MAWA = (ETo)(0.62)[0.7 \times LA + 0.3 \times SLA]$$

(b) The abbreviations used in the equation have the following meanings:

(1) MAWA = Maximum Applied Water Allowance in gallons per year.

(2) ETo = Evapotranspiration in inches per year.

(3) 0.62 = Conversion factor to gallons per square foot.

(4) 0.7= ET adjustment factor for plant factors and irrigation efficiency.

(5) LA = Landscaped area includes special landscaped area in square feet.

(6) 0.3 = the additional ET adjustment factor for a special landscaped area (1.0 - 0.7 = 0.3)

(7) SLA = Portion of the landscaped area identified as a special landscaped area in square feet.

(c) If a public water purveyor establishes a MAWA for a property that is lower than the MAWA established pursuant to this chapter nothing in this chapter shall be construed to prevent the water purveyor from enforcing its rules, regulations or ordinances.

APPENDIX L
WATER CONSERVATION IN LANDSCAPING ORDINANCE

SEC. 86.713. ESTIMATED TOTAL WATER USE.

(a) An applicant for a project subject to this chapter shall calculate the estimated water use for each hydrozone, except a special landscaped area, using the following equation:

(1) Estimated water use = (ETo)(0.62)(PF x HA /IE)

For special landscaped areas the applicant shall use the following equation:

(2) Estimated water use = (ETo)(0.62)(SLA)

The sum of all landscaped areas shall be the ETWU for the project.

(b) The abbreviations used in the equation have the following meanings:

(1) ETWU = Estimated total water use in gallons per year.

(2) ETo = Evapotranspiration in inches per year.

(3) 0.62 = Conversion factor to gallons per square foot.

(4) PF = Average plant factor for each hydrozone based on whether the hydrozone is classified as high, medium or low water use. The hydrozone classification shall be based on the data included in the landscape and irrigation plans.

(5) HA = Hydrozone Area in square feet.

(6) IE = Irrigation Efficiency of the irrigation method used in the hydrozone.

(7) SLA = Special landscaped area in square feet.

(c) The ETWU for a proposed project shall not exceed the MAWA.

SEC.86.714. ADJUSTMENT TO LANDSCAPED AREA FOR NON-VEGETATED AREA.

Rock and stone or pervious design features such as decomposing granite ground cover that are adjacent to a vegetated area may be included in the calculation of the MAWA and ETWU provided the features are integrated into the design of the landscape area and the primary purpose of the feature is decorative.

SEC. 86.715. LIMITATIONS ON USE OF WATER FEATURES.

The total of all water features for a project, except for a swimming pool or spa, shall be limited to 15 percent of the total landscaped area of the project.

SEC.86.716. LIMITATIONS ON USE OF TURF IN LANDSCAPED AREAS.

The following regulations shall apply to the use of turf on a project subject to this chapter:

(a) Only low volume or subsurface irrigation shall be used for turf in a landscaped area:

(1) On a slope greater than 25 percent grade where the toe of the slope is adjacent to an impermeable hardscape.

(2) Where any dimension of the landscaped area is less than eight feet wide.

(b) On a commercial, industrial or multi-family project, no turf shall be allowed:

(1) On a center island median strip, on a parking lot island or in a public right of way.

(2) On any portion of a site that is inaccessible to or unusable by a person who uses the site.

(c) On a commercial or industrial project, decorative cool season turf shall not exceed 15 percent of the total landscaped area of a project unless the site is irrigated using recycled water.

(d) A ball field, park, golf course, cemetery and other similar use shall be designed to limit turf in any portion of a landscaped area not essential for the operation of the facility.

(e) No turf shall be allowed in a landscaped area if the turf cannot be irrigated without causing runoff, overspray or other wasteful water uses.

SEC. 86.717. CEMETERIES.

A person submitting an application for a Major Use Permit for a cemetery shall also submit the following:

(a) A concept plan, as described in section 86.704(b)(2).

(b) A water efficient irrigation worksheet that calculates the MAWA for the project with the application that complies with section 86.711.

