



September 23, 2016

Street Address:
18700 Ward Street
Fountain Valley, California 92708

Mailing Address:
P.O. Box 20895
Fountain Valley, CA 92728-0895

(714) 963-3058
Fax: (714) 964-9389
www.mwdoc.com

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President

Brett R. Barbre
Vice President

Larry D. Dick
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Laguna Beach County Water District
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Serrano Water District
South Coast Water District
Trabuco Canyon Water District
City of Tustin
City of Westminster
Yorba Linda Water District

Diana Blake, LC – 10104
Bureau of Reclamation
P.O. Box 61470
Boulder City, NV 89006-1470

E-mail: dmblake@usbr.gov
lcfa@usbr.gov
dwhitney@usbr.gov

Subject: Final Report for R14AP00058 – Online Irrigation Base
Schedule Calculator

Dear Ms. Blake:

The Municipal Water District of Orange County (MWDOC) is pleased to submit this final report for the above referenced funding agreement for the Online Irrigation Base Schedule Calculator.

The goals of the Program are to develop an Online Irrigation Base Schedule Calculator for use by consumers throughout Orange County, along with promotional and “how to” videos to expand use of the California Sprinkler Adjustment Notification System.

Please find included the following items:

- Federal Financial Report SF425,
- Final Report Narrative outlining the accomplishments of the project, and
- Program Benefits Form.

Should you have any questions regarding the report, please call me at 714/593-5008.

Sincerely,

Joseph M. Berg
Director of Water Use Efficiency

Cc: Accounting

MWDOC's Use Only - GLA No.:
USBR.4405.8115.34.1215.000.3421.434.4=\$0

Attachment A
Federal Financial Report, SF 425

FEDERAL FINANCIAL REPORT

(Follow form instructions)

1. Federal Agency and Organizational Element to Which Report is Submitted Bureau of Reclamation	2. Federal Grant or Other Identifying Number Assigned by Federal Agency (To report multiple grants, use FFR Attachment) R14AP00058	Page 1	of 1
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pages

3. Recipient Organization (Name and complete address including Zip code)
 Municipal Water District of Orange County
 P.O. Box 20895 Fountain Valley, CA. 92728

4a. DUNS Number 08-738-0721	4b. EIN 95-2650400	5. Recipient Account Number or Identifying Number (To report multiple grants, use FFR Attachment) MWDOC Duns #087380721	6. Report Type <input type="checkbox"/> Quarterly <input type="checkbox"/> Semi-Annual <input type="checkbox"/> Annual <input checked="" type="checkbox"/> Final	7. Basis of Accounting <input checked="" type="checkbox"/> Cash <input checked="" type="checkbox"/> Accrual
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8. Project/Grant Period From: (Month, Day, Year) September 15, 2014	To: (Month, Day, Year) April 30, 2016	9. Reporting Period End Date (Month, Day, Year) April 30, 2016
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10. Transactions Cumulative

(Use lines a-c for single or multiple grant reporting)

Federal Cash (To report multiple grants, also use FFR Attachment):	
a. Cash Receipts	\$35,436.29
b. Cash Disbursements	\$35,436.29
c. Cash on Hand (line a minus b)	\$0.00

(Use lines d-o for single grant reporting)

Federal Expenditures and Unobligated Balance:	
d. Total Federal funds authorized	\$35,497.47
e. Federal share of expenditures	\$35,436.29
f. Federal share of unliquidated obligations	\$0
g. Total Federal share (sum of lines e and f)	\$35,436.29
h. Unobligated balance of Federal funds (line d minus g)	\$61.18

Recipient Share:	
i. Total recipient share required	\$43,723.39
j. Recipient share of expenditures	\$43,311.03
k. Remaining recipient share to be provided (line i minus j)	\$0

Program Income:	
l. Total Federal program income earned	\$0.00
m. Program income expended in accordance with the deduction alternative	\$0.00
n. Program income expended in accordance with the addition alternative	\$0.00
o. Unexpended program income (line l minus line m or line n)	\$0.00

	a. Type	b. Rate	c. Period From	Period To	d. Base	e. Amount Charged	f. Federal Share
11. Indirect Expense	N/A	N/A	N/A	N/A	N/A	N/A	N/A
g. Totals:					0	0	0

12. Remarks: Attach any explanations deemed necessary or information required by Federal sponsoring agency in compliance with governing legislation:

13. Certification: By signing this report, I certify to the best of my knowledge and belief that the report is true, complete, and accurate, and the expenditures, disbursements and cash receipts are for the purposes and intent set forth in the award documents. I am aware that any false, fictitious, or fraudulent information may subject me to criminal, civil, or administrative penalties. (U.S. Code, Title 18, Section 1001)

a. Typed or Printed Name and Title of Authorized Certifying Official <p style="text-align: center;">Robert J. Hunter, General Manager</p>	c. Telephone (Area code, number and extension) (714) 593-5026 d. Email address rhunter@mwdoc.com
b. Signature of Authorized Certifying Official 	e. Date Report Submitted (Month, Day, Year) September 23, 2016

14. Agency use only:

Standard Form 425 - Revised 6/28/2010
 OMB Approval Number: 0348-0061
 Expiration Date: 10/31/2011

Paperwork Burden Statement
 According to the Paperwork Reduction Act, as amended, no persons are required to respond to a collection of information unless it displays a valid OMB Control Number. The valid OMB control number for this information collection is 0348-0061. Public reporting burden for this collection of information is estimated to average 1.5 hours per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to the Office of Management and Budget, Paperwork Reduction Project (0348-0061), Washington, DC 20503.

Attachment B
Final Project Report

WATER CONSERVATION FIELD SERVICES PROGRAM

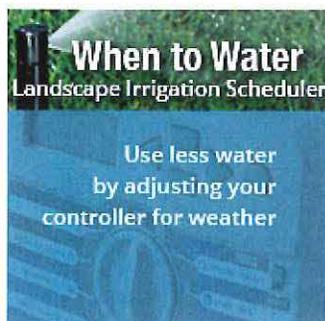
Project Name

Online Irrigation Base Schedule Calculator

Project Location

Orange County, California

Final Project Report



Agreement No. R14AP00058
Municipal Water District of Orange County
18700 Ward Street
Fountain Valley, CA. 92708
September 19, 2016

1. Recipient Information	
Recipient Name:	Municipal Water District of Orange County Attn: Joe Berg 18700 Ward Street Fountain Valley, CA 92708 (714) 593-5008
	Online Irrigation Base Schedule Calculator
Assistance Agreement No:	R14AP00058
Project Start Date:	September 15, 2014
Estimated Completion Date:	April 30, 2016
Actual Completion Date:	April 30, 2016

2. Final Funding Information	Funding Amount
Non-Federal Entities	
1. Municipal Water District of Orange County (In-Kind Staff Time)	\$43,311.03
<i>Non-Federal Subtotal:</i>	\$43,311.03
<i>Requested Reclamation Funding:</i>	\$35,436.29
<i>Total Project Funding:</i>	\$78,747.32

3. One Paragraph Project Summary:

The Project targets all consumers with automatic irrigation systems, by offering an irrigation base schedule software tool based on the actual, on-site irrigation equipment application (precipitation) rate, plant material, slope sun exposure, and soil type. The Calculator develops customized irrigation base schedules to be entered when programming either conventional or smart irrigation timers. The Calculator can also be utilized to provide the information as a monthly schedule. In addition to the water savings attributed to the use of the Calculator as a standalone tool, it can also be utilized to ensure optimum water savings and program success for program such as the Smart Timer Rebate Program and the California Sprinkler Adjustment Notification System (CSANS). Ultimately, this tool will be made available for use by water agencies throughout the state. Based on similar irrigation management projects, approximately 39 gallons per day can be saved through proper irrigation management. Anticipating the Calculator will be used by at least 50 new people per month, the associated water savings goal is 26 acre-feet per year (AFY) or 131 lifetime acre feet (AFL) over the anticipated five-year life. Actual water saving resulted in 31 AFY or 153 AFL.

4. Final Project Description:

Phase I

The Municipal Water District of Orange County (MWDOC) developed the CSANS through a multi-agency partnership including California Department of Water Resources (DWR), California Urban Water Conservation Council (CUWCC), Irvine Ranch Water District (IRWD), Los Angeles Department of Water and Power, Metropolitan Water District of Southern California (Metropolitan), and United States Bureau of Reclamation.

