A newsletter about protecting public health and the environment

Spring 2009

A Day at the Circus: Animals, Acrobats, Clowns ... and Sewage

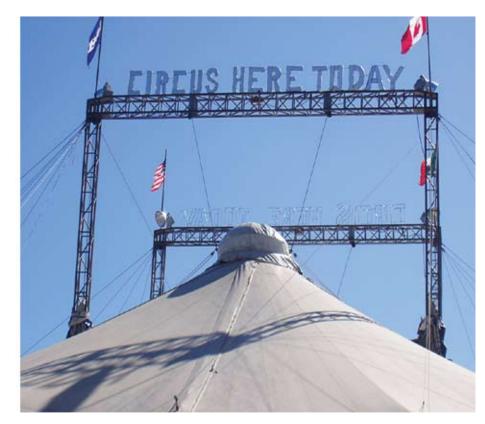
hen the circus comes to town, it brings more than animals, acrobats and clowns.

It brings an entire community of nomads: performers, animal trainers, cooks, carpenters, maintenance workers, electricians, ticket sellers, truck drivers, and more. While most circus employees do multiple jobs, the population of this mobile "town without a zip code" still averages more than 100 people.

And they need more than just a big tent. A traveling circus is self-contained. It provides living accommodations and facilities for all of its people—and animals. They all work, sleep, eat, wash, and go to the bathroom.

During a typical three-day stay, a circus can generate a lot of waste-and wastewater.

"We treat them the same as other businesses." said Environmental Compliance Inspector II Jeff Skinner. "It's a water quality issue, so we inspect them to make sure they're doing the right thing. If I go check a local restaurant and tell them not to pour grease into a sewer or storm drain, I should do the same at the circus."



But what Skinner finds when he inspects the circus aren't usually the same sorts of things he finds when inspecting a local restaurant.

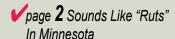
"One time I saw them washing a giant python snake outside with dish washing detergent," Jeff said. He advised them on how to prevent the soapy water from going into the storm drain.

Besides giant snakes, our inspectors look at:

- · Food service facilities.
- Wastewater holding tanks.
- Portable restrooms.
- Employee showers.
- · Equipment, rides, vehicles.

(see A Day at the Circus, p.2)

FEATURES







A Day at the Circus... (continued from front)

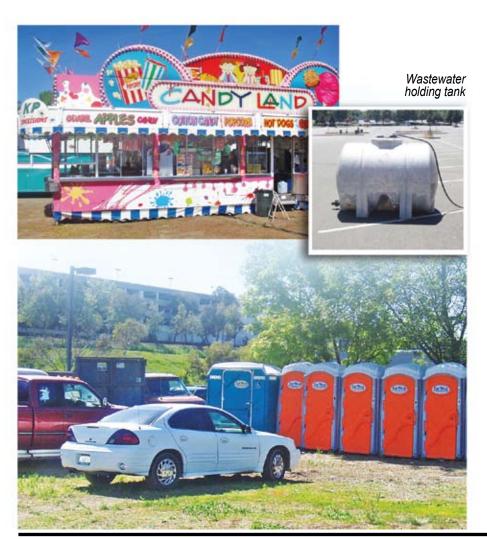
- Large diesel-powered generators.
 "These power everything and are refueled on-site," Jeff said. "When the circus sets up near the Martinez marina, there's the potential for a fuel spill less than 100 yards from the water."
- Animal waste. "They'll pick up solids but usually hose down the rest, allowing it to go into storm drains."

Typical problems include dumping wastewater into landscaping, the sewer, or the storm drain instead of into their storage tanks.

"We could issue them a permit to discharge their wastewater to a

manhole," Skinner said. "But the managers say they use RV dump locations so we've never had a circus get a permit. It would be tricky to have them discharge to a manhole, because it's a safety issue—when you have a lot of people concentrated in small area, you don't want to leave a manhole open."

When the circus comes to town this summer, a member of the CCCSD team will be there to make sure the animals, acrobats, and clowns entertain the community without jeopardizing water quality.



