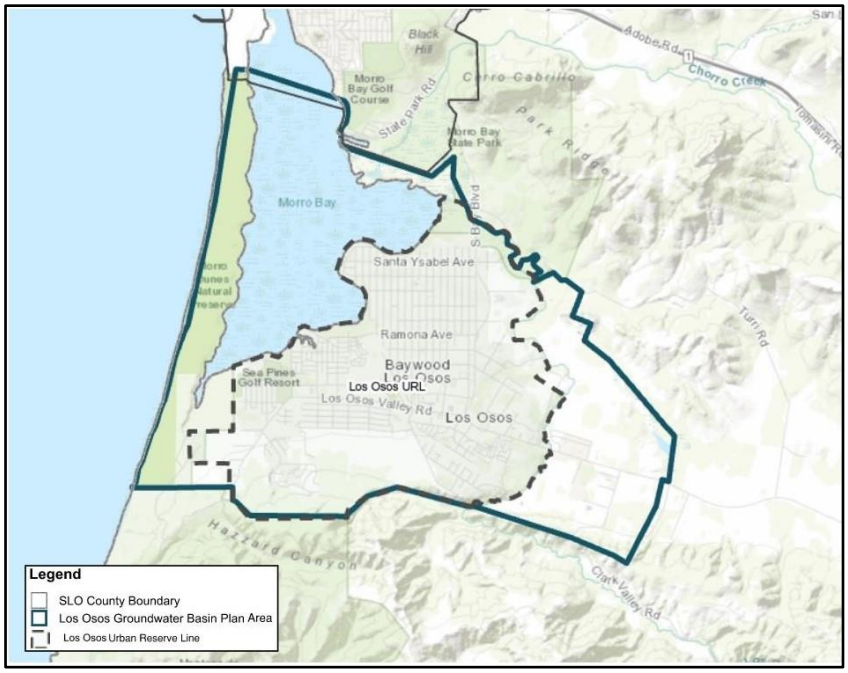
Title 19: Los Osos Groundwater Basin Retrofit-to- Build Requirement

On April 22, 2008, the Board of Supervisors approved two plumbing retrofit ordinances for the Los Osos area. The ordinances address the groundwater quality concerns of the Los Osos Groundwater Basin. The ordinances require both new and existing development to retrofit older, non-conserving toilets and showerheads with fixtures that are water efficient. The ordinances went into effect May 22, 2008.

The Retrofit-to-Build program (Title 19) requires all new development that uses water from the Los Osos Groundwater Basin to retrofit older plumbing fixtures in existing homes and businesses **to save twice the amount of water** that is estimated to be used by the new development.



A water savings table has been developed (Page 3) to calculate the total water savings required of the new dwelling, based on the water source (i.e., water purveyor or self-source) and the dwelling type (i.e., Single Family or Multifamily/Mobile Homes). The amount of savings required was determined using the methodology provided in the Los Osos Water Offset Study, completed in June 2023 and published on the Department of Planning & Building (Department) website: https://www.slocounty.ca.gov/Departments/Planning-Building/Forms-Documents/Planning-Projects/Los-Osos-Water-Offset-Study/TM-FINAL_County-of-San-Luis-Obispo_Los-Osos-Water-.pdf

The total water savings are achieved through the retrofit of existing plumbing fixtures (i.e., toilets, showerheads, and clothes washers) and/or installation of a demand-initiated hot water recirculation system anywhere within the boundary of the Los Osos Groundwater Basin Plan Area (see map above). To calculate toilet and showerhead water savings, please utilize the average water savings per fixture type tables. To calculate clothes washer water savings, please use the method described in Part 3: Water Savings Calculations – Clothes Washers. To calculate hot water recirculation system water savings, please use the EPA Hot Water Volume Calculator and the equation in Part 3: Water Savings Calculations – Hot Water Recirculation System. The total water savings are achieved by adding up the gallons saved per day of each fixture type. Staff will assess the application for completeness and for fulfillment of the total water savings. **Please note that water savings must occur within the service boundary of the same Los Osos water purveyor as the proposed development to receive a water conservation certificate.**

Per Title 19 of the County Code, the Total Water Savings Required for Water Conservation Certificate table and the tables representing the average water savings per fixture replaced per household are to be updated every 5 years by the Department through the methodology established in the Los Osos Water Offset Study (June, 2023). Updated requirements will be posted on the Department website and amended on this form (Title 19: Los Osos Groundwater Basin Retrofit-to-Build Requirement, LNG-1016).