This CSANS index factor is similar to MWDOC's Watering Index, which is posted on the Bewaterwise.com® website. The difference between the CSANS and Metropolitan's Watering Index is that the CSANS sends, or pushes, the localized irrigation factor out to customers via e-mail rather than requiring the customer to pull generic information from the Bewaterwise.com website.

The CSANS relies on evapotranspiration (ET) data from the California Irrigation Management Information System (CIMIS). ET is the amount of water that has evaporated from the soil and transpired from plant material in a given period of time. ET considers a number of factors, such as wind, humidity, temperature, and solar radiation. All of these characteristics of weather vary throughout the year, as do the water requirements of plants. CIMIS has a network of more than 230 weather stations throughout California. Each of the weather stations houses a suite of sensors that measure the weather parameters needed to calculate ET. The calculated ET value can be used to estimate the amount of irrigation needed to maintain the health of plants.

It has been DWR's intent to significantly expand the use of CIMIS data through a CSANS tool; however, they have not been able to obtain all of the necessary funding for it to materialize. DWR has made two recent improvements to the CIMIS system that makes the CSANS possible, including ET data by zip code and the ET Data Protocol. Without these improvements, our ability to create the CSANS would require a significantly greater investment. The zip code improvement allows ET to be estimated at geographic locations between existing CIMIS weather stations. For example, Station 75 is located in Irvine, Station 44 is located at UC Riverside, and Station 78 is located in Pomona. Data from these stations is used to estimate evapotranspiration in any zip code between these stations. The ET Data Protocol allows smart timer manufacturers free, automated access to CIMIS data to facilitate irrigation scheduling adjustments by the smart timers they manufacture. The ET Data Protocol was developed to provide a free source of weather data to smart timer manufacturers to avoid ongoing fees for the ET data.

The CSANS produced a web site widget (Figure 1) that water agencies throughout California can post on their websites. The CSANS registration widget is now posted on MWDOC's website to ease access to and broaden program participation. MWDOC member agencies are also in the process of placing the registration widget on their websites. An image of the registration widget is provided as Attachment A.

Customers are encouraged to click on the widget to register to receive regular e-mails from their water provider containing the updated irrigation factor specific to the weather at their geographic location. There are four Simple Steps to sign up to CSANS:

1. Enter a valid email and street address at <http://csans.net>.
2. Receive an automatic confirmation email to activate the subscription.
3. Select how often you would like to receive your adjustment reminders. An option at the bottom of every email reminder will allow you to switch between weekly and monthly reminders.
4. Using the percentage recommendation to adjust your watering schedule.

The CSANS sends sprinkler adjustment recommendation emails to homeowners and businesses. CSANS users can choose between weekly or monthly e-mails. Sample CSANS e-mails are provided as Attachment B. This free tool will help save water outdoors by assisting consumers to fine tuning their watering schedule programmed into their existing sprinkler timer. Many common automatic sprinkler timers have a schedule adjustment option, labeled as Percent Adjust, Seasonal Adjust, Water Budget, or just a “%” sign.

This schedule adjustment option allows the user to adjust the irrigation schedule for all irrigation zones at once with a single percentage change more easily than manually changing the runtime minutes for each zone. The sprinkler adjustment recommendation is based on a percentage of the maximum “base schedule.” The “base schedule” is the number of minutes each of the controller’s watering zones is programmed based on the maximum watering need, which tends to be in the July-August time of year. Once the controller is programmed using the “base schedule,” utilizing this percent adjust feature will allow the user to adjust your weekly or monthly irrigation schedule quite easily.

Traditional sprinkler timers utilize preset schedules which, without regular adjustments, can lead to excess irrigation. CSANS is designed to make watering more consistent with the plant’s needs. Behind the scenes, CSANS uses the property street address and California’s CIMIS stations to calculate the recommended irrigation factor.

In addition to the irrigation adjustment factor, e-mails are customized to each retail water agency, including their agency logo. Each e-mail also contains three unique educational messages of the water agency’s choosing. These messages can be changed each time an e-mail is sent. Agencies have the ability to create an unlimited number of messages. Topics include Irrigation Management, Irrigation Maintenance, General Landscape, Landscape Rebates, Other Rebates, Drought, and General Water Information.

Phase II

The Calculator Tool, which is a stand-alone web-page application, will be used to complement the California Sprinkler Adjustment Notification System (CSANS)

service. Development of the Online Irrigation Base Schedule Calculator was performed by EcoLandscape California, who was selected through a competitive Request for Proposal process.

