Advancing Onsite
Non-potable Water Systems

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San Francisco Public Utilities Commission
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Water is a Pressing Challenge
Managing Water Supplies is Not an Easy Task

Utilities are Working Hard to Diversify Supplies
Opportunity to Re-think & Re-imagine Water Use in Buildings
Buildings Produce Water

Precipitation collected from roofs and above-grade surfaces

Precipitation collected at or below grade

Nuisance groundwater from dewatering operations

Wastewater from toilets, dishwashers, kitchen sinks, and utility sinks

Wastewater from clothes washers, bathtubs, showers, and bathroom sinks
Up to 50% of Demands are Non-potable in Multi-family Residential Buildings

Multifamily Residential Water Use
- Irrigation
- Toilet
- Clothes Washer
- Shower/Bath
- Faucet
- Dishwasher
- Leaks
-Leaks
- Miscellaneous

Source: adapted from Alliance for Water Efficiency
Up to 95% of Demands are Non-potable in Commercial Buildings

Source: USEPA

Office Water Use

- Sanitary
- Cooling Tower Make-up
- Irrigation
- Single-Pass Cooling
- Kitchen
- Miscellaneous

Source: USEPA
Onsite Non-potable Water Use at Innovative SFPUC Headquarters
Developers Interested in Collecting & Treating Water Onsite
### SF Ordinance Provides Oversight and Management

<table>
<thead>
<tr>
<th>SFPUC</th>
<th>SFDPH</th>
<th>SFDBI</th>
<th>SFPW</th>
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<tbody>
<tr>
<td><strong>Program Administration and Cross-Connection Control</strong></td>
<td><strong>Public Health</strong></td>
<td><strong>Construction</strong></td>
<td><strong>Right of Way and Mapping</strong></td>
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<tr>
<td>Review onsite non-potable water supplies &amp; demands</td>
<td>Issue water quality &amp; monitoring requirements</td>
<td>Conduct Plumbing Plan check and issue Plumbing Permit</td>
<td>Issue Encroachment Permits as needed for infrastructure in the Right-of-Way (if needed)</td>
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<td>Administer citywide project tracking &amp; annual potable offset achieved</td>
<td>Review and approve non-potable engineering report</td>
<td>Inspect and approve system installations</td>
<td>Includes condition on a subdivision map or a parcel map requiring compliance with the Non-potable Ordinance prior to approval and issuance of said map (if applicable)</td>
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<td>Provide technical support &amp; outreach to developers</td>
<td>Issue permit to operate onsite systems</td>
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<td>Manages Cross-Connection Control Program</td>
<td>Review water quality reporting</td>
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An Evolving Non-potable Water Program

2012
Single Building

2013
District-scale

2015
Mandatory for projects ≥ 250,000 sf

2016
Implementation Requirements for District-scale Systems
Hampton Inn
Rainwater for Toilet Flushing
181 Fremont
Graywater for Toilet Flushing
Salesforce Tower
Blackwater for toilet flushing, cooling, and irrigation
Moscone Convention Center
Foundation Drainage for Flushing, Irrigation, and Street Sweeping
NRG-BART Project
Foundation Drainage for Downtown Steam Loop
Expanding Program to Cover Reusing Process Water at Breweries
Piloting Decentralized Purified Water
Collaborating on a National Level

Innovation in Urban Water Systems

San Francisco • May 2014
Final Report

Risk-Based Framework for the Development of Public Health Guidance for Decentralized Non-Potable Water Systems
Guidebook for Developing and Implementing Policies for ONWS

A Guidebook for Developing and Implementing Regulations for Onsite Non-potable Water Systems
Stakeholder Outreach
CA Statewide Policy for Onsite Systems

STAKEHOLDER OUTREACH IN THE STATE OF CALIFORNIA

CALIFORNIA WATER POLICY CHALLENGE:
Bridging the Gap between Water Innovation and Regulation in California

Developing a Statewide Policy for Onsite Non-Potable Water Systems
Jurisdictions Moving Forward with Risk Based Approach

- San Francisco
- California, SB 966
- Colorado, Regulation #84
- Minnesota
- Washington State
- Texas, Hawaii, Alaska
Making the Utility Case for ONWS
Thank You

sfwater.org/np