Sounds Like "Ruts" In Minnesota

oots are the leading cause of sewer spills throughout the entire nation.
Roots don't just block sewer pipes; they can break them into pieces.

You have to admit that a sewer line is the perfect environment for uninhibited root growth. It has moisture and a rich source of nutrients that will promote fast growth. It takes no more than a pin-sized opening, an uneven joint between pipes, even a miniscule crack for roots to begin penetrating a sewer line. Left undisturbed, root filaments as small as a hair will begin to grow and rapidly multiply in the line. Soon enough, roots can fill a pipe—at home in your three-inch side sewer or your four inch lateral, or in the street in an eight-to-ten-inch sewer main.

A couple of things can happen at this point. As they grow, roots will start to form a web in the pipe. Water and waste can generally pass through a young root bundle, until items like "flushable" wipes or diapers get caught in the maze. Slow to disintegrate, these materials

can jam up the sewer line, collect fats, oils, and grease, and ultimately create a blockage. Or the roots might just continue to grow, getting longer and thicker, forming a dense root ball that can eventually break apart a sewer pipe, which can then collapse, blocking the entire sewer.

When a sewer line, regardless of size, is blocked, wastewater and all that's in it will seek the nearest point upstream of the blockage to escape. That could be out of a manhole, fouling the street, out of an Overflow Protection Device installed upstream of the obstruction, or into your home. None of them is a very appealing option.

So, what can you do to prevent root problems on or near your property?

1. Start by finding out exactly where your sewer lines are on your property. In most cases, our Permit Counter (925-229-7371) can help you determine the location of your sewer line.

2. Avoid planting anything above or near the sewer line. Almost every species of tree or shrub can cause problems in the

3. If you have continuing root problems, remove the offending tree or shrub. A professional tree removal service can ensure that the guilty roots are dead.

long run.

4. If your home's drains are slow, you may want to have your sewer line TV-inspected by a licensed plumber.

Check our website (www.centralsan. org) for tips on preventing root intrusion and information on Overflow Protection Devices.



CCCSD Helps High Schools to Minimize Mercury

httat causes water quality problems even at very low concentrations. To help keep mercury out of the environment, last year the Central Contra Costa Sanitary District (CCCSD) implemented a Mercury Minimization Program for high schools. CCCSD staff visited high schools in our service area to help them identify and reduce mercury sources in their chemistry labs and facility operations.

Services offered to high schools through the Mercury Minimization Program include:

- Free disposal of mercury wastes through our Household Hazardous Waste Collection Facility.
- Free non-mercury, laboratory-grade thermometers in exchange for their mercury ones.
- A recognition program to acknowledge those schools that have adopted effective mercury-control strategies.
- Educational materials for faculty, students, and parents about mercury pollution prevention.

Results during the first year of this program:

- All public and private high schools in our service area have been visited.
- 8 high schools have been recognized for their mercury minimization achievements:
 - Acalanes (Lafayette)
 - Alhambra (Martinez)
 - Campolindo (Moraga)
 - Dougherty Valley (San Ramon)
 - Las Lomas (Walnut Creek)
 - Miramonte (Orinda)

- Monte Vista (Danville)
- San Ramon Valley (Danville)
- 174 mercury-filled laboratory thermometers were collected.
- 135 non-mercury thermometers were exchanged.
- 12.25 pounds of mercury compounds were collected and kept out of the environment!

From Waste to Worth.....

A ccording to the Environmental Protection Agency, California wastewater treatment plants generate 750,000 dry tons of biosolids each year. Biosolids are the organic matter left behind after the wastewater treatment process.

About 54% of California's biosolids is used in land application—much of it on animal feed crops like alfalfa in Nevada and Arizona.

Another 18% is sent to landfills, many of them already nearing capacity.

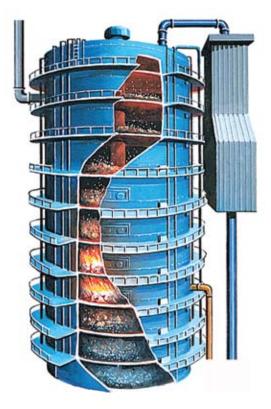
And it's been estimated that many municipalities spend as much as 50% of their wastewater operating costs on biosolids management.