A draft of the flow of the calculator tool is illustrated with screen shots (Appendix A). The functionality of the tool includes both zone description and simple site mapping. The site map resulted in the lion's share of the development time. The site map is a programmed drawing utility. An additional enhanced component is done by accessing the Soil Web Survey database to provide the user with their soil type as a default data entry point. Through initial research it was found that soil type was commonly unknown.

To provide the user with assistance in determining on-site parameters, a variety of worksheets were developed for step-wise data collection. Additionally, informative videos were utilized. The first video is a promotional tool to encourage consumers to use the California Sprinkler Adjustment Notification System. The second video is a "how to" video on how to use the Online Irrigation Base Schedule Calculator. These videos are 3 to 5 minutes in length.

Next Steps

To provide multiple-jurisdiction benefits, MWDOC has collaborated with East Bay Municipal Utility District (EBMUD), California Department of Water Resources (DWR), the California Urban Water Conservation Council (CUWCC), and the Metropolitan Water District of Southern California (Metropolitan).

In early 2015, implementation of CSANS began by the EBMUD and Bay Area Water Supply and Conservation Agency (BAWSCA) on a pilot basis. These pilots will be funded through a DWR Directed Action Grant awarded to the CUWCC and agency contributions. This pilot will assist in expanding use of CSANS beyond Orange County and will assist DWR in estimating the staff time resources for implementation of CSANS state-wide.

5. Accomplishment of Project Goals:

Anticipating the Calculator will be used by 50 new people per month, the associated water savings goal is 26 acre-feet per year (AFY) or 131 lifetime acre feet (AFL) over the anticipated five-year life. This will, in turn, result in savings of 0.4 million kilowatt-hours over the project life and a reduction of 60 metric tons of CO₂ emissions per year. As of September 15, 2016, MWDOC managed subscribers alone accounted for more than 300 CSANS subscribers are receiving the weekly or monthly Sprinkler Adjustment Percentage e-mail notifications customized to the weather at their street address. The subscription rate has been relatively consistent of approximately 30 subscribers per month which, is below our initial goal of 50.

However, the CSANS system in whole has approximately 700 subscribers, this includes subscribers that receive their messaging from EBMUD, BSCWA, DWR, and MWDOC member agencies which manage their own outreach, such as IRWD.

A study of the WaterDex conducted by the Irvine Ranch Water District quantified a 39 gallon per day water savings (or 3.3 percent of residential landscape water use) at homes using the WaterDex. CSANS is very similar to WaterDex, but does not require the purchase of the WaterDex device. WaterDex homes were sent an irrigation index adjustment e-mail from the product manufacturer. CSANS also pushes the weekly or monthly irrigation index to consumers via e-mail. The index essentially converts a dumb timer into a smart timer without replacing the irrigation timer or adding a WaterDex device. Also unique to CSANS is the educational messaging. Each consumer receives 36 to 156 educational messages per year depending, on a monthly or weekly subscription.

Based on 700 CSANS subscribers and 39 gallons per day savings, current savings totals 27,300 gallons per day or 30.6 acre feet per year. This will result in 153 AFY over the anticipated five year life. This will result in savings of 0.5 million kilowatt-hours over the project life and a reduction of 70 metric tons of CO₂ emissions per year. This is also listed in the Water Conservation Field Services Program Project Benefits Form (Appendix B).

With scheduled marketing activities in Orange County, including a cooperative door hanger program in cooperation with the local Association of Realtors, it is anticipated the number of CSANS subscriptions will increase dramatically over the next several months.

6. Describe how the project demonstrates collaboration, stakeholder involvement or formation of partnerships, if applicable:

The CSANS and the associated Base Schedule Calculator was developed and promoted in partnership with seven local, state, and federal organizations including:

- Municipal Water District of Orange County
- Metropolitan Water District of Southern California
- Los Angeles Department of Water and Power
- Irvine Ranch Water District
- East Bay Municipal Utility District
- California Urban Water Conservation Council
- California Department of Water Resources
- Bay Area Water Supply and Conservation Agency

More broadly, there is significant interest to implement CSANS is now implemented other parts of the state. Both East Bay Municipal Utilities District (EBMUD) and Bay Area Water Supply and Conservation Agency (BAWSCA) have moved forward with implementation of CSANS in their service areas. Eventually, it is hoped that the

California Department of Water Resources (DWR) will implement CSANS state-wide. DWR is asking MWDOC and EBMUD to monitor our time commitment to implement CSANS locally to allow for DWR To develop a time estimate for state-wide implementation.

