

CITY OF GARDEN GROVE
COMMUNITY DEVELOPMENT DEPARTMENT
11222 ACACIA PARKWAY
GARDEN GROVE, CA 92840
PLANNING DIVISION (714) 741-5312 | BUILDING DIVISION (714) 741-5307
GGCity.org

## LANDSCAPE WATER EFFICIENCY PLAN CHECK SUBMITTAL REQUIREMENTS

The requirements to submit a landscape project to the City of Garden Grove for plan check review are listed below. All new landscaping applications shall be submitted via the City's GGReady plan check program. Please review the checklist and contact the Planning Division at (714) 741-5312 for questions regarding zoning requirements, or the Building Services Division at (714) 741-5307 for questions regarding plan check requirements. Prior to submitting a Landscape Documentation Package to the City, the property owner/applicant is encouraged to contact the Planning Services Division to verify if the proposed landscape project complies with all applicable Landscape Water Efficiency Provisions.

DI EASE DROVIDE ALL OF THE FOLLOWING INFORMATION.

PLEASE PROVIDE ALL OF THE FOLLOWING	INI ORMATION.		
☐ Completed Landscape Documentation Package Application	Digital PDF plan set (see Plan Requirement section) on 24" x 36"		
☐ Certification of Design in accordance with Landscape Water Efficiency Provisions	☐ Certification of Completion in accordance with Landscape Water Efficiency Provisions		
☐ Irrigation audit report from a certified landscape irrigation auditor	☐ Landscape and irrigation maintenance schedule(s), and controller scheduling		
	JIREMENTS E INFORMATION AS DESCRIBED BELOW		
□ Landscape Design Plan - The landscape plan shall be fully dimensioned and drawn to scale, and shall include a north arrow, property lines, a street centerline and/or face of curb, all existing and proposed structures, and hardscapes and materials. All plant species and hydrozones shall be indicated with appropriate water use levels and mulch application depths. Also indicate any additional spaces, such as water features, recreational areas, and retention/infiltration technologies.  □ Irrigation Design Plan - Identify the location, type, and size of all components of the irrigation system, including controllers, main and lateral lines, valves, sprinkler heads, moisture sensing devices, rain switches, quick couplers, pressure regulators, and backflow prevention devices. Additionally note the static	the estimated and maximum water use in gallons per square foot for the project using Appendix C in the Landscape Water Efficiency Provisions, with an evapotranspiration rate of 47.2.  Grading Design Plan - Indicate finished configurations and elevations of landscape area, including: heights of graded slopes, drainage patterns, pad elevations, finish grade, and any applicable storm water retention improvements.  Soil Management Report and/or Specifications - The soil management report or provisions must be conducted in accordance with certified agronomic soils		
and operating water pressures, flow and application rates, irrigation schedule parameters necessary to program timers.	· · ·		

LANDSCAPE PROJECT TIMELINE	RESPONSIBLE PARTY
Soil Management Report -Conducted in accordance with certified agronomic soils laboratory	Applicant
Preparation of Plans -Soil Management Report recommendations to advise the landscape design, and plant selection	Applicant
Landscape Documentation Package -All required documents listed in the Landscape Documentation Package application/checklist must be included	Applicant
Plan Check	Staff
Plan Check Corrections and Resubmittal -Applicant must make all noted corrections before resubmitting plans	Applicant
Approval and Issuance of Permits	Staff
Notification of Installation -Applicant shall notify the City at the beginning of the installation work and at intervals, as necessary, to schedule all required inspections.	Applicant
Installation	Applicant
Irrigation Audit -An Irrigation Audit, also known as an Irrigation Inspection Affidavit, must be completed by a third-party Certified Landscape Irrigation Auditor. Audits may not be completed by the party responsible for the design/installation of the landscape.	Applicant/Third- Party Auditor
Final Inspection and Permit Closure -Landscape Installation Certificate of Completion, irrigation controller schedule, maintenance schedule, and Irrigation Audit/Irrigation Inspection Affidavit must be submitted by the applicant at the time of Final Inspection, before Permit Closure	Staff
Maintenance -Landscapes maintained to ensure water use efficiency in accordance with maintenance schedule, and applicable Municipal Code provisions	Applicant

