

# Landscape Transformation – Incentives or Ordinances

Implement incentives or ordinances to encourage water use efficiencies and reduce water needs for outdoor irrigation and other goals through regionally appropriate landscapes with an emphasis on landscape functionality (Implementation of an ordinance option could include implementing turf grass area, irrigated area, and/or irrigation area limitations).



<p>Average Annual Yield (AF/yr)</p>	<p>1,944 - 16,580</p>
<p>End Use / Sectors</p>	<p><b>Sectors:</b> SFR, MFR, COM <b>End Uses:</b> Outdoor irrigation, new development <b>Ordinance:</b> New development <b>Incentive:</b> Existing development</p>
<p>Climate resiliency indicator</p>	<p>Medium</p>
<p>Annual Costs (\$)</p>	<p>\$85,000 - \$190,000</p>
<p>Unit Cost (\$ / year / AF)</p>	<p>\$23 - \$96</p>

# Landscape Transformation – Incentives

💧 Landscape incentives to encourage water use efficiency and reduce outdoor water use



💧 Average Annual Yield (AF/yr)	1,944
💧 End Use / Sectors	<b>Sectors:</b> SFR, MFR, COM <b>End Uses:</b> Outdoor irrigation, existing development
💧 Climate resiliency indicator	Medium
💧 Annual Costs (\$)	<b>\$85,000</b>
💧 Unit Cost (\$ / year / AF)	<b>\$96</b>



# Irrigation Efficiency Incentives

Expand current irrigation rebate programs to include irrigation system controllers that make flow data accessible and are capable of responding to leaks and high flow situations.

Average Annual Yield (AF/yr)	570
End Use / Sectors	<b>Sectors:</b> SFR, MFR, COM <b>End Uses:</b> Outdoor irrigation, new and existing development
Climate resiliency indicator	Medium
Annual Costs (\$)	<b>\$85,000</b>
Unit Cost (\$ / year / AF)	<b>\$202</b>





# Advanced Metering Infrastructure (AMI)

Customer-facing real time water information and metering through AMI

Average Annual Yield (AF/yr)	9,380
End Use / Sectors	<b>Sectors:</b> SFR, MFR, COM <b>End Uses:</b> All, leaks assumed to mirror City-wide usage patterns in indoor/outdoor split. Both new and existing developments
Climate resiliency indicator	High
Annual Costs (\$)	\$6,052,500
Unit Cost (\$ / year / AF)	\$2,800