Here at CCCSD? Oh. We turn it into energy and a component of commercial fertilizer, and save a bundle in the process.

Biosolids - Byproduct of Wastewater Treatment

During the primary stage of treatment, wastewater enters large sedimentation tanks where oil and grease float to the surface. These are removed with skimming devices. The organic material that settles to the bottom of the tanks is called "primary sludge." In the secondary stage of the treatment process, wastewater moves to aeration tanks, where an oxygen-rich environment helps microorganisms consume organic material in the water.

In secondary clarifier tanks, the bacteria sink to the bottom, and



A 4-story, multiple-hearth furnace, fueled by methane gas from a local landfill, incinerates the sludge. Dry and wet scrubbers provide air pollution control for the furnace exhaust. The sterile ash from the furnace is hauled off-site and combined with other waste products to produce a soil amendment.

a portion of this sludge is removed, blended with the primary sludge and pumped to centrifuges, which work like the spin cycle of a washing machine. The combined sludges are "dewatered" to about the consistency of modeling clay. This dewatered material is termed "biosolids" and is pumped to CCCSD's waste-to-energy process, commonly known as incineration. The treated wastewater is then disinfected with ultraviolet light before being discharged to Suisun Bay or sent to our filter plant for further treatment that produces recycled water.

Biosolids Into Sterile Ash

Incineration takes place in our fourstory multiple-hearth furnace, fueled by methane gas from a local landfill and monitored by a high-tech computer system. As it moves down through each level of the furnace, the biosolids become increasingly drier and finally turn to ash.

By the time they reach the bottom hearth, the biosolids have been significantly reduced: each 100 pounds of wet biosolids are reduced to about seven pounds of sterile ash. Each day, about 200 wet tons of biosolids are incinerated.

CCCSD produces an average of 10 tons of sterile ash per day. The ash is hauled off site and combined with other waste products to produce a commercial fertilizer found in most gardening centers.

This recycling does more than just lessen the disposal impact on landfills. Hauling 14 tons of ash instead of 200 tons of sludge per day significantly reduces the number of trucks (and their emissions).

Dry and wet "scrubbers" on the furnace provide air pollution control for the exhaust, ensuring emissions comply with all regulatory requirements.

Energy Recovery from Biosolids

The process doesn't stop there. Heat from the furnace exhaust is captured to produce steam in a waste-heat boiler. That steam is piped to a turbine which drives a blower that produces

air that bubbles up into the secondary aeration tanks. This, in turn, oxygenates the water and keeps the bacteria there alive and healthy.

But wait! There's still more energy to be had at the treatment plant. A cogeneration facility, powered by natural gas, produces electricity and steam. When the energy produced as a byproduct of incineration is combined with this "cogen" energy, we have 90% of the power needed for daily operation of the entire treatment plant. And this amounts to more than \$1 million in reduced energy costs.

"From Waste to Worth" is how our biosolids disposal method has been described. It's clean, both saves and produces energy, and reduces costs. Not bad when you think about how it all starts.

Benefits of Incineration

- Complete destruction of organic matter to create sterile ash.
- Reduction in sludge volume by 93%.
- Energy recovery from the furnace.
- Recycling of the sterile ash into beneficial soil amendments.
- Reduction in the number of trucks required to haul sludge.

CCCSD Welcomes Students Seeking Work Experience

ozens of college students will get a head start on their careers this year courtesy of the Central Contra Costa Sanitary District (CCCSD).

Each year we hire about 40 summer students and Cooperative (Co-Op) Education Program students. The summer students work with us for about three months, while the Co-ops fulfill a six-month commitment. Since 1985, CCCSD has provided temporary employment opportunities to more than 650 area students.

Openings

- Engineering Assistant
- Laborer
- Clerical Assistant
- Laboratory Assistant
- Web Information Assistant
- Graphic Design Assistant

All positions are full-time (40 hours per week). The salary range is \$13-\$18 per hour, depending upon the position.

Qualifications

Applicants must currently be full-time students who are attending college this fall (as full-time students), be at least 18 years of age, and possess a valid California Driver's License (with a satisfactory driving history).