7. Describe any other pertinent issues regarding the project:

Many of the future plans to further develop CSANS (Phase I) were implemented through the Base Schedule Calculator (Phase II). Short-term activities which were implemented included the incorporation of a drought response percent range and a Base Irrigation Schedule Calculator and smart phone application usability. Long-term plans yet to be realized include the implementation of CSANS state-wide by DWR. To help facilitate that, additional information will be needed within the Evapotranspiration and soil properties database of the Base Schedule Calculator.

The drought response schedules emphasize the need for consumers to respond to voluntary and mandatory drought curtailments. While the CSANS email recommendations does not have the percent range, the base schedule provided through the Base Schedule Calculator doe provide the option for either optimal or drought response schedules. For example, if the normal percent adjustment is 80% and water agencies are requesting consumers to conserve 20%, a percent range adjust of 60 to 80%, the base schedule will account for this adjustment need. This will reinforce the need for consumers to respond to the drought and give them the choice on how they respond by reducing outdoor use, indoor use, or both.

An independent smart phone application will provide access to the CSANS via smart phones. All of the same features of CSANS will be made available via the application without the use of e-mails. Consumers will be given the opportunity to choose between an e-mail or phone application for access to CSANS information. The other long-term activity is implementation of CSANS state-wide by DWR. The scopes of work have been established for the long-term additions, along with cost estimates. In light of the drought and a desire to greatly expand the use of the California Irrigation Management Information System, DWR is very interested in both activities. No funding has been secured at this time; however, DWR is looking for funding for implementation as soon as possible.

To assist in meeting this short term need, the Base Schedule Calculator has been developed to be compatible with standard computer screen formats, tablets, and larger-screen smartphones. The use of tablets is preferred. Any portable screen technology is helpful when entering on-site parameter information, as the data entry portal can be within reach of the subscriber. To additionally minimize user-barriers, a number of worksheets have been developed to complement the tool.

8. Feedback to Reclamation regarding the Field Services Program:

On behalf of the 32 retail water agencies in Orange County, the Municipal Water District of Orange County extends a very grateful "Thank You" to the Bureau of Reclamation for the many Field Services Program grant awards. We have benefited immensely from this program over the years. We are especially excited to have been given the opportunity to develop CSANS and the complementary Base Schedule Calculator that is fast becoming a tool that can be used throughout the state.

Appendix A

Online Screen Shots

CSANS
CALIFORNIA SPRINKLER ADJUSTMENT NOTIFICATION SYSTEM

Promoting Effective Irrigation

The **California Sprinkler Adjustment Notification System** or CSANS, sends periodic sprinkler adjustment reminder emails with optimal percentages to homeowners and businesses that subscribe to this free public service. If you reside in California, own an irrigation controller that supports the "percent adjust" or similar feature, and wish to receive this free reminder please subscribe below.

1 Is this for me?
If you reside in California, have an irrigation controller (a.k.a. sprinkler timer or clock) that supports the "percent adjust", seasonal adjust, water budget, or similar feature* you can take advantage of this program. This may not be for you if you have a self adjusting weather-based smart timer.

2 Subscribe
Fill in the form to the right to subscribe.

3 Adjust and Save
You can choose to receive weekly or monthly adjustment emails from this system. The first adjustment email will be sent immediately after you confirm your subscription. Adjust your controller using the recommended percentages and begin using water more efficiently and saving money.

* Consult your owner's manual or visit the manufacturer's website for further details.

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SAVE MONEY

Get **FREE CSANS** sprinkler adjustment email reminders

email

california address, city, state, zip

The Family of Orange County Water Agencies

Example Emails

DEPARTMENT OF WATER RESOURCES
STATE OF CALIFORNIA

Here's your Sprinkler Adjustment Percentage
Thank you for using water wisely
California Department of Water Resources
1416 9th St
Sacramento, CA 95814

Please adjust your controller to 70%
Effective for the month of September, 2016
for property located in Rancho Santa Margarita, CA 92688

NEW! **DWR's 60th Anniversary**
The Spring/Summer 2016 DWR Magazine highlights DWR's 60th Anniversary. Other features include DWR's New Drought Team Leaders, Aqueduct Repair in Kern County, San Joaquin River Parkway Trail project and DWR Solar Power projects in Southern California.
[Read More](#)

Want more frequent adjustments? Switch to [weekly](#) delivery. You may also [unsubscribe](#) or [email](#) the CSANS Program Administrator.