Total Water Savings Required for Water Conservation Certificate (gallons per day, or gpd)[1]

Residence Type	*Water Source*	*Total Water Savings Required for Certificate (gpd)[2]*
Single Family	Water Purveyor	256
	Self-Source[3]	$(92 + \frac{196.4}{parcel\ size\ (acres)}) * 2$
Multifamily and Mobile Homes	Water Purveyor	200
	Self-Source[3]	$(58 + \frac{196.4}{parcel\ size\ (acres)}) * 2$
		Multifamily Home: 58 + See Note.4

[1] The department of planning and building will update this table every 5 years, as is required in subsection (g).

[2] Water Savings requirements are totaled per the rates of the Los Osos Plumbing Retrofit Program Equivalency Table and reflect the 2:1 ratio offset requirement.

[3] The Total Water Savings Required for Certificate (gallons per day) for self-source parcels must be calculated according to the size of the parcel in acres, where Total Water Savings Required for Certificate (gpd) for self-source parcels is equal to $\left(Average\ Indoor\ Water\ Use + \frac{Average\ Outdoor\ Water\ Use}{parcel\ size\ (acres)}\right) * 2$.

[4] Outdoor water use will be evaluated at the time of the development proposal.

Retrofit-to-Build Process

To obtain a Water Conservation Certificate, a complete Title 19: Retrofit Verification Table must be submitted to the Department of Planning and Building. The Table is in three parts (described below). All sections must be filled out correctly for the Water Conservation Certificate to be issued.

1. **Part 1** of the Retrofit Verification Table must include the following information about the building site:
    a. Project Address/Assessor's Parcel Number (APN);
    b. Required Total Water Savings;
    c. Property Owner Name (First & Last);
    d. Property Owner Phone Number;
    e. Licensed Plumber or Home Inspector Name (First & Last);
    f. Licensed Plumber or Home Inspector Phone Number/License Number.

2. **Part 2** of the Retrofit Verification Table must include the following information about the retrofitted properties:
    a. Retrofitted Property Address/Assessors Parcel Number (APN);
    b. Retrofitted Property Owner Name (First & Last):
    c. Date of Retrofit
    d. Total Number of Toilets in Household
    e. Total Number of Showerheads in Household
    f. Existing Energy Star Efficient Clothes Washer?
    g. Plumbing System Appropriate for Hot Water Recirculation System Installation?
3. **Part 3** of the Retrofit Verification Table must include the following information about the retrofits and/or installations completed:
    a. Toilet Retrofits
        i. New toilets shall be rated at no more than an effective rate of 1.0 gallons per flush (gpf).
        ii. New eligible toilets may be dual flush models, so long as the effective flush rate is no more than 1.0 gpf.
    b. Showerhead Retrofits
        i. New showerheads shall be rated at no more than 1.5 gallons per minute (gpm).
    c. Clothes Washer Retrofits
        i. Existing clothes washers may not be Energy Star Efficient to receive credit towards water savings.
        ii. New clothes washer must be on the Energy Star list.
        iii. Required attachments:
            1) Receipt of purchase of new washer.
            2) Photos of old washer, prior to removal.
            3) Photos of new washer, after installation.

d. Hot Water Recirculation System Installation

i. System must be demand-initiated.

ii. System must have a calculated hot water volume of 0.5 gallons maximum between the hot water source and each fixture.

iii. **Applicants are advised to request a licensed plumber fill out the EPA Hot Water Volume Calculator before investing in a system, to ensure the estimated water savings is worth their investment.**

iv. Required attachments:

1) Receipt of purchase for hot water recirculation system.
2) Photos of hot water recirculation system, after installation.
3) Plumbing fixture diagram including a list of pipe diameter and length measurements, and printouts of the calculator for the before-and-after configurations, prepared by a licensed plumber.

4. All Title 19: Retrofit Forms must be submitted with photos of the old and newly installed fixtures in order to be valid for the Retrofit-to-Build Program.

5. Email completed forms to **waterprograms@co.slo.ca.us**

Please note that water savings must occur within the service boundary of the same Los Osos water purveyor as the proposed development to receive a water conservation certificate.