# Water Loss Control Utility Side

Enhance current utility – side water loss control programs

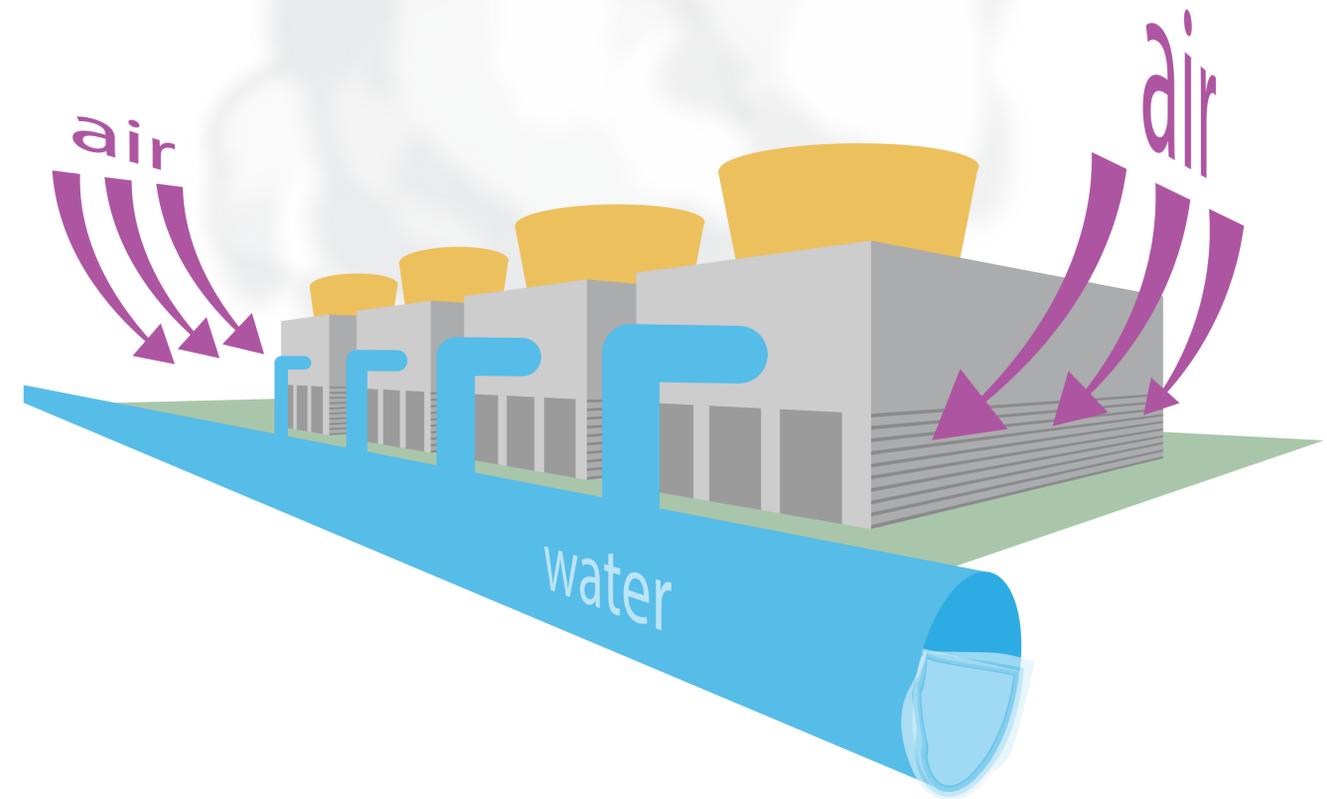


<p>💧 Average Annual Yield (AF/yr)</p>	13,060
<p>💧 End Use / Sectors</p>	<p><b>Sectors:</b> System-wide</p> <p><b>End Uses:</b> Water losses (NRW). Both new and existing developments</p>
<p>💧 Climate resiliency indicator</p>	High
<p>💧 Annual Costs (\$)</p>	<b>\$37,498,900</b>
<p>💧 Unit Cost (\$ / year / AF)</p>	<b>\$3,690</b>



# Commercial, Industrial and Institutional (CII) Ordinances – Cooling Towers and Steam Boilers

Require older cooling towers and steam boilers to meet efficiency standards



Average Annual Yield (AF/yr)	1,060
End Use / Sectors	<b>Sectors:</b> MFR, COM, and COA <b>End Uses:</b> HVAC. Existing development
Climate resiliency indicator	Medium
Annual Costs (\$)	\$75,000
Unit Cost (\$ / year / AF)	\$71



# Development-focused Water Use Benchmarking and Budgeting

Requirement of water use estimate submittal paired with enhanced outreach and education with transition to water budgeting

Average Annual Yield (AF/yr)	29,680
End Use / Sectors	<b>Sectors:</b> SFR, MFR, COM, and COA; <b>End Uses:</b> All. New Development
Climate resiliency indicator	High
Annual Costs (\$)	<b>\$350,000</b>
Unit Cost (\$ / year / AF)	<b>\$21</b>





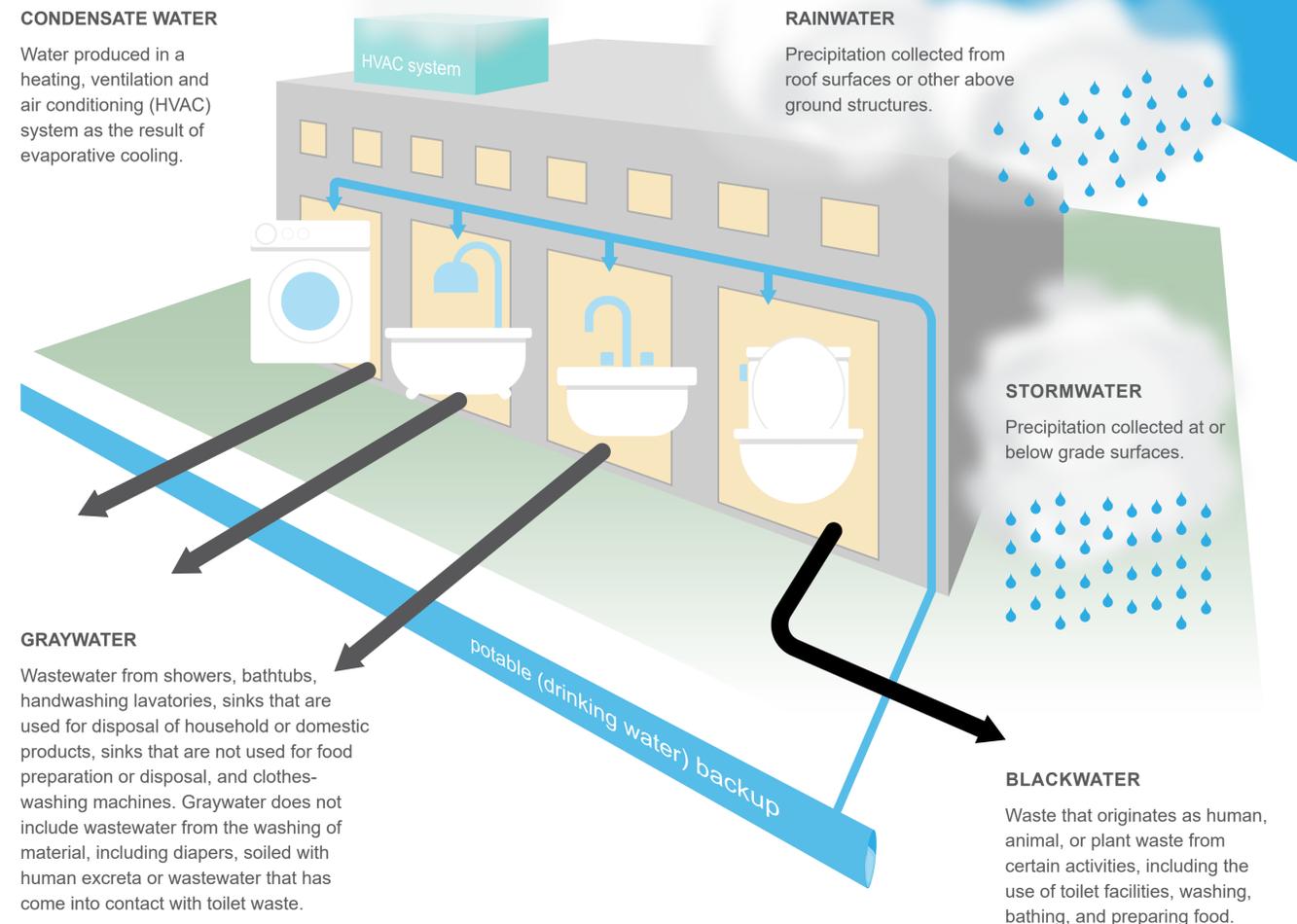
# Alternative Water – Ordinances or Incentives