(c) A landscape and irrigation maintenance schedule that complies with section 86.724.

SEC. 86.718. PROJECTS WITH MODEL HOMES.

A person who obtains a permit to construct a single family residential development that contains a model home shall provide a summary of this chapter prepared by the Director DPLU to each adult visitor that visits a model home. If an adult visitor is accompanied by one or more adults during the visit only one set of written materials is required to be provided. Each model home shall provide an educational sign in the front yard of the model home visible and readable from the roadway that the home faces that states in capital lettering at least two inches high, "THIS MODEL HOME USES WATER EFFICIENT LANDSCAPING AND IRRIGATION."

SEC.86.719. RECYCLED WATER.

(a) A person who obtains a permit for a project that is subject to this chapter shall use recycled water for irrigation when tertiary treated recycled water is available from the water purveyor who supplies water to the property for which the County issues a permit.

(b) A person using recycled water from a public water purveyor shall install a distribution system that separates recycled water from potable water. Pipes carrying recycled water shall be purple.

(c) A person who uses recycled water under this section shall be entitled to an ETAF of 1.0.

(d) This section does not excuse a person using recycled water from complying with all State and local laws and regulations related to recycled water use.

SEC. 86.720. INSTALLATION BEFORE FINAL INSPECTION.

A person issued an outdoor water use authorization for a project, other than a single family residence where the landscaped area of the project is less than 5,000 square feet, shall install the approved landscaping and irrigation system before final inspection of the project.

SEC. 86.721. MODIFICATION OF OUTDOOR WATER USE AUTHORIZATION.

(a) A person may submit an application to modify the outdoor water use authorization required by this chapter on a form provided by the Director DPLU.

(b) An applicant requesting modification of an authorization for a single family residence where the total landscaped area after modification is less than 5,000 square feet shall comply with section 86.706.

(c) An applicant requesting modification of an authorization other than the type of project in subsection (b) above, shall comply with sections 86.707 - 86.711.

SEC. 86.722. CERTIFICATE OF COMPLETION.

Each person issued a water use authorization who has installed approved landscaping and irrigation, other than a single family residence with a total landscaped area less than 5,000 square feet shall submit:

(a) A certificate of completion on a form provided by the Director DPLU within 10 days after installation, verifying that the landscaping and irrigation were installed as allowed in the approved landscape and irrigation plan, that all approved soil amendments were implemented and the installed irrigation system is functioning as

designed and approved. The certificate of completion shall be signed under penalty of perjury by the person to whom the water use authorization has been issued and by a California licensed, landscape architect, civil engineer or architect. Where the water use authorization has been issued to a single family homeowner with a landscaped area of 5,000 square feet or more who hired a licensed landscape contractor to install the landscaping and irrigation, the certificate shall be signed under penalty of perjury by the homeowner and the contractor.

(b) An irrigation schedule that complies with section 86.723 that describes the irrigation times and water usage for the project

(c) A landscape and irrigation system maintenance schedule that complies with section 86.724.

(d) A soil management report that complies with section 86.708(b) if the applicant did not submit the report with the landscape documentation package.

SEC. 86.723. IRRIGATION SCHEDULE.

The irrigation schedule required by section 86.722 shall be prepared by a California licensed, landscape architect, civil engineer or architect and provide the following information:

(a) A description of the automatic irrigation system that will be used for the project.

(b) The time period when overhead irrigation will be scheduled and confirm that no overhead irrigation shall be used between the 10:00 a.m. and 8:00 p.m.

(c) The parameters used for setting the irrigation system controller for watering times for:

(1) The plant establishment period.

(2) Established landscaping.

(3) Temporarily irrigated areas.

(4) Different seasons during the year.

(d) The parameters used for each station for the following factors:

(1) The days between irrigation.

(2) Station run time in minutes for each irrigation event, designed to avoid runoff.

(3) Number of cycle starts required for each irrigation event, designed to avoid runoff.

(4) Amount of water to be applied on a monthly basis.

(5) The root depth setting.

(6) The plant type setting.

(7) The soil type.

(8) The slope factor.

(9) The shade factor.

