

## *Water Use Innovation: On-site Water Reuse*



Why it's Time to Build  
"Recycle Ready" Homes

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## Centralized vs. Decentralized: Energy



The Solution to most sustainability issues is *On-Site Solutions*

## Centralized Wastewater Plant



## On-site Water Resources



- a. *Harvested rainwater*
  - a. *Precipitation*
  - b. *Rainfall pattern*
  - c. *Roof size*
  - d. *Cistern size*
- b. *Untreated greywater*
  - a. *Occupants*
  - b. *Consistent production*
  - c. *No storage*
- c. *Treated Greywater*
  - a. *Storage*
  - b. *Any irrigation*
  - c. *Toilets too*



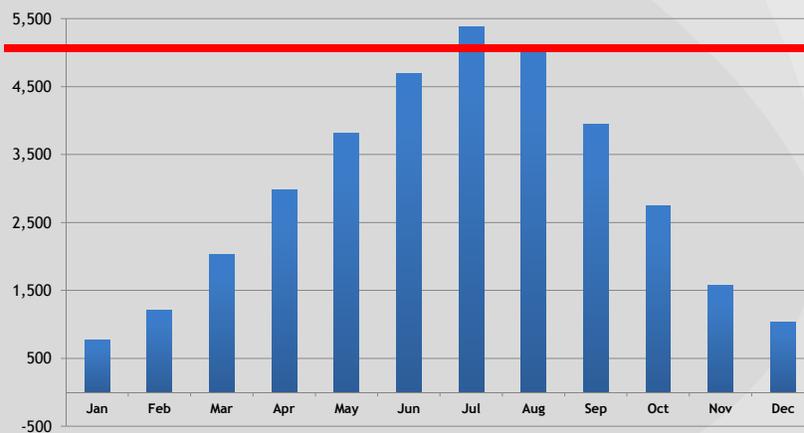
## On-site Water Reuse: Recent History in California



1. *Prehistory: The “Greywater Guerillas”*
2. *2008 - Legislature puts Greywater into Code*
3. *2013 - “On-site treated grey water” debuts*
  1. *California adopts NSF-350 standard for home recycling of greywater*
4. *2015 - The Drought Emergency*
  - Mandated Water cuts by every Water Agency
  - Landscape water budgets cut 30% (MWELO)
  - CalGreen defines “On-site Water Recycling”
  - Governor launches the “WET” development program
  - First system certified to NSF-350 for greywater reuse
  - First-ever Community-wide implementation of Home Water Recycling



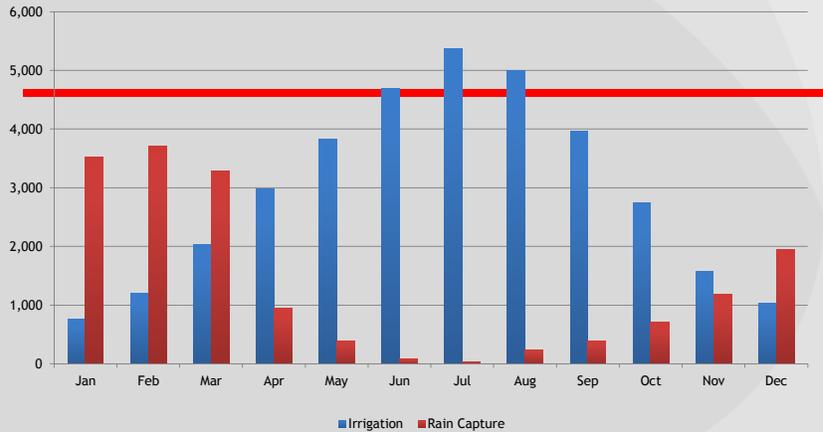
## San Bernardino - Recycling Impact 2000 sq ft landscape, 4 persons



# San Bernardino - Water Balance

2000 sq ft landscape, 4 persons

Water Balance: Irrigation, Greywater, Rainwater



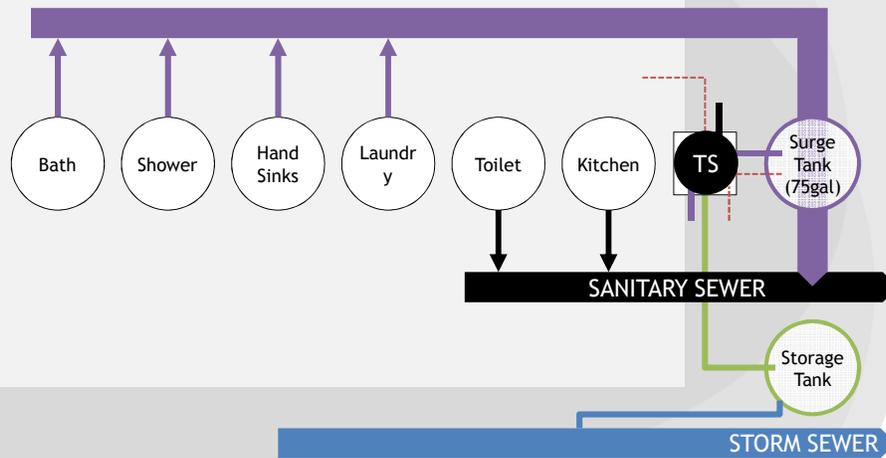
# City Water Budget -- Zero



	Water Budget	Greywater	Rainwater	City Water
January	767	4,960	3,519	0
February	1,211	4,480	3,720	0
March	2,034	4,960	3,287	0
April	2,977	4,800	945	0
May	3,821	4,960	392	0
June	4,692	4,800	80	0
July	5,381	4,960	40	0
August	5,006	4,960	241	0
September	3,957	4,800	392	0
October	2,743	4,960	714	0
November	1,572	4,800	1,186	0
December	1,035	4,960	1,940	0
ANNUAL	35,196	58,400	16,457	0