Require or incentivize, on-site (building-scale) alternative water use (for rainwater, stormwater, blackwater, graywater and ac condensate)

## RAINWATER HARVESTING (LOT-SCALE)

Rainwater Harvesting involves the capture and storage of roof water to supply a range of onsite demands at the lot/building scale. Implementing rainwater harvesting in new developments provides an opportunity to plumb the residence or building with internal connections for toilet flushing or clothes washing. Where used indoor treatment is required.

Supply Type	Decentralized
Average Annual Yield (AF/yr)	18,707 - 34,494
End Use / Sectors	<b>Sectors:</b> Single family, multifamily, and commercial <b>End Uses:</b> Various scenarios range from outdoor/indoor non-potable and indoor potable, new development
Climate resiliency indicator	Medium
Annual Costs (\$)	\$48,988,051 - \$136,793,340
Unit Cost (\$ / year / AF)	\$2,619 - \$ 3,966



## STORMWATER HARVESTING (LOT-SCALE)

Lot scale stormwater harvesting involves the capture and storage of stormwater runoff generated from impervious surfaces (including roof water) within the lot boundary of multi-family residential or commercial development to supply a range of onsite demands at the lot/building scale.

Supply Type	Decentralized
Average Annual Yield (AF/yr)	14,437 - 24,472
End Use / Sectors	<b>Sectors:</b> Multifamily and commercial <b>End Uses:</b> Various scenarios, outdoor and indoor non-potable, new development
Climate resiliency indicator	Medium
Annual Costs (\$)	\$79,551,197 - \$123,874,688
Unit Cost (\$ / year / AF)	\$5,062 - \$5,510

## GRAYWATER REUSE (LOT-SCALE)

For this project, graywater harvesting is defined as the reuse of water from the laundry, shower and bath at the lot/building scale to meet non-potable demands. There are two main types, graywater diversion devices and graywater treatment systems.

Supply Type	Decentralized
Average Annual Yield (AF/yr)	23,759-71,662
End Use / Sectors	<b>Sectors:</b> Single family, multifamily and commercial <b>End Uses:</b> Various scenarios, outdoor and indoor non-potable, new development
Climate resiliency indicator	High
Annual Costs (\$)	\$61,974,405 - \$764,319,627
Unit Cost (\$ / year / AF)	\$3,898 - \$10,666

## AC CONDENSATE REUSE

Collection and reuse of condensate water from Air Handling Units (AHUs) for cooling systems from new development with cooling capacity over 200 tons.

Supply Type	Decentralized
Average Annual Yield (AF/yr)	5150
End Use / Sectors	<b>End Uses:</b> indoor and outdoor non-potable; multi-family, commercial, and City of Austin sectors for new and existing development
Climate resiliency indicator	Medium
Annual Costs (\$)	\$13,913,749
Unit Cost (\$ / year / AF)	\$2,702

## BLACKWATER REUSE (LOT-SCALE)

This involves the onsite capture and treatment of the wastewater stream generated from a building for onsite reuse via a dual (purple) pipe system to supply outdoor demands (irrigation/landscaping) and non-potable indoor demands (toilets and potentially also laundry and cooling towers).

Supply Type	Decentralized
Average Annual Yield (AF/yr)	78,636
End Use / Sectors	<b>End Uses:</b> outdoor and indoor non-potable; multifamily and commercial sectors for new development
Climate resiliency indicator	High
Annual Costs (\$)	\$998,027,817
Unit Cost (\$ / year / AF)	\$12,692

