Water in the West

Most Water Use is in Irrigation
70% of Site Water Use is for Irrigation on a Typical Mixed Use Commercial Property

Cost Of Water is Rising Rapidly
18% Annual Increase & Faster than any other utility
Massive Resource Loss
At each stage of the design process, we are losing educational, financial, & water resource equity
Water in the West: 4000 Site Audit

How to lose 1 million gallons per acre per year
50% of sites over water by 200%
70% of Native Landscapes are dying due to over watering

High Cost of Over Watering
Identified $250,000 dollars in repairs per 500 sites
**Limited Visibility is a Problem**

Even at today’s low prices, water loss is far more expensive than site repair.

<table>
<thead>
<tr>
<th>Problem</th>
<th>Monthly Water Cost</th>
<th>Repair Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Broken Sprinkler Head</td>
<td>$100</td>
<td>$25</td>
</tr>
<tr>
<td>Broken Lateral Pipe</td>
<td>Up to $1,000</td>
<td>$100</td>
</tr>
<tr>
<td>Broken Valve</td>
<td>Up to $300</td>
<td>$100</td>
</tr>
<tr>
<td>Broken Mainline</td>
<td>Up to $10,000</td>
<td>$500</td>
</tr>
</tbody>
</table>
Design with the End in Mind
Strategic Engineering paired with long term water management
Provides long-term equity & resource protection
A Proposed Solution

1. People - Design Engineers provide professional resource management

2. Process - Strategic management across multiple sites while providing instantaneous confirmation of water management & system repairs

3. Technology - Inexpensive, Open Source, Cloud Based, Accessible Store room for all site related information
Regional Case Study

1. 5,500-acre multi-use development
2. Unable to prove an assured water supply
3. Irrigation water use calculations lack real world compliance
4. Develop a Comprehensive Site Water Balance based in Actual Plant Water Requirements
5. Engineered non-potable water use strategy which eliminated potable water use within 5 years
6. Reduced groundwater pumping well requirement & reduced WWTP size by 20%
1. Resource Management from Design to Construction to Management

2. Equity Management - for every maintenance dollar saved, property values increase for a Home Owners largest investment. Value of the Metro District is increased as a commercial utility.

3. Create a continuous connection to clients based on real time site data & condition