Please adjust your controller to 50%
Effective for the month of March, 2015
for property located in Rancho Santa Margarita, CA 92688



It's Time for a Sprinkler Spruce Up

When it comes to a home's irrigation system, a little maintenance goes a long way. Before you ramp up your watering efforts, spruce up your irrigation system by remembering four simple steps—inspect, connect, direct, and select. Homes with automatically timed irrigation systems use about 50 percent more water outdoors than those without. Your system can waste even more if it's programmed incorrectly, a sprinkler head is pointed in the wrong direction, or you have a leak. [Read More](#)



Done a good job reducing sprinkler runoff?

Get Gnorman-approved by sending a photo of your yard with a dry sidewalk and be featured on the "Overwatering Is Out" homepage! [Read More](#)



Setup Controller for Percent Adjust

New to CSANS? This irrigation calculation tool will help you setup your controller/timer to begin using the percent adjust feature. [Read More](#)

Want more frequent adjustments? Switch to [weekly](#) delivery. You may also [unsubscribe](#) or [email](#) the CSANS Program Administrator.

Please adjust your controller to 100%
Effective for the month of July, 2016
for property located in Rancho Santa Margarita, CA 92688



Sprinkler Spruce Up

Homes with clock-timer-controlled irrigation systems use about 50 percent more water outdoors than homes without irrigation systems. Your system can waste even more if it's programmed incorrectly, a sprinkler head is pointed in the wrong direction, or you have a leak. Update your system's schedule with the seasons, or select a WaterSense labeled controller to take the guesswork out of scheduling. [Read More](#)



Keep it Up!

The State Water Resources Control Board applauds the high-level of water conservation in April—a 26.1 percent reduction over 2013 usage—but reminds us that we must continue to make water conservation a top priority amidst ongoing drought conditions across California. Despite near average rainfall in much of Northern California this past winter, 60 percent of the state remains in severe drought. [Read More](#)



California Friendly Plant Spotlight

Ceanothus 'Concha': This California lilac is a large shrub with a dense mass of dark green, 1-inch leaves, with dark blue clusters of flowers appearing in spring. Requires good drainage; can tolerate summer water. Grows to six feet. [Read More](#)

Please adjust your controller to 20%
Effective for the month of January, 2015
for property located in Rancho Santa Margarita, CA 92688



Interested in Turf Removal?

You could qualify for a rebate if you want to remove your water-thirsty turfgrass and replace it with a more water-wise California-Friendly landscape. [Read More](#)



See Water Waste?

If you see water waste in your community, make sure that you report it! [Read More](#)



Overwatering Is Out!

Have you met Gnorman the Gnome? Join the Overwatering Is Out campaign to get more tips on how you can do your part to tackle the drought! [Read More](#)

This redirect to the Base Schedule Calculator is included in the first few emails received by every CSANS subscriber.



When to Water

Landscape Irrigation Scheduler

Helps you
Use less water
by adjusting your
controller for weather

Calculates schedules
Run times for sprinklers and drip

Normal or Drought Response
Base schedules for percent adjust
Weekly schedules for every month of the year

Create landscape site maps
To show where each controller zone waters

Get Ready



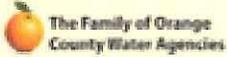
Quick Start Tutorial

Worksheets to help you
collect your landscape
information.



Get Started

BROUGHT TO YOU AND COOPERATIVELY FUNDED BY:



[Home](#)
[Property Info](#)
[Site Map](#)
[Zone Setup](#)
[Confirm Zones](#)
[Schedule](#)

When to Water Landscape Irrigation Scheduler

California Property Information

Enter your Orange County property address here.