How to Apply

To obtain an application, please go to www.centralsan.org/employment or contact Judy Rivers, Human Resources Assistant, (925) 229-7108.

The deadline to apply is April 24, 2009.

Continuing Our Commitment to Recycled Water

entral Contra Costa Sanitary
District began one of the first
recycled water programs in the Bay
Area in 1994. By providing additional
filtration and chlorination of our
treated wastewater, we produce a
renewable product that is suitable
for landscape irrigation, construction
uses and industrial processes.

While we currently treat 15 billion gallons of wastewater each year, we currently produce only about 620 million gallons of recycled water annually: 220 million gallons are used for landscape irrigation by local parks, schools and other facilities and by contractors for dust control, compaction, and other activities suitable for non-potable water;

400 million gallons are used by CCCSD at the treatment plant for plant processes and landscape irrigation.

In light of the continuing drought, our Board of Directors has expressed its commitment to pursuing additional recycled water opportunities such that we can expand our production of recycled water to make optimum use of this valuable resource.

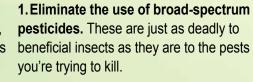
For more information about our Recycled Water Program, please visit the recycled water page on our website www.centralsan.org or contact CCCSD at (925) 229-7371.

How to Get Bugs to Help Your Garden

garden filled with a wide variety of flowering plants is not only beautiful, it's more resistant to pest damage! That's because a healthy, diverse garden will attract beneficial insects:

- Pollinators like butterflies and honey bees
- Pest-eaters like ladybugs, dragonflies, and lacewings

Here are two ways to attract beneficial insects to your garden:



2. Provide a variety of flowering plants rich in pollen and nectar. A list of plants that attract beneficial insects is in the box below. Be sure to consider the plants' needs (soil, light, water) when selecting them for your garden. You can get help with this from the staff at your favorite nursery or the University of California Cooperative Extension Master Gardeners at (925) 646-6586.

Find more information about healthy, nontoxic gardening practices at www. centralsan.org (click on the "Healthy Garden Guide" in the lower left corner of the home page).

Plants that Attract Beneficial Insects

Aster Elderberry
Baby Blue Eyes Fennel
Calendula Queen Anne's Lace
California Lilac Rosemary
California Poppy
Chrysanthemum
Coriander Sweet Alyssum
Yarrow
Cosmos



Tips for Being Green

Use a Commercial Car Wash

Next time your car looks dirty, you may want to take it to a commercial car wash to help keep our water environment clean.

When you wash your car at home, the runoff and all its pollutants (such as oil and copper from brake pads) goes into a storm drain, and from there flows untreated into local creeks and then the Bay.

Water from commercial car washes is recycled or drained into the sewer system to be cleaned at the treatment plant before being released into the environment.

By using a commercial car wash, you'll help protect the environment and save water!

Use Chlorine-Free Paper Products

Many of the paper products we use every day, including coffee filters, paper towels, and toilet paper, are bleached with chlorine compounds during the manufacturing process. A byproduct of that process is dioxin, a highly toxic carcinogen that is harmful to human health and the environment.

You can help reduce the amount of dioxin entering the environment by

choosing paper products manufactured without chlorine. Look for unbleached products and labels that say Elemental Chlorine Free (ECF) or Totally Chlorine Free (TCF).

(Note: In its bottled form, chlorine bleach does not contain dioxins because chlorine must be in a gaseous state for dioxins to exist. However, chlorine gas can form when bleach comes into contact with acid, an ingredient in some toilet-bowl cleaners. That's why the labels on household bleach contain specific warnings against such combination.)

Disposal Guide Available Online

ears ago, we pretty much threw away everything we didn't want by putting it in the trash. That's no longer the case. We need to consider whether our "trash" is recyclable, hazardous, or harmless. Sometimes the answer can be confusing, so we created a handy guide that tells you how to dispose of common household waste in safe, simple and environmentally healthy ways.

It's too long to publish in every issue of this newsletter, but you can find it on our website at this link: http://www.centralsan.org/documents/Brochure_Disposal_Guide.pdf. If you don't have access to the web, you can call us at (925) 229-7313 to request a paper copy.