TITLE 19: RETROFIT VERIFICATION TABLE

Part 1: Proposed Building Site

a. Project Address/Assessor's Parcel Number (APN):	**b. Property Owner Name** (First & Last):	**c. Phone #:**
d. Required Total Water Savings*:	**e. Plumber/Home Inspector** (First & Last):	**f. Phone #/License #:**

*Based on the Total Water Savings Required for Water Conservation Certificate table (i.e., dwelling type and water source).

Part 2: Retrofitted Properties

	a. Address/Assessor's Parcel Number (APN)	b. Property Owner Name (First & Last)	c. Date of Retrofit	d. Total No. of Toilets in Household	e. Total No. of Showerheads in Household	f. Existing Energy Star Efficient Clothes Washer?	g. Plumbing System Appropriate for Hot Water Recirc. System?
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							

Average Water Savings per One Toilet Replaced per Household (gpd)

	Existing Flow Rate to Replacement Flow Rate (gallons per flush)			
Total No. of Toilets per Household	6.0 to 1.0	3.5 to 1.0	1.6 to 1.0	1.28 to 1.0
1	69	35	8	4
2	35	17	4	2
3	12	12	3	1
4	17	9	2	1
5	14	7	2	1
Etc.	[4]*Water Savings per Toilet Retrofit* $= \frac{(\text{Existing flow rate} - \text{Replacement flow rate})(\frac{13.8 \text{ average flushes}}{\text{household} * \text{day}})}{\text{Total number toilets per household}}$			

Part 3a: Water Savings Calculations – Toilets

Retrofitted Property (Part 2.a.)	Total No. of Toilets (Part 2.d.)	No. of 6.0 to 1.0 Retrofits	No. of 3.5 to 1.0 Retrofits	No. of 1.6 to 1.0 Retrofits	No. of 1.28 to 1.0 Retrofits	Total Average Water Savings Per No. of Toilets Replaced per Household (gpd) *
Example	***3***	***1***	***1***	***1***		*(using Average Water Savings table): 23+12+3 =* ***38 gpd***
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
						Total:

**Add up the total water savings due to toilet retrofits based on the Average Water Savings per One Toilet (gpf) replaced,

[5] $\left(\frac{13.8 \; average \; flushes}{household * day}\right)$ is based on the average number of flushes (5.75) per 2.4 person household per day.

according to the total number of toilets in the household.

Average Water Savings per One Showerhead Replaced per Household (gpd)

Total No. of Showerheads Per Household	Existing Flow Rate to Replacement Flow Rate (gallons per minute)	
	2.5 to 1.5	2.0 to 1.5
1	15	8
2	8	4
3	5	3
4	4	2
5	3	2
Etc.	[5]*Water Savings/Showerhead Retrofit* = $\frac{(\text{Existing flow rate} - \text{Replacement flow rate})(\frac{15.1 \text{ average shower minutes}}{\text{household} * \text{day}})}{\text{Total number showerheads per household}}$	

Part 3b: Water Savings Calculations – Showerheads

Retrofitted Property (Part 2.a.)	Total No. of Showerheads (Part 2.e.)	No. of 2.5 to 1.5 Retrofits	No. of 2.0 to 1.5 Retrofits	Other Fixture Flow Rates (use Water Savings/Showerhead Retrofit equation)	Total Average Water Savings Per No. of Showerheads per Household (gpd) *
Example	***3***	***1***	***2***		*(using Average Water Savings table): 4+4+4 =* ***12 gpd***
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
					Total:

[6] $(\frac{15.1 \text{ average shower minutes}}{\text{household} * \text{day}})$ is based on the average shower minutes (6.3) per 2.4 person household per day.

** Add up the total water savings due to showerhead retrofits based on the Average Water Savings per One Showerhead (gpd) replaced, according to the total number of showerheads in the household.

