

Proposed Water Neutrality Ordinance

Public Meeting
April 6, 2017

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Agenda

- Housekeeping
- Council Directive
- Framework for Ordinance
- Compliance Options
- Fees
- Timeline
- Q&A

Please show respect
& courtesy to
everyone here.
Thank you.

**Presentation and draft ordinance will be
made available online and notices emailed**



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Water Self-Sufficiency

The City has a goal to stop importing water and be water self-sufficient by 2020. This requires increased water conservation and maximizing local groundwater and alternative (recycled, rainwater) water supplies.

This ordinance is one strategy to help achieve water self-sufficiency.



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Response to Water Supply Reliability

This ordinance is in direct response to residents concern about increased water use in new developments, especially in light of the recent drought and the impacts of climate change.



Council Direction for Ordinance

Council Date: November 24, 2015

- Require all new developments to offset their additional water use on-site
- If on-site offsets not met, a fee would apply to retrofit inefficient water fixtures elsewhere in the city
- Exemptions for affordable housing
- Eliminate the current Water Demand Mitigation Fee
- Administered by City staff and/or vendor



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Water Neutrality

Definition:

New developments cannot use more water than the existing property. If they cannot comply, the additional water must be offset.

Example:

Existing property used an average of 10,000 gallons per year.

New development expected to use 24,000 gallons per year.

Offset is 14,000 gallons per year. Save 14,000 gallons somewhere else in the city.



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Stakeholder Engagement

The Water Neutrality Stakeholder Committee was formed in 2016:

- Santa Monica/LA-based Architects
- Santa Monica Residents
- NGO's – Heal the Bay, Environment Now, Climate Action Santa Monica, So Cal Watershed Alliance, Alliance for Water Efficiency
- Building Industry Association
- Sustainability Consultants
- Plumbing Engineer
- Manufacturers of Water-saving Products
- Government Agencies - LA County, City of Los Angeles, City of West Hollywood, internal City staff



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Not A Cap & Trade Ordinance

This ordinance is not a cap and trade ordinance. There will be no water banking or selling of water rights.



Stakeholder Engagement

- 5 meetings
- Options for each directive were presented
- Consensus based decision making for each option
- Approved the draft ordinance language
- Stakeholder sub-committee will continue to work on water demand calculations and guidelines for implementation



