

SEWER AUTHORITY MID-COASTSIDE  
Staff Report

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**Subject / Title**

Discuss and Possibly Take Action on Recycled Water

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**Staff Recommendation:**

Discuss and Possibly Take Action on Recycled Water. This agenda item is regularly agendized to allow the Board to continue discussion on recycled water.

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**Fiscal Impact:**

None.

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**Discussion/Report:**

From WaterReuse News:

**California Approves Ozone Technology for Disinfection**

The California Department of Public Health has for the first time accepted an ozone-based technology to meet disinfection criteria for unrestricted water reuse under Title 22 of the California Code of Regulations, according to a [news release](#). The pre-packaged treatment system uses a plug flow reactor that injects and mixes ozone or ozone and hydrogen peroxide. Known as the HiPOx® process, the system is marketed by Air Products and Chemicals, Inc. The system can operate in either the ozone-only mode or AOP mode.

**Australia Prepares to Launch First Potable Reuse Project**

In February 2009, the Queensland Water Commission will begin piping purified recycled water into the Wivenhoe Dam, which supplies drinking water to Brisbane, the Gold Coast, the Sunshine Coast, and other areas in southeast Queensland, according to [The Australian](#). The Western Corridor Recycled Water Project is Australia's first indirect potable reuse project and initially will pump about 60 megaliters (15.8 mgd) of recycled water into the dam. The volume of recycled water will rise to about 230 megaliters per day (60 mgd) over the next year. The project, which is the largest of its kind in the southern hemisphere, will also supply recycled water to the Swanbank and Tarong North power stations.

**New Water Recycling Project to Target Farmers**

A new \$65 million water recycling system that will provide farmers in Watsonville, CA with 1.7 billion gallons of water each growing season is expected to begin operating in

December, according to the [Pajaronian](#). The City is partnering with the Pajaro Valley Water Management Agency to provide 4,000 acre-feet of recycled water to farmers via a coastal distribution system. The community currently treats 6.5 million gallons of wastewater each day and discharges it to the ocean. When the new water recycling system goes online, all of that water will be recycled and provided to farmers during the growing season.

**Snowmaking with Reclaimed Water Temporarily Blocked at Arizona Resort**

The 9th Circuit U.S. Court of Appeals granted a petition on October 3 to block construction of a system to make snow using reclaimed water at the Arizona Snowbowl, according to the [Arizona Daily Sun](#). The petition blocks construction through mid-December pending further appeals. Snowmaking opponents, which include 13 Native American tribes who consider the mountains sacred, plan to file an appeal with the U.S. Supreme Court. The Supreme Court is expected to decide in the winter or spring if it will hear the case. The resort announced that it would not add snowmaking equipment or new lifts before next spring.

# Half Moon Bay Review



## Recycled water planning moves forward

### Sewer authority approves draft study

By Mark Noack [ [mark@hmbreview.com](mailto:mark@hmbreview.com) ]

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Sewer Authority Mid-Coastside board of directors unanimously agreed Monday night to push forward efforts to bring recycled water to the Coastside. Directors approved a draft study of the water reclamation project and steps to secure grants for the project.

Directors must make a series of decisions before construction of the recycled water plant can begin. Of particular note, the sewer agency has to determine what kind of water purification it wants to use and how large of a plant to build, decisions that will greatly affect the capital costs of the project.

The smallest feasible size, a 600,000-gallon treatment plant, could cost between \$1.5 million and \$6.1 million, depending on how the water is treated. The cheapest option, running the sewage water through sand filters, is an imperfect system and often requires additional chemicals, such as chlorine, to purify the water.

The most expensive option, reverse osmosis, is regarded as the safest because it removes nearly all contaminants, including drugs, hormones and industrial chemicals.

Director Scott Boyd says that making decisions on how to construct the recycled water plant will be a balance between getting the best quality water while keeping costs low for the sewer authority's customers.

"We're trying to do this without adding costs to the ratepayers," Boyd said. "There's no reason why ratepayers should wind up paying more than they're already paying for potable water."

Boyd said that bringing low-cost recycled water to the Coastside greatly depends on securing grant money for the project.

Water reclamation could save the Coastside 190 million gallons of freshwater a year and is

widely supported by the public. Within Half Moon Bay's boundaries, several large businesses were identified as ideal and interested customers for reclaimed sewer water, including the Half Moon Bay Golf Links and Nurserymen's Exchange — large water consumers that together are using hundreds of thousands of gallons of freshwater a day, primarily from the dwindling Hetch Hetchy water supply.

But sewer officials could face legal challenges in their bid to bring reclaimed water to the Coastsides. The board of the Coastsides County Water District has sent letters threatening legal recourse if SAM tries to sell water to their customers.

SAM directors did not discuss any legal challenges during open session Monday. There was no word whether it was discussed in closed session.

The meeting earlier this week was also the first SAM session televised to the public. SAM Vice Chair and Half Moon Bay City Councilwoman Marina Fraser asked her colleagues on the City Council to pay Mid-Coast Television to tape the sewer meetings.