## Designing “Recycle Ready”

### 1. Carry grey water out of house in its own pipes

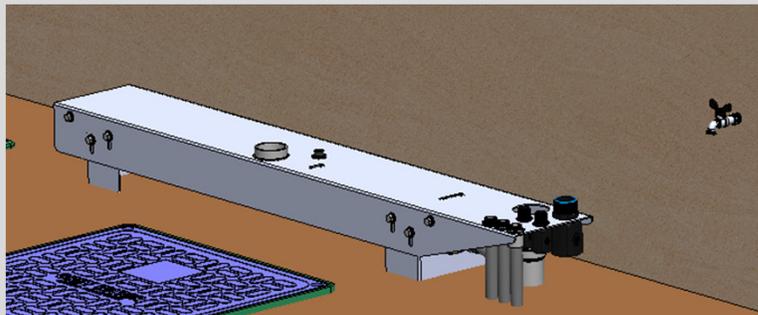


## Designing “Recycle Ready”

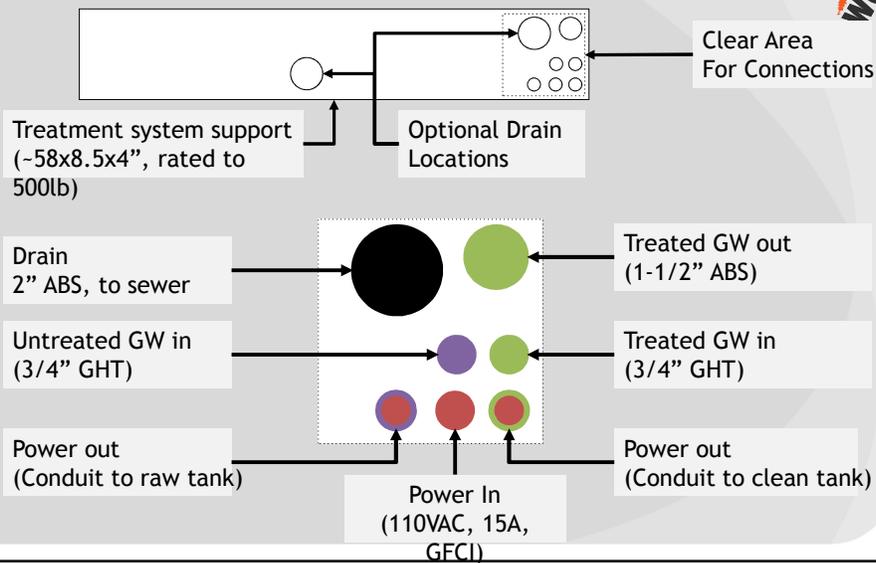
### 2. Preconfigure plumbing and electrical



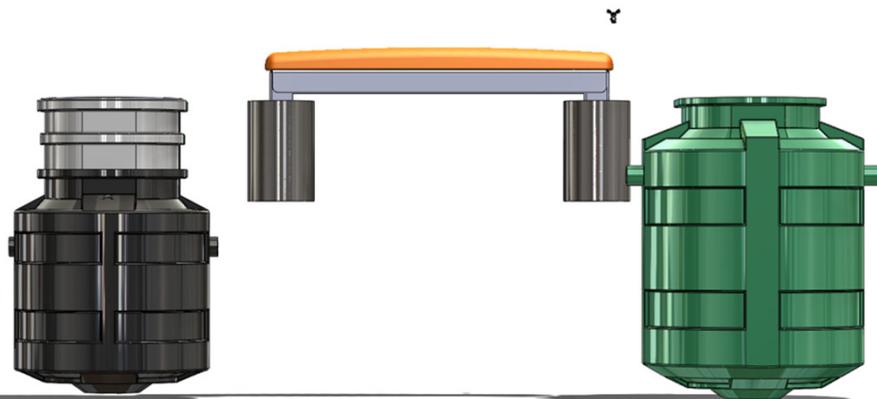
- Dedicated electrical circuit and nearby disconnect
- Potable water for top-up
- “Surge tank” to collect grey water
- Converge with sewer line



# Designing "Recycle Ready" Standard Pre-Connection Template



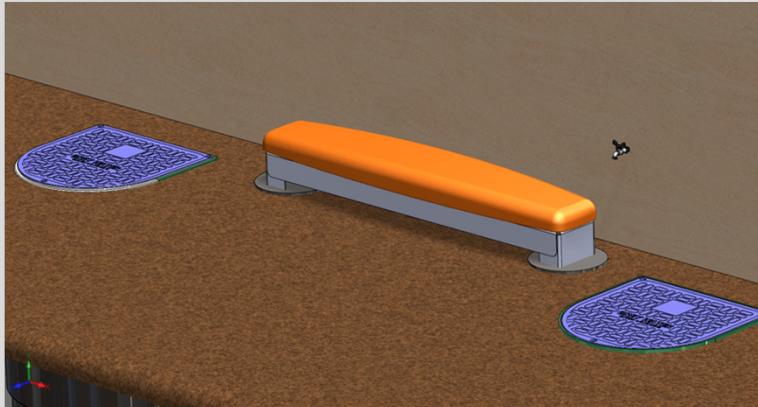
## Designing "Recycle Ready" 3. 2 in-ground tanks Side view: Tanks + Pre-configured bench



## Voila “Recycle Ready”



Cover completes it



Recycling Appliance can be added anytime





Homes Built “Recycle Ready”  
Totally Green & Drought Resilient

Nexus  Water