Project Characteristics	Landscape Water Efficiency Provisions
New landscape projects with an <i>aggregate</i> landscape area ≥500 sqft, requiring a building or landscape permit, plan check or design review	Required
Rehabilitated landscape projects with an <i>aggregate</i> landscape area ≥2,500 sqft, requiring a building or landscape permit, plan check or design review	Required
New or rehabilitated landscape projects with an <i>aggregate</i> landscape area between 500 and 2,500 sqft, requiring a building or landscape permit, plan check or design review	Landscape Water Efficiency Provisions, OR Prescriptive Compliance (Appendix A)
New or rehabilitated projects using treated or untreated graywater or rainwater capture onsite, any lot or parcel within the project that is <2,500 sqft of landscape area and meets the lot or parcel's landscape water requirement (Estimated Total Water Use) entirely with treated or untreated graywater or though stored rainwater capture onsite	Prescriptive Compliance (Appendix A) only
Landscape rehabilitation projects that are limited to replacement plantings with equal or lower water needs and where the irrigation system is found to be designed, operable and programmed consistent with minimizing water waste in accordance with local water purveyor regulations	Landscape Water Efficiency Provisions Guidelines may be partially or wholly waived, at the discretion of the City or its designee
Registered local, state, or federal historical sites	Not required
Ecological restoration projects that do not require a permanent irrigation system	Not required
Mined-land reclamation projects that do not require a permanent irrigation system	Not required
Plant collections, as part of botanical gardens, and arboretums open to the public	Not required



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Project Name:

Project Address:

APN:

Total Landscape Area:

Water Supply Type:

Retail Water Purveyor:

PROJECT TYPE:

New landscape project with an aggregate landscape area ≥ 500 sqft
Rehabilitated landscape project with an aggregate landscape area ≥ 2,500 sqft
New or rehabilitated landscape between 500 and 2,500 sqft

PROJECT DESCRIPTION:

PROJECT APPLICANT:	PROPERTY OWNER(S):
Name:	Name:
Address:	Address:
City, State, Zip:	City, State, Zip:
Phone:	Phone:
Email:	Email:

LANDSCAPE DOCUMENTATION PACKAGE CHECKLIST:			
Certification of Design			
Water Efficient Landscape Worksheet -With Estimated Applied/Total Water Use (EAWU/ETWU), and Maximum Allowed Water Allowance (MAWA)			
Soil Management Report or Specifications -Or Specification Provision requiring soil testing, and amendment recommendations and implementation to be accomplished during construction.			
Landscape Design Plan			
Irrigation Design Plan			
Grading Design Plan -Grading plan is not required if grading is included in the landscape plan, OR the landscape project is limited to replacement planting and/or irrigation to rehabilitate existing landscape.			

OFFICE USE ONLY:				
Date Submitted for Plan Check:	Action:	□ Approved	□ Denied	
	Date:			



City of Garden Grove Community Development Department 11222 Acacia Parkway Garden Grove, CA 92840 Planning Division (714) 741-5312 | Building Division (714) 741-5307 GGCity.org

Landscape Documentation Package (Prescriptive Compliance)

	PROJECT II	NFORMATION:
Project Name:		
Project Address:		
APN:		
Total Landscape Area:		
Water Supply Type:		
Retail Water Purveyor:		
PROJECT TYPE:	landscape project with an aggre	gate landscape area between 500 and 2,500 sqft
		rrigated wholly by graywater or captured rainwater
	Tarrascape project \ 2,500 Sqrt I	Triguted wholly by graywater or captured runiwater
PROJECT DESCRI	PTION:	
PROJECT A	APPLICANT:	PROPERTY OWNER(S):
Name:		Name:
Address:		Address:
City, State, Zip:		City, State, Zip:
Phone:		Phone:
Email:		Email:
APPLICATION REG	NIITDEMENTS:	
<ul><li>Landscape Desig</li></ul>	n Plan red elements of the Prescriptive (	Compliance Option to the Landscape Water Efficiency
	th the requirements of the tandscape Ordinance.	prescriptive compliance option (Appendix A) to the
Applicant Signature:		Date:
	OFFICE	USE ONLY:
Date Submitted for Plan		Action:   Approved   Date:

#### WATER EFFICIENT LANDSCAPE WORKSHEET

This worksheet is filled out by the project applicant and is a required in the Landscape Documentation Package.