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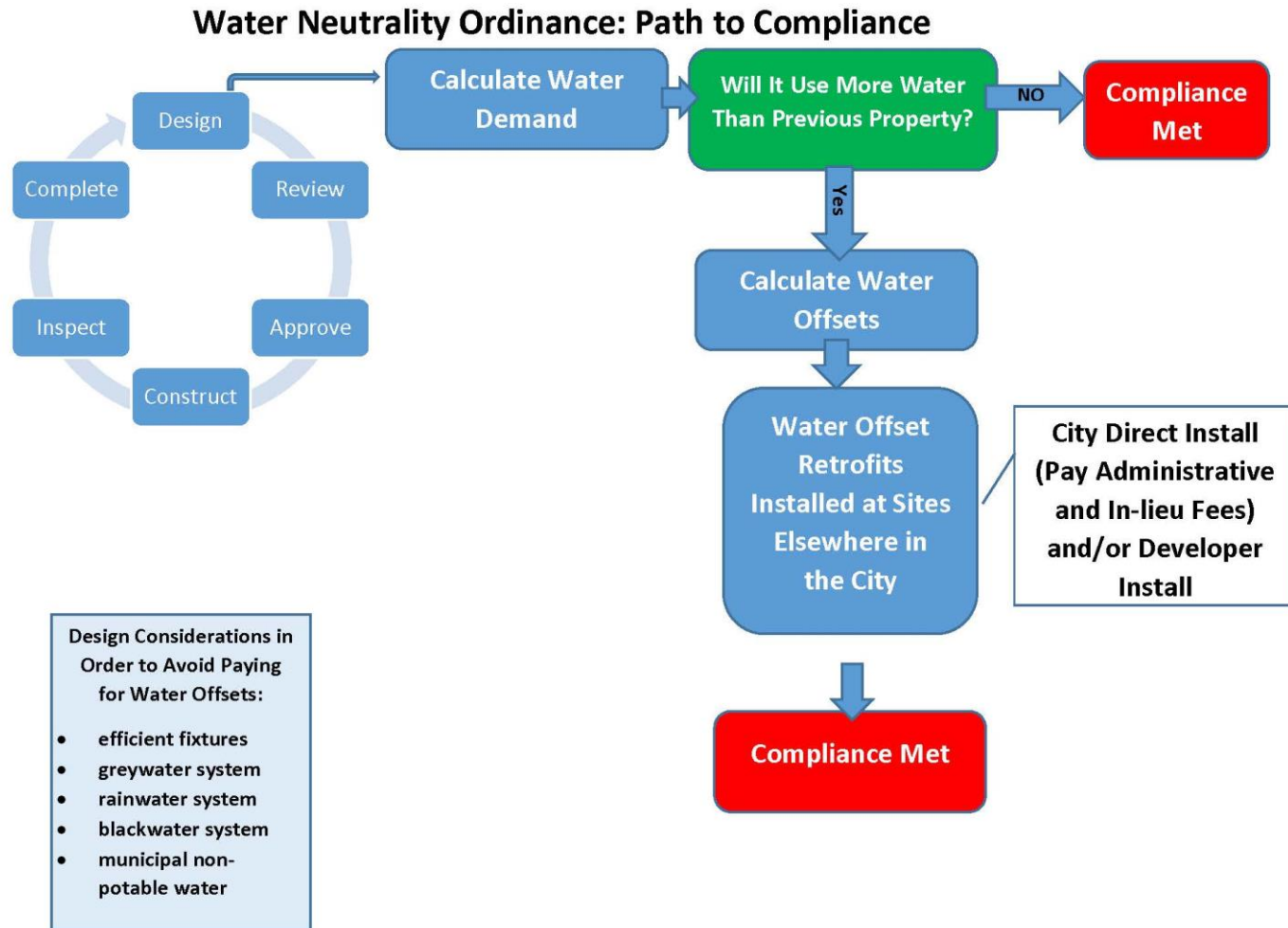
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Framework for Ordinance

- Applicability ✓
- Baseline Water Use ✓
- Projected Water Demand ✓
- Offsets ✓
 - Onsite
 - Offsite
- Fees ✓
- Hardship ✓



Process Flow



Path to Compliance

- **Technical Support Services: Savings By Design**
 - If budget is approved, this program would assist with the design strategies to achieve water neutral buildings
 - Single-family, multi-family, mixed-use, commercial, industrial
 - Coordinate with Southern California Edison and the PUC Savings By Design Program for energy savings designs



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Path to Compliance

- Use online water calculator to establish projected water demand using various design options to save water on-site
 - More efficient fixtures (toilets, clothes washers)
 - Graywater (clothes washers, bathroom sinks)
 - Rainwater
 - Blackwater (toilets, kitchen sinks)
 - Municipal Recycled Water (SMURRF)
- Compare that to the 5-year average usage
- No additional water use = compliance



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Path to Compliance

- Additional water use = offsets offsite and compliance is met
- Vendor provides turn-key retrofit service (fees applied) and/or developer performs retrofit at a self-selected site
- Retrofits are verified
- Water Use Allowance is updated using approved new water demand



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Applicability ✓

- New Developments
 - Repair, alteration, modification, addition to or rehabilitation of an existing structure with any plumbing fixtures where 50% or more of the exterior walls or major structural supports are demolished (SMMC 9.25.030(A)(1-2))
 - New structure with any plumbing fixtures
 - New or enlarged pool, spa, pond or water feature



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Applicability ✓

- Does not apply when only replacing existing fixtures like toilets, showerhead...
- Does not apply to a kitchen or bathroom remodel unless 50% or more of the entire building's exterior walls are demolished
- Does not apply to a new garage if there are no plumbing fixtures
- Does not apply if only irrigation/landscaping is installed adjacent to an existing building
- Does not apply if you are repairing a pool



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Baseline Water Use ✓

- 5-year average water use of existing parcel.
- No water use on record, then use the 5-year average of similar water customer types and meter size.
 - Home with a 1 inch meter = ~110,000 gallons/year
 - Mixed use building with a 3 inch meter = ~1.5M gallons/year



Projected Water Demand ✓

Codes/Models – through a combination of these policies and regulations the Committee will develop the projected water demand based on devices, flow rates, duration and occupancy.