Part 3c: Water Savings Calculations – Clothes Washers

Retrofitted Property (Part 2.a.)	Existing Washer Energy Star Efficient?	Existing Washer (gpd)[7] $\left(\frac{Gallons}{Cycle}\right) * \left(\frac{Number\ of\ Cycles}{Load}\right) * \left(\frac{203\ Loads}{Year}\right) * \left(\frac{1\ Year}{365\ Days}\right)$	New Washer (gpd)†: $\frac{Annual\ Water\ Use\ in\ Gallons}{365\ Days}$	Total Average Water Savings Per No. of Clothes Washers Replaced per Household (gpd)
Example	***No***	*(24*2*203)/365 =* ***27***	(4278)/365 = **12**	*(Existing Washer – New Washer (gpd)): 27-12 =* ***15 gpd***
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
				Total:

† Annual water use in gallons is provided by the manufacturer. Staff can assist applicants in locating this information from the manufacturer if needed.

New Washer Must be on Energy Star List

[7] $\left(\frac{203\ Loads}{Year}\right)$ for average household (2020 RECS Data, U.S. Homes in Marine Climate Region).

Part 3c: Water Savings Calculations – Clothes Washers (continued)

Retrofitted Property (Part 2.a.)	Existing Make/Model	Existing Serial No.	New Make/Model	New Serial No.
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				

To be completed by the person receiving the new washer. By signing below I certify that:

- *I am the owner of the property above.*
- *The specifications listed above accurately represent the existing washing machine and the new washing machine that I have received and installed.*
- *I understand that the new washing machine must remain with the property if my house is sold, unless it is replaced with a model that is at least as efficient.*
- *I understand that I will be contacted and asked to verify that the information is correct.*

X _____
Property Owner

Part 3d: Water Savings Calculations – Hot Water Recirculation System

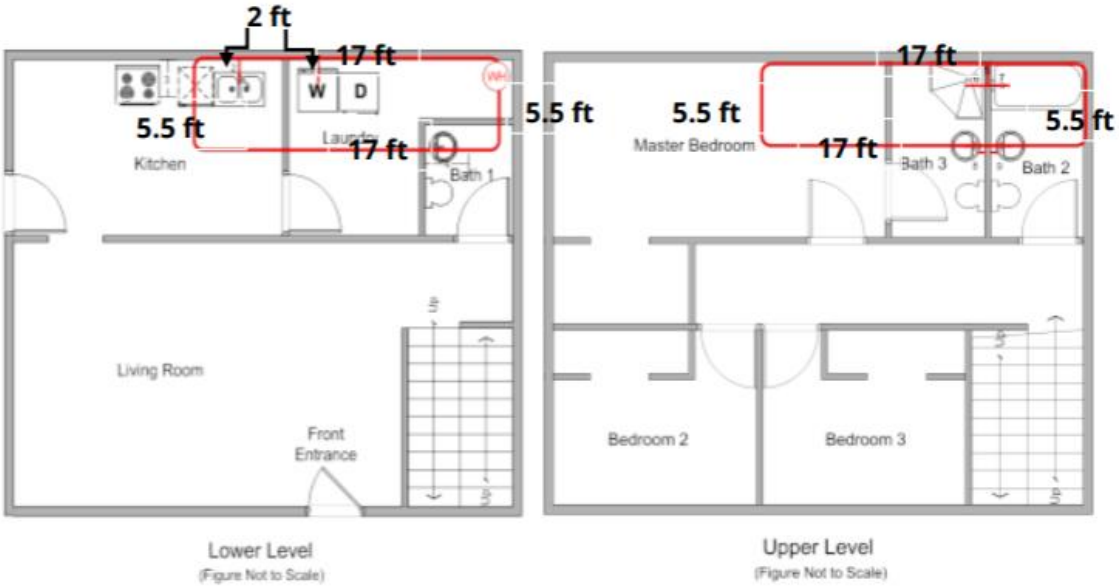
Retrofitted Property (Part 2.a.)	Plumbing Fixture Diagram Attached?	New System Demand-Initiated?	Estimated Water Savings (gpd) = $[change\ in\ hot\ water\ storage\ volume\ (gal) for\ all\ fixtures]^{8} * 2$
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			

Estimated water savings (gpd) = [change in hot water storage volume (gal) for all fixtures] x 2

(Assuming hot water lines are flushed twice per day for morning showers and evening dishes.)

Change in hot water storage volume to be calculated using the EPA Hot Water Volume Calculator

Example fixture diagram for a demand-initiated recirculation system (a drawn and labeled diagram with measurements by a Licensed Plumber is required for application submittal):



[8] Using the EPA Hot Water Volume Calculator. Refer to the EPA Guide for Efficient Hot Water Delivery System for example diagrams and calculations