

## City of Watsonville Water Resources Center

City of Watsonville, CA

I planned, researched and wrote exhibit and brochure copy for the City of Watsonville's new Water Resources Center, which will house the City of Watsonville's Potable Water Operations and Wastewater divisions. This building is being designed and built to the highest standards of energy efficiency, sustainability and environmental design. As part of its commitment to education, leadership, and environmental stewardship, the City of Watsonville opens its facilities to tour groups of school children, industry professionals, and concerned citizens. Interpretive signage will be placed at key locations throughout the operations buildings, outdoor trails, and treatment facilities.

### Welcome to Watsonville Water Resources Center

The Water Resources Center is home to the City of Watsonville's water and wastewater services. Together with the Pajaro Valley Water Management Agency, we help to protect and manage the community's water resources for today and for future generations.

This unique green building reflects the City of Watsonville's commitment to a sustainable future. Its environmentally responsible design and construction earned the US Green Building Council's Leadership in Energy and Environmental Design (LEED) gold certification.

### LEED® by Example

#### ***Going for the Gold***

The City of Watsonville leads the way to a more sustainable future with its environmentally-friendly green building. The Water Resources Center was built to the gold standard of the US Green Building Council's Leadership in Energy and Environmental Design (LEED).

Earning a LEED gold certification is a rare achievement. It means this building scored high for its environmental design and use of sustainable materials in its construction. This also includes natural light and ventilation, and energy-efficient mechanical and electrical systems. These innovations will conserve natural resources, use less energy, and save money.

#### ***What Are Green Buildings Made Of?***

This building was made with the most environmentally responsible materials. These include salvaged, recycled, and rapidly renewable products. Can you guess what these materials are made from? Lift the panels to find out.

*What's so special about the lumber used in this building?*

This building was made with reused wood, and lumber from forests certified by the Forest Stewardship Council (FSC). By using FSC-certified wood, we are helping protect forest habitat.

*This material looks like glass, but it is not. What is it?*

This material is made from recycled plastic bottles. Find it above the water fountain on the stairs, and on the awards display to your right.

*This beautiful flooring looks and feels like hardwood, but it's not wood. What is it?*

It's bamboo. Bamboo is a fast-growing grass that can be harvested every four years. Trees cut for flooring need to be replanted and take decades to grow.

## City of Watsonville Water Resources Center *(continued)*

Facility Brochure

[outside panel F (front cover)]

### City of Watsonville Water Resources Center

*Protecting and Managing the Community's Water Resources for Today and Tomorrow*

The Water Resources Center is home to the City of Watsonville's water and wastewater services. Together with the Pajaro Valley Water Management Agency, we help to protect and manage the community's water resources for today and tomorrow.

To tour the building, its educational exhibits and the water recycling facility, please visit during monthly drop-in hours or to make an appointment for a tour.

*Images: City of Watsonville Water Resources Center logo and shot of treatment facility*

[outside panel D (first fold)]

### Why Treat Wastewater?

#### ***To clean water for a healthy community***

Wastewater treatment is essential to protect the health of the community and the environment. At the City of Watsonville's wastewater treatment plant, water is treated and recycled to remove potentially harmful bacteria and conserve our area's limited water resources.

#### ***To protect water quality in the Monterey Bay National Marine Sanctuary***

Before water is discharged into the Bay, the treatment plant removes human and industrial sewage. This allows clean water to be sent into the Sanctuary, supporting healthy marine life and human use.

#### ***To recycle water to ease the shortage***

Each year, more freshwater is pumped out of the groundwater aquifer than is refilled by rainfall. This imbalance has caused saltwater from the Pacific Ocean to seep into the groundwater, contaminating coastal wells.

#### ***To provide clean, safe water for farmers***

Recycled water is a safe and cost-effective way to irrigate agricultural fields. This water is not pumped back to people's homes for drinking water.

*Images: Community members (families with children)  
Monterey Bay National Marine Sanctuary  
Colorful photo of thriving agricultural field  
Montage of produce*

## City of Watsonville Water Resources Center *(continued)* Facility Brochure

[inside panels A-C]

### Watsonville Wastewater Treatment Facility

This water recycling facility cleans wastewater using natural processes similar to those in nature—only thousands of times faster. It treats sewage from sinks, toilets and industrial drains in four stages: **preliminary**, **primary**, **secondary**, and **tertiary**. Waste solids are removed along the way and treated separately.

#### Preliminary Treatment

The incoming wastewater, called influent, arrives at the **headworks**, where it passes through a screen to remove large objects such as sticks, rocks, and rags. The water then travels to **pre-aeration tanks** where gravity causes sand, grit, and gravel to settle to the bottom.

At the **primary sedimentation tanks**, gravity allows organic material to settle to the bottom in the primary sedimentation tank. Mechanical skimmers remove floating materials from the surface of the water. From there, clarified wastewater flows to the secondary treatment. The separated solids, called sludge, move to solids treatment.

*Images: Labeled illustrations of headworks, pre-aeration tanks, and primary sedimentation tank*

#### Secondary Treatment

During secondary treatment, millions of hungry microscopic organisms, mostly bacteria, clean the water by consuming dissolved organic material.

The water then travels to the clarifier pools where bacteria settle on the bottom as secondary sludge. The cleaned water can now be released into Monterey Bay National Marine Sanctuary or sent to tertiary treatment to be recycled for crop irrigation.

##### *Trickling Filter*

These towers provide oxygen, food, and shelter for the microorganisms.

##### *Aeration Tanks*

Microorganisms are given controlled amounts of oxygen and food in the aeration tanks.

##### *Clarifiers*

Cleaned water flows over weirs, which measure and control the amount of water that pours over the top.

*Images: Labeled illustrations of a trickling filter tower, aeration tank, and clarifier pond.*

#### Tertiary (Advanced) Treatment

Tertiary treatment cleans the water so it can be recycled for crop irrigation. Chemical coagulants are added to the water to bring together small, suspended particles. These then form larger clumps called floc, which settle in a tank. The water is then filtered through cloth to remove remaining solids before it is disinfected with ultraviolet light.

*Images: Labeled illustrations of CFS, cloth media, and UV facilities*

## City of Watsonville Water Resources Center *(continued)* Facility Brochure

### Solids Treatment

Solids removed from wastewater go to the digester where anaerobic bacteria break down the sludge. Methane, one of the by-products of this process, is stored in a tank and used to generate electricity for the facility at the co-generation unit.

At the belt press, the digested sludge is then squeezed between 2 fabric belts to remove water. Now called biosolids, the material is dried outside until it is used to cover at landfills or to improve the soil for non-food crops.

*Images: Labeled illustrations of digester, methane storage tank and co-generation unit*

[outside panel E (back)]

### What You Can Do

It is everyone's responsibility to protect our water. Please don't put hazardous materials down sinks, toilets, or storm drains. Used water from our homes is cleaned at the wastewater treatment plant, but water from storm drains goes directly to the Pajaro River.

*Images: Collage of materials requiring special disposal with a "no" symbol over them  
City of Watsonville Water Resources Center logo and contact information*