- California Energy Commission Title 20
- California Plumbing Code/CalGreen (2016)
- USGBC LEED (current version)
- EPA WaterSense/Energy Star (possibly)
- ANSI S623 for Simplified Landscape Irrigation Demand Estimation

Use San Francisco's Water Calculator and update it using the codes/models above to fit Santa Monica's local conditions. The Stakeholder Committee will determine these after ordinance adoption.



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Projected Demand

San Francisco Public Utility Non-potable Water Calculator

Indoor

Fixture Type (Daily Use)	Flow Rate	Unit	Duration ⁽⁴⁾	Unit	Ave Daily Use ⁽⁴⁾	No. of occupants	Total Water Demand (gpd)	Annual Water Demand (gpy)	
Showerhead ⁽¹⁾	2	gpm	8.2	min	0.65	4	43	15,564	
Bathroom Faucet ⁽²⁾	1.3	gpm	1.5	min	1	4	8	2,847	
Bath ⁽²⁾	25	gal/bath	1	bath	0.1	4	10	3,650	
Washing Machine ⁽³⁾	36.9	gal/cycle	1		0.31	4	46	16,701	
Toilet (Water Closet) ⁽¹⁾	1.28	gpf	1	flush	4.75	4	24	8,877	
Kitchen Faucet ⁽¹⁾	1.8	gpm	7.82	min	1	4	56	20,551	
Dishwasher ⁽³⁾	11.15	gal/cycle	1		0.04	4	2	651	
TOTAL								189	68,840

Notes:

- (1) Flow rate based on maximum flow rate prescribed by 2011 SF Green Building Requirements (Table 13C.5.303.2.3).
 - (2) Flow rate from SFPUC 2011 Urban Water Management Plan (UWMP) Retail Demand Model for New Multi-Family Residential Water Use.
 - (3) Flow rate based on 2010 rate used in the 2010 UWMP Conservation Model.
 - (4) Flow rate from SFPUC 2010 Urban Water Management Plan (UWMP) Retail Demand Model for New Multi-Family Residential Water Use.
- Ave Daily Use for faucets are represented by total average usage per person per day (min/person/day)



Projected Demand

San Francisco Public Utility Non-potable Water Calculator

	Graywater Supplies						
	Site Annual Supply (gpy)	Total Annual Graywater Supply (gpy)	% Graywater Supply Available (1)	Annual Graywater Available for Reuse (gpy)	Site Supply Available for Reuse (gpy)	Graywater Supply (gpd)	Graywater Available for Reuse (gpd)
Fixture Type (Daily Use)							
Showerhead	15563.6	15563.6	0.9	14007.24	14007.24	42.64	38.376
Bathroom Faucet	2190	2190	0.9	1971	1971	6	5.4
Bath	3650	3650	0.9	3285	3285	10	9
Washing Machine	7241.6	7241.6	0.9	6517.44	6517.44	19.84	17.856
Toilet (Water Closet)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Kitchen Faucet	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dishwasher	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TOTAL	28645.2	28645.2		25780.68	25780.68	78.48	70.632
				0	0		



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Projected Water Demand ✓

- Water use allowances are currently in effect for Stage 2 Water Supply Shortage.
- The baseline for water use allowances is NOT the same for water neutrality. These are two separate ordinances.
- During a declared water shortage the **water use allowance would be equal to the new water demand** for the new development.
- Those that exceed their water use allowance may be penalized:
 - An administrative citation starting at \$250
 - A water audit performed by an engineering firm and recommendations implemented
 - Flow restrictor installed
 - Civil penalty of up to \$10,000 per violation
- The Water Shortage Response Plan needs to be updated to allow this change.



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Offset Ratios ✓

Current Ratio in Draft Ordinance:

1:1 for all projects except:

0.5:1 for 100% affordable housing units and common area spaces that support those units



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In-lieu Fee vs Developer Offsets

- If the design for the new development uses more water than the previous property, the developer has options:
 - Pays fees and the City offsets the increase in water at another property.
 - Developer finds a site, calculates water savings for devices to be installed, performs installation, submits verification; pays admin fee.