SEC. 86.724. LANDSCAPING AND IRRIGATION MAINTENANCE.

(a) A person using water under a water use authorization that the County issued pursuant to this chapter shall maintain the landscaping and irrigation on the property to ensure compliance with the MAWA.

(b) A property owner using water on property subject to a water use authorization other than a single family residence with a total landscaped area less than 5,000 square feet, shall prepare a maintenance schedule for the landscaping and irrigation on the project. The schedule shall provide for: (1) inspections to guard against runoff and erosion and detect plant or irrigation system failure, (2) replacement of dead, dying and diseased vegetation, (3) eradication of invasive plant species in transitional areas, (4) repairing the irrigation system and its

components when necessary, (5) replenishing mulch, (6) soil amendment when necessary to support and maintain healthy plant growth, (7) fertilizing, pruning, weeding and mowing and (8) maintenance to avoid obstruction of motorists' view. The schedule shall also identify who will be responsible for maintenance.

(c) A person who uses water pursuant to a water use authorization shall maintain the irrigation system to meet or exceed an average irrigation efficiency of 0.71.

(d) A person who replaces broken or malfunctioning irrigation system components shall replace the components with the same materials or their equivalent.

(e) A person who replaces vegetation shall replace it with plantings that are representative of the hydrozone in which the plants were removed and shall be typical of the water use requirements of the plants removed provided that the replaced vegetation does not result in mixing plants contrary to the requirements of this chapter.

SEC. 86.725. PROHIBITION ON WASTING WATER AND EXCEEDING THE MAXIMUM ALLOWED WATER ALLOWANCE

(a) No person who owns or occupies property in the unincorporated area of the County shall use water for irrigation that due to runoff, low head drainage, overspray or other similar condition, results in water flowing onto adjacent property, non-irrigated areas, structures, walkways, roadways or other paved areas. This section is not intended to apply to circumstances beyond the control of the property owner or other person in possession of the property.

(b) No person whose property is subject to an outdoor water use authorization pursuant to this chapter shall exceed the MAWA for the property.

(c) A person who violates subsections (a) or (b) above shall be subject to the Administrative Citation Procedures in sections 18.101 et seq. of this code.

(d) The County may also obtain an injunction against a person who continues to violate subsections (a) or (b) after receiving a warning of an Administrative Citation pursuant to section 18.103.

SEC. 86.726. COUNTY'S RIGHT TO INSPECT.

Whenever the County has reasonable grounds to believe that a person is violating section 86.725 the County may inspect the property and any irrigation system or water feature on the property. If a person refuses to consent to an inspection the County may obtain an inspection warrant pursuant to Code of Civil Procedure sections 1822.50 et seq. No person shall interfere with a County inspector conducting an inspection authorized by this chapter.

SEC. 86.727. OUTDOOR WATER USE AUDIT.

(a) The County may randomly audit outdoor water use on any property for which it issued a water use authorization pursuant to this chapter to determine compliance with the authorization. A person who owns or occupies property subject to a water use authorization, shall be deemed to consent to the audit of outdoor water use if the person engages in outdoor water use on the property.

(b) The County may also analyze, survey and audit outdoor water use using methods described in 23 California Code of Regulations sections 490 et seq., on an existing landscape project where the landscaped area exceeds one acre and the County has reasonable grounds to believe that due to irrigation runoff, low head drainage, overspray or other similar condition, water is flowing onto adjacent property, non-irrigated areas, structures, walkways, roadways or other paved areas of the project.

SEC. 86.728. FEES.

An applicant for a project subject to this chapter shall include with the application, all fees established by the Board of Supervisors to cover the County's costs to review an application, any required landscape documentation package and any other documents the County reviews pursuant to the requirements of this chapter.

SEC. 86.729. APPEAL

A person whose application for a water use authorization or for modification of a water use authorization is denied may appeal the denial to the Planning Commission by making a written request for the appeal to the Director DPLU within 10 days of the denial. The Planning Commission shall consider the matter within 45 days

after the appeal is file. The 45-day period may be extended upon written consent of the appellant. The Planning Commission's decision shall be final.