Copper-Containing Products Can Poison the Environment

As it turns out, copper, a highly toxic metal, is present in Bay Area waters. It is poisonous, even in very small amounts, to aquatic plants and animals such as shellfish in early life stages.

While the treatment process removes about 90 percent of the copper that enters our wastewater treatment plant through the sewer system, the remaining portion does reach Suisun Bay.

Copper-based plant and tree root control agents once contributed as much as 12 percent of the total amount of copper received by area wastewater treatment plants. However, in 1995, nine Bay Area

counties (including Contra Costa) banned the use and sale of root-inhibiting products containing copper sulfate.

Still, many sources of copper are not easily controlled. They include abandoned mines, brake linings, copper pipes, even human waste (from consuming drinking water sent through copper pipes; the levels are safe for human health). However, some sources can be controlled, reducing the amount of copper sent to the sewer.

Copper is an ingredient in many products designed to kill algae in pools, ponds, spas and fountains. So, rather than using copper algaecides, follow these steps to eliminate algae:

- Regularly clean your pool, spa or fountain, and maintain proper chlorine levels.
- Maintain proper filtration and circulation levels.
- Manage pH and water hardness to minimize copper pipe corrosion.
- Control algae with chlorine, organic polymers, or other alternatives to copper-based chemicals such as sodium bromide or hypochloritecontaining shock treatments. Some products, such as GreenClean, use oxidation to control algae.
- Ask your pool maintenance service for help resolving persistent algae problems without using copper algaecides.



Infrastructure Improvements

entral Contra Costa Sanitary
District regularly maintains,
repairs or replaces sewer lines
and other elements of our 1,500mile wastewater collection system.
We do our best to minimize the
inconvenience our projects cause
and appreciate your understanding.
Here's a summary of major
construction projects scheduled to
begin this spring or summer:

Danville

Danville Sewer Renovation Project, Phase 2, is replacing or renovating 1,300 feet of sewers in Danville. Expected finish: June 2009.

Diablo

Diablo Sewer Renovation Project, Phase 1, is replacing or renovating 11,000 feet of sewers in Diablo. Expected finish: Dec. 2009.

Lafayette

Lafayette Sewer Renovation Project, Phase 6, is replacing or renovating 13,000 feet of sewers in Lafayette. Expected finish: Feb. 2010.

Orinda

Miner Road Trunk Sewer Improvement Project is renovating 3,900 feet of sewers on Miner Road in Orinda. Expected completion: Aug. 2009.

South Orinda Sewer Renovation Project, Phase 4, is replacing or renovating 13,000 feet of sewers in Orinda. Expected finish: Feb. 2010.

Pleasant Hill

Pleasant Hill Sewer Renovation Project, Phase 1, is replacing or renovating 11,000 feet of sewers in Pleasant Hill. Expected finish: March 2010.

Walnut Creek

Walnut Creek Sewer Renovation Project, Phase 7, is replacing or renovating 12,000 feet of sewers in Walnut Creek. Expected finish: Jan. 2010.

Detailed maps for each project were sent to affected residents, and are available at www.centralsan.org (check the links in the "Construction Zone" box in the lower right corner of the home page). For more information about these or other construction projects, please contact Community Affairs Representative Chris Carpenter at (925) 229-7200.



Spring Cleaning? Come Get Free Stuff!

Did you know our Household Hazardous Waste Collection Facility has a Reuse Room chockfull of items that can help you with your spring cleaning? And they're all free!

Why? Because one of our goals is to recycle as many of the items brought to the Facility as possible. Our Reuse Room is stocked with items brought in for disposal that are still in useable condition. These products are free for the taking!

The inventory often includes products such as paint, wood stain, garden products, and a wide variety of cleansers. The items and quantities vary depending on what people bring in, but our shelves are rarely bare.

Household Hazardous Waste Collection Facility Reuse Room The next time you bring your household hazardous waste items to the facility for disposal, check out the free items in the Reuse Room. You may find just what you need for sprucing up your home or garden!