### Reference Evapotranspiration (ET<sub>0</sub>): 47.2 (Garden Grove)

Hydrozone # /Planting Description <sup>a</sup>	Plant Factor (PF)	Irrigation Method <sup>b</sup>	Irrigation Efficiency (IE) <sup>c</sup>	ETAF (PF/IE)	Landscape Area (sqft)	ETAF x Area	Estimated Total Water Use (ETWU) <sup>e</sup>
Regular Landsca	ape Areas						
				Totals	(A)	(B)	
Special Landsca	pe Areas						
				1			
				1			
				1			
				Totals	(C)	(D)	
					E	TWU Total	

<sup>a</sup> Hydrozone #/Planting	<sup>b</sup> Irrigation Method	<sup>c</sup> Irrigation Efficiency	dETWU (Annual Gallons Required)
Description	e.g.	e.g.	$= ET_0 \times 0.62 \times ETAF \times Area$
e.g.	-Spray Nozzle	=0.71	
1.) Front lawn	-Bubblers	=0.77	[where 0.62 is a conversion factor that
2.) Low water use plantings	-Drip	=0.81	converts inches per year to gallons per
3.) Medium water use			square foot per year]
planting			

Maximum Allowed Water Allowance (MAWA)e

#### \*\*MAWA (Annual Gallons Allowed) = (ET<sub>0</sub>) (0.62) [(ETAF x LA) + ((1-ETAF) x SLA)]

- -where 0.62 is a conversion factor that converts inches per year to gallons per square foot per year,
- -LA is the total landscape area in square feet,
- -SLA is the total special landscape area in square feet,
- -and ETAF is .55 for residential areas and 0.45 for non-residential areas.

### **ETAF Calculations**

#### Regular Landscape Areas

Average ETAF	Β÷Α
Total Area	(A)
Total ETAF x Area	(B)

Average ETAF for Regular Landscape Areas must be  $\leq$ 0.55 for residential areas, and  $\leq$ 0.45 or below for non-residential areas.

#### All Landscape Areas

Site wide ETAF	(B+D) ÷ (A+C)
Total Area	(A+C)
Total ETAF x Area	(B+D)

"Special Landscape Areas" or "SLA" is an area of the landscape dedicated solely to edible plants, areas irrigated with recycled water, water features using recycled water, and areas dedicated to active play such as community pools and spas, parks, sports fields, golf courses, and where turf provides a playing surface.

Irrigation efficiency (IE) of the irrigation heads used within each hydrozone shall be assumed to be as follows, unless otherwise indicated by the irrigation equipment manufacturer's specifications or demonstrated by the project applicant:

project applicant	
METHOD	IE
Spray Nozzles	71%
High Efficiency Spray Nozzles	73%
Stream Rotor Nozzle	73%
Microspray	76%
Multi-Stream/Trajectory Rotary Nozzles	76%
Bubblers	77%
Drip Emitter	81%
Subsurface Drip	81%

The following Plant Factor (PF) values should be used for each category of water use, unless otherwise demonstrated by the *project applicant*:

WATER-USE CATEGORY	PLANT FACTOR
Very-Low Water-Use Plant	0.1
Low Water-Use Plant	0.2
Moderate Water-Use Plant	0.5
High Water-Use Plant	0.8
Turf/Lawn Water-Use Plant	0.8
Water Features	1.0

#### PRESCRIPTIVE COMPLIANCE OPTION CHECKLIST

- (A) This appendix contains prescriptive requirements which may be used as a compliance option to the Ordinance.
- (B) Compliance with the following items is mandatory, and must be documented in a landscape plan in order to use the prescriptive compliance option:

Requirement:	Complete:
Submit a Landscape Documentation Package (Prescriptive Compliance) form, with all of the	
following elements:	
-Date	
-Project applicant	
-Project location	
-Total landscape area (sq.ft.), including a breakdown of plant material	
-Project type	
-Water supply type, and identify the water purveyor	
-Contact information for the project applicant and property owner	
-Applicant signature and date, with the statement, "I agree to comply with the requirements of	
the prescriptive compliance option to the MWELO"	
Incorporate compost at a rate of at least four (4) cubic yards per 1,000 square feet to a depth of	
six inches (0'-6") into the landscape area (unless contra-indicated by a soil test).	
Plant material shall comply with all of the following:	
-For residential areas, install climate adapted plants that require occasional, little, or no summer	
water (average WUCOLS plant factor 0.3) for 75% of the plant area, excluding edible plants and	
areas using recycled water.	
-For non-residential areas, install climate adapted plants that require occasional, little, or no	
summer water (average WUCOLS plant factor 0.3) for 100% of the plant area, excluding edibles	
and areas using recycled water.	
-A minimum three inch (0'-3") layer of mulch shall be applied on all exposed soil surfaces of	
planting areas, except in: turf areas, creeping or rooting groundcovers, or direct seeding	
applications where mulch is contraindicated.	
Turf shall comply with all of the following:	
-Turf shall not exceed 25% of the landscape area in residential areas, and turf shall not be planted	
in non-residential areas.	
-Turf shall not be planted on sloped areas which exceed a grade of 25%.	
-Turf is prohibited in parkways less than 10 feet wide, unless the parkway is adjacent to a parking	
strip and used to enter and exit vehicles. Any turf in parkways must be irrigated by sub-surface	
irrigation, or by other technology that creates no overspray or runoff.  Irrigation systems shall comply with the following:	
-Automatic irrigation controllers are required, and must use evapotranspiration or soil moisture	Ц
sensor data.	
-Irrigation controllers shall be of a type which does not lose programming data in the event the	
primary power source is interrupted.	
-Pressure regulators shall be installed on the irrigation system to ensure the dynamic pressure of	
the system is within the manufacturers recommended pressure range.	
-Manual shut-off valves (such as a gate valve, ball valve, or butterfly valve) shall be installed as	
close as possible to the point of connection of the water supply.	
-All irrigation emission devices must meet the requirements set in the ANSI standard,	
ASABE/ICC802-2014. "Landscape irrigation Sprinkler and Emitter Standard." All Sprinkler heads	
installed in the landscape must document a distribution uniformity low quarter of 0.65 or higher	
using the protocol defined in ASABE/ICC 802-2014.	

(C) At the time of final inspection, the permit applicant must provide the owner of the property with a certificate of completion, certificate of installation, irrigation schedule and a schedule of landscape and irrigation maintenance.

## **CERTIFICATION OF LANDSCAPE DESIGN**

I hereby certify that:

(1) I am a professional appropriately licens design services.	sed in the State of Califor	rnia to provide professional landscap
(2) The landscape design and wa	ater use calculations	for the property located a (street address or parcel number(s)
were prepared by me or under my supervi		(street dadress of pareet namper(s)
(3) The landscape design and water use requirements of the City of Garden Grove Municipal Code Sections 9.08.040.040, 9.1 Guidelines for Implementation of the City of Sections 9.08.040.040, 9.1	e Landscape Water Effic 12.040, 9.16.040, and 9.	ciency Provisions (See Garden Grov 18.120) and the City of Garden Grov
(4) The information I have provided in th hereby submitted in compliance with the C of City of Garden Grove Landscape Water	City of Garden Grove Guid	
Print Name		Date
Signature		License Number
Address		
Telephone Number		E-mail Address
Landscape Design Professional's Stamp (If Applicable)		

# **LANDSCAPE INSTALLATION CERTIFICATE OF COMPLETION** I hereby certify that:

services for:	the State of California to provide professional landscape design (project name or address).
(2) The landscape project for the property located a	at:
(street address or parcel number(s)) was installed	by me or under my supervision.
Landscape Documentation Package and complies v Efficiency Provisions (Municipal Code Sections 9.	has been installed in substantial conformance with the approved with the requirements of the City of Garden Grove Landscape Water 08.040.040, 9.12.040, 9.16.040, and 9.18.120) and the City of the City of Garden Grove Landscape Water Efficiency Provisions for
(4) The following elements are attached hereto: a. Irrigation scheduling parameters used to set the b. Landscape and irrigation maintenance schedule c. Irrigation audit report; and d. Soil analysis report, if not submitted with La	
implementation of the soil report recommendation	
(5) The site installation complies with the following a. The required irrigation system has been installed any prior approved irrigation system alternatives.  Yes No	g: d according to approved plans and specifications, and if applicable,
b. Sprinklers comply with ASABE/ICC 802-2014 La Emitter Standard Yes No	andscape Irrigation Sprinkler &
(6) The information I have provided in this Lands is hereby submitted in compliance with the City of Grove Landscape Water Efficiency Provisions.	cape Installation Certificate of Completion is true and correct and Garden Grove Guidelines for Implementation of the City of Garden
Print Name	Date
Signature	License Number
Address	
Telephone Number	E-mail Address
Landscape Design Professional's Stamp (If Applicable)	

## **Irrigation Audit Checklist**

A. Project & Auditor Information

Irrigation Auditor:
Name:
Irrigation Auditor Company:
Address:
City, State, Zip:
Phone:
Email:
Auditor Certified by:
☐ Irrigation Association
☐ EPA WaterSense program ☐ Other:

Note: For large projects or projects with multiple landscape installations (i.e. production home developments), an auditing rate of 1 in 7 lots or approximately 15% satisfies the audit requirement.