Section 3. This ordinance shall take effect and be in force thirty days after its passage, and before the expiration of fifteen days after its passage, a summary hereof shall be published once with the names of the members of this Board voting for and against it in the San Diego Commerce a newspaper of general circulation published in the County of San Diego.

PASSED, APPROVED, AND ADOPTED by the Board of Supervisors of the County of San Diego this 13th day of January, 2010.

PAM SLATER-PRICE
Chairwoman, Board of Supervisors
County of San Diego, State of California

The above Ordinance was adopted by the following vote:

AYES: Cox, Jacob, Slater-Price, Roberts, Horn

ATTEST my hand and the seal of the Board of Supervisors this 13th day January, 2010.

THOMAS J. PASTUSZKA
Clerk of the Board of Supervisors

By
Nancy Vizcarra, Deputy

No. 10032 (N.S.)

01-13-2010 (9)

APPENDIX M
ADDITIONAL RESOURCES

County Landscape website: http://www.sdcounty.ca.gov/dplu/Landscape-Ordinance_Design_Review_Manual.html

The County of San Diego does not endorse the following websites. They are provided as resources for additional information.

San Diego County Water Authority: http://www.sdcwa.org/manage/conservation.phtml

California Department of Water Resources: http://www.water.ca.gov/

CIMIS: http://wwwcimis.water.ca.gov/cimis/welcome.jsp

Gray water: http://www.water.ca.gov/wateruseefficiency/docs/graywater_guide_book.pdf

Invasive Plants:

- California Invasive Plants Council: http://www.cal-ipc.org/
- Los Angeles Regional Guide to Invasive Plants: http://weedwatch.lasgrwc.org/Matrix_Master_20071022.pdf
- American Society of Landscape Architects (San Diego): http://www.asla-sandiego.org/reference.html

Irrigation:

- Irrigation tutorial: http://www.irrigationtutorials.com/
- Drip tutorial: http://www.irrigationtutorials.com/dripguide.htm

Plants:

- Water use classifications:
  - WUCOLS: http://www.water.ca.gov/pubs/planning/guide_to_estimating_irrigation_water_needs_of_landscape_plantings_in_ca/wucols.pdf
- California plants database: http://www.calflora.org/
- USDA plants database: http://plants.usda.gov/
- Water Conservation Garden at Cuyamaca College: http://www.thegarden.org/
- California Native Plant Society (San Diego): http://www.cnpssd.org/

APPENDIX M
ADDITIONAL RESOURCES

Sustainable gardens:

http://www.plantsoup.com/

http://www.sunset.com/garden/climate-zones/sunset-climate-zones-california-nevada-00400000036331/

Soil:

http://www.buildingsoil.org/

http://www.soilfoodweb.com/sfi_approach1.html

Water conservation:

California Landscape Contractors Association (San Diego): http://www.clcasandiego.org/h20management.html

http://www.bewaterwise.com/

http://irrigationessentials.com/

Landscape watering calculator: http://www.bewaterwise.com/calculator.html

COUNTY REGULATIONS AND GUIDELINES

Fire Code: http://www.sdcounty.ca.gov/dplu/docs/2009_Consolidated_Fire_Code.pdf

Fuel management:

http://www.sdcounty.ca.gov/dplu/fire_resistant.html

http://www.wildfirezone.org/

http://www.sdcounty.ca.gov/oes/ready/docs/wildfire_preparedness_guide.pdf

Grading Ordinance: http://www.sdcounty.ca.gov/dpw/land/landpdf/gradingordinance102108.pdf

Groundwater Ordinance: http://www.sdcounty.ca.gov/dplu/docs/GROUNDWATER-ORD.pdf

Low Impact Development Handbook: http://www.sdcounty.ca.gov/dplu/docs/LID-Handbook.pdf

Offstreet Parking Manual: http://www.sdcounty.ca.gov/dplu/docs/Offstreet_Parking_Manual.pdf

Stormwater: http://www.co.san-diego.ca.us/dpw/watersheds/business/landscape.html