The Reuse Room is open Tuesday through Saturday, 9 a.m. – 3:30 p.m. Call 1-800-646-1431 for more information. (Please note we cannot provide inventory information over the phone.)



Household Hazardous Waste Collection Facility 4797 Imhoff Place, Martinez, CA 94553-4392

Residents: Tuesday – Saturday, 9 a.m. - 4 p.m.

(Reuse Room closes at 3:30 p.m.)

Businesses: Tuesday – Saturday, by appointment only

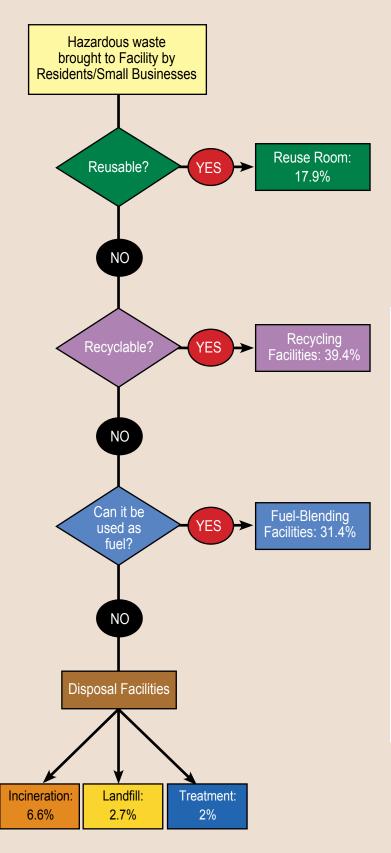




· From I-680 take Hwy. 4 East to Solano Way exit.

1-800-646-1431

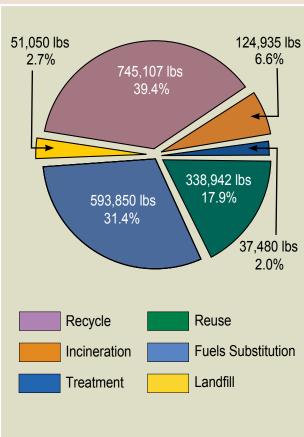
Household Hazardous Waste Collection Facility: Where Does It All Go?



uring fiscal year 2007-08, **1,891,363 pounds** of household hazardous waste (HHW) was brought to our Collection Facility:

- 71% was flammable liquids, oil-based and latex paint, motor oil, car batteries and other recylables.
- 27% was corrosives, aerosols, poisons, and other types of hazardous waste.
- Nearly 339,000 pounds of reusable products were given away through the facility's Reuse Room.

The cost to process all wastes collected at the facility (including transportation and disposal costs) was about a dollar per pound.



Nearly 90% (1,677,898 pounds) of the total quantity of hazardous waste collected was diverted from landfills and used as beneficial product by being reused, recycled or even blended as a fuel for making cement.

Of the more than 945 tons brought to the facility during fiscal year 2007-08:

- 39.4% was recycled (motor oil, antifreeze, propane cylinders, fluorescent lamps, lead, mercury, household and car batteries, printer cartridges)
- 31.4% was blended into a fuel source used by cement kilns to make portland cement (oil-based paint and other flammable liquids such as gasoline, paint thinners, etc.)
- 17.9% went to the Reuse Room (paint, garden, automotive, cleaning products, etc.)
- 6.6% was incinerated
- •2.7% was sent to landfill*
- 2% was treated by neutralizing acids, bases, oxidizers
- *This is normally lower (0.2%), and is higher for FY 07-08 due to a process failure by our fuel-blending contractor.

Keeping Mercury Out of the Environment

Mercury is a highly toxic pollutant that causes water quality problems at even very low concentrations.

To help keep mercury out of the environment, our Collection Facility offers customers a digital fever thermometer in exchange for their mercury thermometer. In fiscal year 2007-08, 1,971 mercury thermometers were collected.

More than 32,200 pounds of mercurycontaining wastes were collected during fiscal year 2007-08. These include fluorescent bulbs, CFLs, mercury switches, and elemental mercury.