**B.** Audit Report

IT	EM	AUDITOR		UDITOR NOTES	
		PASS	FAIL		
1.	Separate landscape customer service water meter or private submeter has been installed as applicable:				
	a. Non-residential projects: Greater than 1,000 sf landscape area				
	b. Residential projects: Greater than 5,000 sf landscape area				
2.	The irrigation audit report includes:				
	a. System inspection				
	b. Inspect for leaks				
	c. System tune-up				
	d. Test the operating pressure of the irrigation system				
	e. Test to determine distribution uniformity				
	f. Test to determine precipitation rate of representative overhead irrigation valves				
	g. Confirm matched precipitation rates on valves with sprinkler heads, rotors and other emission devices				
	h. Report of any overspray or broken irrigation equipment				
	i. Report of overspray or run off that causes overland flow				
	j. Written recommendations to improve performance of the irrigation system				
	<ul> <li>Preparation of an irrigation schedule, including configuring irrigation controllers with application rate, soil types, plant factors, slope, exposure and any other factors necessary for accurate programming</li> </ul>				

C. Irrigation Equipment ITEM NOTES **AUDITOR PASS FAIL** Irrigation equipment is installed (location, type and size) as shown in the Automatic controller is ET-based or soil moisture-based and includes: Irrigation scheduling parameters II. Hydrozone map Sensors installed include rain, frost (if necessary) and wind sensors (if necessary) Point of connection includes: Backflow prevention devices (if necessary) Manual shut-off valve (gate, ball, butterfly valve) III. Master shut-off valve IV. Flow sensor for landscapes over 5,000 sf only Valves (station) I. Flow rate (gpm) II. Application rates (in/hr) III. Design operating pressure: If static pressure is above or below required dynamic pressure of the system, pressure-regulating devices are installed 2. Main and lateral lines Sprinkler heads No spray heads within 24 inches of non-permeable surface Sprinkler heads and other emission devices have matched precipitation rates Swing joints or other riser protection provided in high traffic areas and areas near hardscape 4. Low volume irrigation (drip, drip lines, and bubblers) is used in mulched planting areas (no spray irrigation) and in areas less than 10 feet wide Slopes greater than 25% are irrigated with an application rate not exceeding 0.75 inches per hour Runoff, low head drainage, overspray, or other similar conditions where П П

D. H	ydrozones
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needs of the irrigation system

irrigation water flows onto non-targeted areas are prevented

Check valves or anti-drain valves are installed to prevent low head drainage Pressure regulating devices are used if the static water pressure at the connection of the public water system does not match the water pressure

<b>/</b>					
ITEM		AUDITO		NOTES	
		PASS	FAIL		
1.	Match on the landscape plan and irrigation plan				
2.	Are irrigated by valves with similar site, slope, sun exposure, soil conditions, and plant materials with similar water use				
3.	Trees are on separate valves				
4.	Biotreatment areas are on separate valves				

#### E. Water Features

ITEM		ITOR	NOTES
	PASS	FAIL	
Use recirculating water systems			
2. Use recycled water if available			

F. Irrigation Schedules

ITI	ITEM		AUDITOR		NOTES
			PASS	FAIL	
1.	util	gation schedules have been developed, managed, and evaluated to ize the minimum amount of water required to maintain plant health.			
	Irri	gation schedules shall meet the following criteria:			
	a.	Irrigation scheduling is regulated by automatic irrigation controllers			
	b.	Overhead irrigation is scheduled between 8:00 p.m. and 10:00 a.m. unless weather conditions prevent it			
	c.	Irrigation schedules shall be regulated by automatic irrigation controllers using current reference evapotranspiration data (e.g., CIMIS) or soil moisture sensor data			
2.	use	e irrigation schedules have been developed to include the parameters ed to set the automatic controller and are submitted for each of the owing:			
	a.	Plant establishment period			
	b.	Established landscape			
	c.	Temporarily irrigated areas			
3.		th irrigation schedule includes the following that apply for each station lve):			
	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 applied water scheduled to be applied on a monthly basis			
	e.	Application rate setting			
	f.	Root depth setting			
	g.	Plant type setting			
	h.	Soil type			
	i.	Slope factor setting			
	j.	Shade factor setting			
	k.	Irrigation uniformity or efficiency setting			