Name controller (example: Backyard)

maximum 18 characters

Watering restrictions

[What are my city's restrictions?](#)

Schedule type:

Normal
 Drought response

Create site map **GO**

[Home](#)
[Property Info](#)
[Site Map](#)
[Zone Setup](#)
[Confirm Zones](#)
[Schedule](#)

When to Water Landscape Irrigation Scheduler

[Why a site map](#)
[Choices](#)
[Examples](#)
[Worksheets](#)
[How-to video](#)

Create Site Map

CREATE SHAPES
Click a shape to add it. Click & drag points to change size and shape.

DELETE SELECTION
CLEAR DRAWING AREA

ZONE NUMBERS
 Click to add them last
[Download image](#)

Check zone number and Enter brief zone description for up to 12 zones.
 When complete proceed to Zone Setup

Zone numbers and descriptions

Required: Select applicable zone numbers
Recommended: Zone description

Zone 1
 Zone 2
 Zone 3
 Zone 4
 Zone 5
 Zone 6
 Zone 7
 Zone 8
 Zone 9
 Zone 10
 Zone 11
 Zone 12

Zone Setup **GO**

Saved zones

--	--	--	--	--	--

Click on a zone.
Then make selections below.
Save zone at bottom of page.

When complete
Proceed to Confirm Zones.

GO →

Don't know the soil type?
Click [info](#) for help

Likely soil type for this
address: Choose **Clay loam**.

Zone

1	2	3	4	5	6
7	8	9	10	11	12

Choose a zone

Plants

Choose one | [info](#)

Water Use 

 Plantings 	 Plantings 	 Plantings 	 Turf grass 	 Turf grass 
 Trees 	 Trees 	 Trees 	 Mixed 	 Mixed 

Exposure

Choose one | [info](#)

 Shade	 Part sun	 Full sun
--	---	---

Soil

Choose one | [info](#)

 Clay loam	 Silt loam	 Sandy loam	 Fine sand	 Coarse sand
---	---	--	---	---

Slope

Choose one | [info](#)

 No	 Yes
---	--

Irrigation Type

Choose one | [info](#)

*Efficient

 Fixed Spray	 Rotary Nozzle*	 Precision Spray*
 Single Stream Rotor	 Impact	 Bubble
 Point source emitters*	 Embedded (inline) emitters*	
 Micro bubble	 Micro spray	

SAVE this zone

SITE MAP

Printable Results

Controller:
Backyard

110 Calderon
Irvine 92618

Schedule:
Any Days /week Allowed
Normal Schedule

3 zones



Plant Material Water Use:

- [L] Low Water Use
- [M] Moderate Water Use
- [H] High Water Use

Zone	Plants/Water	Exposure	Slope	Soil	Irrigation Type
1 Front Yard	Mixed [M] & [H]	Part Sun	No	Sandy Loam	Embedded Emitters
2 Side Yard	Plantings [L]	Full Sun	No	Sandy Loam	Rotary Nozzle
3 Back Yard	Plantings [M]	Shade	No	Silt Loam	Fixed Spray

Landscape Irrigation Scheduler www.WhenToWater.org

Base Schedule For percent adjust feature	Monthly Watering Schedule
--	----------------------------------

	MINUTES	CYCLES	DAYS		MINUTES	CYCLES	DAYS		MINUTES	CYCLES	DAYS		MINUTES	CYCLES	DAYS	
	PER CYCLE	PER DAY	PER WEEK		PER CYCLE	PER DAY	PER WEEK		PER CYCLE	PER DAY	PER WEEK		PER CYCLE	PER DAY	PER WEEK	
Zone 1	36	2	1		Jan				Feb				Mar			
Zone 2	53	1	1	Zone 1	35	1	1	Zone 1	35	1	1	Zone 1	47	1	1	Zone 1
Zone 3	6	2	1	Zone 2	22	1	1	Zone 2	25	1	1	Zone 2	33	1	1	Zone 2
				Zone 3	5	1	1	Zone 3	5	1	1	Zone 3	7	1	1	Zone 3
				Apr				May				Jun				
				Zone 1	33	2	1	Zone 1	36	2	1	Zone 1	33	2	1	Zone 1
				Zone 2	41	1	1	Zone 2	47	1	1	Zone 2	50	1	1	Zone 2
				Zone 3	9	1	1	Zone 3	6	2	1	Zone 3	6	2	1	Zone 3
				Jul				Aug				Sep				
				Zone 1	36	2	1	Zone 1	33	2	1	Zone 1	33	2	1	Zone 1
				Zone 2	53	1	1	Zone 2	53	1	1	Zone 2	44	1	1	Zone 2
				Zone 3	6	2	1	Zone 3	6	2	1	Zone 3	9	1	1	Zone 3
				Oct				Nov				Dec				
				Zone 1	47	1	1	Zone 1	35	1	1	Zone 1	30	1	1	Zone 1
				Zone 2	33	1	1	Zone 2	25	1	1	Zone 2	19	1	1	Zone 2
				Zone 3	7	1	1	Zone 3	5	1	1	Zone 3	4	1	1	Zone 3