Safely Dispose of Unwanted Medications Through the New Pharmaceutical Drop-Off Program

entral Contra Costa Sanitary District (CCCSD) has partnered with three other agencies to provide a new program for the safe collection and disposal of unwanted medications.

In Martinez, two collection sites have been set up by CCCSD and the Contra Costa County Office of the Sheriff at:

- Contra Costa Regional Medical Center Sheriff's Substation, 2500 Alhambra Avenue, Martinez
- Sheriff's Field Operations Building, 1980 Muir Road, Martinez

In Walnut Creek, a collection site has been set up by CCCSD, the Walnut Creek Police Department, and the Central Contra Costa Solid Waste Authority at:

 Walnut Creek City Hall, 1666 North Main Street, Walnut Creek

You can drop off unwanted or expired non-controlled medications (both prescription and over-the-counter drugs) at the above sites Monday through Friday from 8 a.m. to 5 p.m. To ensure privacy, transfer pills to a plastic bag before depositing. Please enclose liquid medication bottles in a sealed plastic bag to prevent spills.

The pharmaceutical collection program is a community service to protect public health and the environment.

"Setting up these collection points is the basis of a partnership with the community we all serve," notes James Kelly, General Manager of CCCSD. "Until the makers and vendors of pharmaceuticals establish their own take-back programs, collection



points such as these are the best available alternative to trashing or flushing these drugs."

Please Don't Flush Your Drugs!

Disposal of pharmaceuticals down a toilet or drain has become a serious public concern. Wastewater treatment facilities are not equipped to remove all traces of pharmaceutical chemicals. If you flush your drugs, a portion of those contaminants will reach local waters. Estrogen, steroids, chemotherapy medications are among the most common pharmaceuticals found in waterways where treated wastewater is discharged. These drugs may be harmful to aquatic life.

For more information about safe pharmaceutical disposal, please call 1-800-646-1431 or visit www. centralsan.org.

Reminder: Federal restrictions prevent us from accepting medications at the Household Hazardous Waste Collection Facility.

About CCCSD

ur mission as a Special District is to protect public health and the environment. We do this by collecting and treating wastewater, providing recycled water, and promoting pollution prevention.

Our treatment plant in Martinez collects and treats an average of 45 million gallons of wastewater every day. Some highly treated wastewater is recycled for irrigation use on golf courses and parks, and the rest is safely released into Suisun Bay. We also operate a Household Hazardous Waste Collection Facility that allows our customers to safely dispose of hazardous materials.

Where to Call...

General information	(925) 228-9500 or www.centralsan.org
Sewer overflows (925) 933-0955 or 933-0990 (When there's an overflow in the street or a backup in your home, call this number and in most cases, a crew will be there within an hour.)	
Treatment Plant InfoLine (Report Odors)	(925) 335-7703
Household Hazardous Waste InfoLine	(800) 646-1431
Sewer connection permits	(925) 229-7371
To report illegal discharges into sewer system	(925) 229-7288 (during business hours) (925) 229-7214 (after hours)
Job Hotline	(925) 229-7109 or www.centralsan.org
Student Education Programs	(925) 229-7310 or www.centralsan.org
Public InfoLine	(925) 335-7702 or www.centralsan.org

Board of Directors

James A. Nejedly, President

Michael R. McGill, President Pro Tem • Barbara D. Hockett, Board Director Gerald R. Lucey, Board Director . Mario M. Menesini, Board Director

Board meetings are open to the public and are generally held on the 1st and 3rd Thursday of each month at 2 p.m. in the CCCSD Board Room, 5019 Imhoff Place, Martinez. James M. Kelly, General Manager



CCCSD serves 451,944 people within its 140-square-mile service area.

Sewage collection and wastewater treatment (and HHW collection service) for 317,384 people

Wastewater treatment for 134,560 residents in Concord and Clayton by contract and HHW collection service

HHW collection service only

CCCSD's Headquarters, treatment plant, and HHW Collection Facility are located in Martinez

CCCSD's Collection System Operations Department (sewer maintenance) is based in Walnut Creek

The Central Contra Costa Sanitary District PIPELINE

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Michael Scahill, Editor • Bonnie Lowe, Writer Son Nguyen, Graphic Designer

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