**City of Santa Monica – Water Resources Division**

<table>
<thead>
<tr>
<th>93,000+ residents</th>
<th>Drinking water and fire protection</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,700+ commercial customers</td>
<td>groundwater (local) surface water (MWD)</td>
</tr>
<tr>
<td>9 million gallons of high-quality drinking water daily</td>
<td>14 million gallons of wastewater captured and delivered for treatment each day</td>
</tr>
<tr>
<td>77,000 gallons per day of recycled water</td>
<td>4 water storage reservoirs totaling 40 million gallons</td>
</tr>
</tbody>
</table>

---

**Sewer collection and recycled water**
Goals of the City’s Sustainable Water Master Plan

• Long term cost benefits for rate payers
• Diverse, sustainable, & drought resilient water supply to support a sustainable community
• Reduction of energy footprint to support carbon reduction goals for the City
Leveraging Alternative Water Supplies for a Sustainable Future

- **2011**
  - Local Groundwater: 51%
  - Imported Water: 48%
  - Alternative Water Supply: 1%

- **2017**
  - Local Groundwater: 52%
  - Imported Water: 29%
  - Alternative Water Supply: 18%

- **2023**
  - Local Groundwater: 60%
  - Imported Water: 20%
  - Alternative Water Supply: 19%

- Alternative Water Supply
- Conservation
- Imported Water
- Local Groundwater

City of Santa Monica
Integrated Approach to Maximize Local Water Resources

- Imported Water from MWD
- Charnock Well Field
- Arcadia WTP
- Olympic Well Field
- Potable Water
- Recycled Water
- Wastewater
- To City of Los Angeles Hyperion

SMURRF
Component 1 – *Optimal* Conservation Plan

- Imported Water from MWD
- Arcadia WTP
- Charnock
- Potable Water
- Wastewater
- To City of Los Angeles

City of Santa Monica
Component 2 – Alternative Water Supply
Production Efficiency Upgrade at Arcadia

Component 1 – Optimal Conservation Plan

Imported Water from MWD

Potable Water

Wastewater

To City of Los Angeles

Non-Potable Use

Component 2 – Alternative Water Supply
- Stormwater + Urban Runoff @ SMURRF for Non-Potable and Potable Reuse
- Stormwater Capture + Municipal WW @SWIP for Potable Reuse

City of Santa Monica
Component 2 – Alternative Water Supply
Production Efficiency Upgrade at Arcadia

Component 3 – New Local Groundwater
Expansion of Arcadia WTP

Component 3 – Impaired Groundwater
Separate Pipeline + Treatment for Olympic

Component 1 – Optimal Conservation Plan

Imported Water from MWD

Potable Water

Wastewater

To City of Los Angeles

Arcadia WTP

Olympic Well Field Restoration

Charnock

Clean Beaches Initiative Tank

City of Santa Monica
Component 1 – Conservation
Component 2 – Alternative Water Supply
Component 3 – New Local Groundwater
Notable Projects
Sustainable Water Infrastructure Project (SWIP)

- **Element 1**
  - 1.5 MG Clean Beaches Tank
  - SMURRF Upgrades

- **Element 2**
  - New 1 MGD SWIP AWTF
  - 30/70 Blend of Stormwater and Wastewater

- **Element 3**
  - New 1.5 MG Stormwater capture tank
SWIP’s Multiple Benefits

- Improves beach water quality
- Provides EWMP/MS4 compliance
- Drought resilient water supply
- Diversifies City’s water supply portfolio
- Increases recycled water production
- Augments local groundwater supply
- Creates ~1,600 AFY of local water supply for the City
Stormwater Harvesting Tank
SWIP Advanced Water Treatment Facility
Olympic Well Field Restoration and Arcadia WTP Expansion
Olympic Well Field Restoration

- 2nd Largest Well Field in the City
- Relies on water from SWIP to maintain sustainable production of 3,100 AFY
- Project Components
  - Two new groundwater wells
  - New Olympic Pipeline
  - New Olympic AWTF (UV AOP + GAC)
Arcadia WTP Expansion

- Increase RO system recovery to ≥90% to increase local water supply
- Design/Preconstruction phase near complete (November 2021)
- Construction phase underway
- Project completion in 2023
Groundwater Resiliency at Charnock Well Field

- City’s largest groundwater well field, providing over 70% of the local groundwater supply
- Four of five wells has been in service since the 1980s
- Groundwater Resiliency Improvement
  - Replace Aging Charnock Wells 13 and 18 as extended outage in 2020/2021 contributed to $1.5 million increase in imported water purchase
  - New wells would have less down time and higher production capacities
Advanced Metering Infrastructure (AMI)
Smart Water Meters

- Current Water Meter Infrastructure – 18,000+ accounts are manually read over 60-day cycle
- AMI Smart Water Meter Infrastructure
  - Provide real time water consumption data to customer and utility
  - Could provide 5-7% in total water savings (500-600 acre-feet per year of water) from reduced residential water leaks.
  - More efficient billing process, customer self-usage monitoring, and improved accuracy in meter reads.
Funding Partners

- **State Water Resources Control Board: Clean Water SRF** - $75 million loan for SWIP
- **Department of Water Resources: Water Desalination Grant Program** - $10 million construction grant for the Production Efficiency Enhancement at Arcadia WTP
- **State Water Resources Control Board: Prop 1 Stormwater Grant** - $8.77 million for SWIP stormwater tank
- **Los Angeles County Measure W Safe Clean Water Program** - $7.5 million to support stormwater capture and treatment components of the SWIP.
- **Metropolitan Water District of Southern California: Local Resources Program** - $19.6 million over 25 years for water produced by SWIP and the Production Efficiency Enhancement Project.
- **Water Revenue Bond** - $78 million
THANK YOU...
Return on Investment

- Avg 5% increase per year for imported water
- Avg 2.5% increase per year for local water

Savings from Imported Water

MWD Imported Water Cost
2018 SWMP Avg Local Water Production Cost
Updated SWMP + Funding Local Water Production Cost
Water Bill Comparisons for Single Family Residential

Typical Bi-monthly SFR Bill (26 HCF) (As of July 1, 2020)

- Orange: $110.82
- Huntington Beach: $113.64
- Torrance: $123.22
- Santa Monica: $133.41
- Pasadena: $146.50
- Long Beach: $147.61
- Beverly Hills: $163.72
- Culver City: $192.07
- Los Angeles: $195.93