Controller:
Backyard

110 Calderon
Irvine 92618

Watering Restrictions:
Any Day /week Allowed

Normal Schedule

Landscape Irrigation Scheduler www.WhenToWater.org



Worksheets

To help you collect your landscape information

Zone content worksheet
[Download](#)

Example content worksheet
[Download](#)

Make a rough sketch outside in the landscape to help you visualize where the zones are located

Site map worksheet
[Download](#)

Example site map worksheet
[Download](#)

Take this outside into the landscape to help you identify your types of irrigation

Irrigation choices
[Download](#)

Landscape Irrigation Scheduler

Zone Content Worksheet

Controller name _____

ZONES

Plants (Choose only one per zone)

	1	2	3	4	5	6	7	8	9	10	11	12
Plantings: Low water use	✓											
Plantings: Medium water use												
Plantings: High water use												
Turfgrass: Medium water use		✓										
Turfgrass: High water use												
Trees: Low water use			✓									
Trees: Medium water use												
Trees: High water use												
Mixed: Low/Med water use												
Mixed: Med/high water use												

Exposure (Choose only one per zone)

Shade												
Part Sun	✓											
Full Sun		✓	✓									

Soil (Choose only one per zone)

Clay loam												
Silt loam	✓	✓	✓									
Sandy loam												
Fine Sand												
Course sand												

Slope (Choose only one per zone)

Yes												
No	✓	✓	✓									

Irrigation Type (Choose only one per zone)

Sprinkler: Fixed Spray												
Sprinkler: Rotary Nozzle		✓										
Sprinkler: Precision Spray												
Sprinkler: Single-stream Rotor												
Sprinkler: Impact												
Sprinkler: Bubbler												
Drip: Point-Source Emitters			✓									
Drip: Embedded (Inline) Emitters	✓											
Drip: Micro-Bubbler												
Drip: Micro-Spray												

When to Water Landscape Irrigation Scheduler www.WhenToWater.org

Brought to you and cooperatively funded by: Municipal Water District of Orange County, The Metropolitan Water District of Southern California, The Family of Orange County Water Agencies, U.S. Department of the Interior Bureau of Reclamation, State of California Department of Water Resources

Attachment C

WATER CONSERVATION FIELD SERVICES PROGRAM PROJECT BENEFITS

Attachment C

WATER CONSERVATION FIELD SERVICES PROGRAM PROJECT BENEFITS

Online Irrigation Base Schedule Calculator

Please check the appropriate water management benefits for agricultural or urban measures that you anticipate addressing in your proposal. Where available, please provide an estimate of the benefit to units (i.e. Acre Feet, Dollars, Percentages)

It is essential to establish benefits of the Program. Please help us with your best estimate.

Reduces Leaks and Seepage	_____	Acre Feet/Year
Reduces System Spills	_____	Acre Feet/Year
Makes More Water Available	<u>48</u>	Acre Feet/Year
Reduces Operation Costs	_____	\$ /Year
Reduces Energy Costs	_____	\$ /Year
Reduces Waste Treatment Costs	_____	\$ /Year
Improves Crop Yield	_____	Percent/Year
Reduces On-Farm Costs	_____	\$ /Year
Reduces Per Capita Use	_____	Gallons/Capita/Day
Provides Technical Training	<u>700</u>	# of People
Provides Water Conservation Education	<u>700</u>	# of People
Improves Water Supply Reliability	<u>5</u>	Frequency (Years)*
* Estimate of how often the improvement will occur (i.e. 1 = each year)		
Delays Construction of New Supplies	_____	Years
Reduces Drainage/Erosion	_____	Tons
Improves Water Quality	<u>0.01</u>	% reduction of <u>NPS</u>
Enhances Aquatic/Riparian Habitat	_____	Years