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Offset Fixture Type Criteria ✓

The City has determined these fixtures to install at the start of this ordinance. However, additional or different devices may be selected based on water savings, available sites, and ease of implementation:

- 1) Toilets
- 2) Showerheads (replacing dual handle only)
- 3) Lavatory aerator
- 4) Kitchen aerator



Retrofit Location Priority ✓

- 1) High-density, low income multi-family apartments
- 2) High water use multi-family apartments
- 3) Low income single-family homes
- 4) High water use single-family homes
- 5) High water use commercial
- 6) Open to all water customers who have not received a rebate or installation with these flow rates



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Fees ✓

- **Fees are dependent on charges from vendor(s) who will implement the ordinance**
- RFP issued and selection made March 2, 2017
- Fees are not refundable
- Fees maybe used by means set by City to conserve water



Fee Payment ✓

- Pay 50% deposit at building permit issuance and pay balance as a condition of Certificate of Occupancy (COO) or Temporary Certificate of Occupancy (TCO), whichever comes first.



Administration Fee ✓

Vendor Services may include but not limited to:

- Coordination with applicant
- Maintenance of projected water demand calculator
- Retrofit site selection, pre-screening audits
- Plan check
- Inspections
- Reporting

**\$2,000 per project to be paid
at permit issuance**



In-lieu Fees ✓

Covers the cost to install fixtures elsewhere in the city.



In-lieu Offset Example

Single-Family Home:

Offset Requirement = 50,000 gallons per year

Example = 21 fixtures to be installed

Admin Fee: \$2,000

In-lieu Fee: \$3,243

Total: \$5,243 (\$0.10/gal saved)



In-lieu Offset Example

Single-Family Home:

Offset Requirement = 50,000 gallons per year

	Single-Family		Total GPY	Cost per
Fixture Type	Water Savings GPY	Quantity	Saved	Fixture
Gravity Tank Toilet	2,978	6	17,868	\$ 1,998
Showerheads	3,723	5	18,615	\$ 525
Lavatory Faucets	1,047	5	5,235	\$ 360
Kitchen Faucets	1,862	5	9,310	\$ 360
		Sum	51,028	\$ 3,243



In-lieu Offset Calculations

	Option 2: American Communities Survey 2014, 5-year estimates		
	Single-Family	Multi-Family	Commercial
Fixture Type	Water Savings GPY	Water Savings GPY	Water Savings GPY
Showerheads	3,723	2,555	1,004
Lavatory Faucets	1,047	719	6,023
Kitchen Faucets	1,862	1,278	8,030
Gravity Tank Toilet	2,606	1,789	5,139
Flushometer Tank Toilet	1,191	818	5,139
Urinal	931	639	4,015



In-lieu Offset Example

Mixed Use Development with 60 units:

Offset Requirement = 722,553 gallons per year

Example = 301 fixtures to be installed

Admin Fee: \$2,000

In-lieu Fee: \$43,983

Total: \$45,983 (\$0.06/gal. saved)



In-lieu Offset Example

Mixed-Use:

Offset Requirement = 722,553 gallons per year

	Multi-Family		Total GPY	Cost per
Fixture Type	Water Savings GPY	Quantity	Saved	Fixture
Gravity Tank Toilet	1,862	76	141,512	\$ 25,308
Showerheads	2,978	75	223,350	\$ 7,875
Lavatory Faucets	3,723	75	279,225	\$ 5,400
Kitchen Faucets	1,047	75	78,525	\$ 5,400
		Sum	722,612	\$ 43,983



Developer Offset Retrofits

The developer may choose to install the same or different fixtures than the City retrofit program.

- Determine types of devices to install
- Projected water savings
- Find the sites for retrofits
- Cover all costs including permit (~\$190 sf or \$390 for each mf unit)
- Verification by City (inspection as part of permit)
- Pay \$2,000 admin fee



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Hardship ✓

An “undue hardship” shall be found where imposition of the water off-set requirements would deprive the owner of a development site of all economically beneficial use of that site or otherwise be prohibited by applicable state or federal law.

Maybe granted, denied or with conditions.



Timeline



Council Meeting: May 9, 2017 at 5:45 pm



Q&A



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