"We're talking about SAM more and more in the council, so I asked the council if we could pick up the payment for this," explained Fraser.

The sewer board plans to discuss hiring a regular video company to tape meetings in November.

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# Windsor allowed to pump wastewater to The Geysers

**Heavily treated effluent to be piped 1.5 miles below ground; steam will power generators**

By [MIKE McCOY](#)  
THE PRESS DEMOCRAT

*Published: Friday, November 7, 2008 at 4:24 a.m.*

Santa Rosa's Board of Public Utilities Thursday agreed to let Windsor use its wastewater pipeline to pump hundreds of millions of gallons of effluent to The Geysers steam fields.

The 30-year contract requires Windsor to pay Santa Rosa a total of \$30 million in maintenance and operational costs. In addition, the town will have to spend about \$16 million to install a pumping facility and connect to the main pipeline.

"It's one of the most innovative and futuristic uses of wastewater of our time," said Windsor Town Manager Matt Mullan, whose Town Council approved the agreement Wednesday. The wastewater is injected into the steam fields for use in power-generation plants.

Under terms of the contract, Windsor will pay Santa Rosa \$500,000 a year in the beginning of the contract period and \$1.5 million annually by the end of it. The target date to have the facilities operational is 2011.

Mullan said the ability to pump about 30 percent of the 650 million gallons of highly treated wastewater his town produces annually will give it breathing room to find ways to comply with state and federal regulations governing wastewater disposal.

Windsor currently discharges slightly less than half its wastewater into Mark West Creek, a tributary to the Russian River, during winter months. In spring and summer, the town's wastewater is used for urban and agricultural irrigation.

The town has been contemplating building a 28-acre, 215-million-gallon storage pond to store its increasing wastewater flows, a project expected to cost \$35 million.

Mullan said the Geysers alternative will enable Windsor to put the storage project on hold for up to 15 years, enough time to find investors to finance the project.

"If we are able to generate the funds sooner, we will build it earlier," he said.

Mullan said farmers, vineyard owners and others may want to help finance the project in exchange for the right to use the wastewater for irrigation in the summer.

"The availability of Russian River water is getting tighter everywhere while the wastewater will be a dependable, reliable water-supply option," he said.

"It (wastewater) is becoming a valuable resource."

Santa Rosa's regional sewage treatment plant serves Santa Rosa, Rohnert Park, Sebastopol and Cotati and currently pumps 12 million gallons of wastewater a day to The Geysers through a 40-mile-long pipeline and pump station project the city spent \$205 million to build.

Calpine Corp. injects the wastewater 1.5 miles underground, where it generates steam to run electricity-producing turbines.

The 12 million gallons generate 85 megawatts of electricity, enough to power 85,000 households, the equivalent of all of Santa Rosa and half of Rohnert Park.

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# State predicts water shortage for 2009

## Uncertainty about delta adds to officials' concerns

*Written by JEREMY OGUL*

*Published November 7, 2008*

The future is looking rather dry for California.

The state's Department of Water Resources announced last week that it was expecting 2009 to be an exceptionally dry year. DWR officials told customers that under current conditions, they would only be able to meet 15 percent of water needs.

This will most likely mean heavy conservation and education efforts, said DWR spokesperson Ted Thomas.

The announcement was part of an estimate that is made every year in December, but officials said they were making it public earlier this year so local water agencies can prepare for less water than usual. Depending on weather conditions over the next few months, the estimate could be revised, but things aren't looking good now, Thomas said.

"If things don't get wetter, we're going to have some very serious water problems," he said. "We're barely into the rain and snow season, so hopefully this estimate will increase."

State water officials are crossing their fingers for more rain and a good snowpack, which will influence the amount of water that can be delivered next year.

The state water project delivers water to 29 public agencies around the state, including industry, farms and cities, Thomas said. This affects the drinking water supply of more than 25 million people in California and more than 750,000 acres of irrigated farmland.

The water issues this year are part of a broader challenge state leaders are facing with regard to what to do about the Sacramento-San Joaquin Delta, which is major source of water for the state.

"The uncertainty of precipitation patterns due to global warming and deteriorating conditions in the Delta, California's main water hub, demand immediate action to enhance our ecosystem and keep our economy productive in the 21st century," said DWR director Lester Snow in the press release.

"This further dramatizes the urgent need for additional investments in water storage and conveyance infrastructure to assure an adequate and reliable water supply," he said.

One major dilemma is what to do about the delta, which is a critical part of California's water infrastructure, as UC Davis Professor Jeffrey Mount explained in a talk Wednesday night on campus.

Mount, the director of the UC Davis Center for Watershed Sciences, outlined the long-term need to develop a plan for the future of the delta, a fragile system of levees and islands that is threatened by the impacts of climate change.

"The odds of this system falling apart during my son's lifetime ... is roughly two out three," Mount said.

Because many of the levees in the Central Valley were built by farmers decades ago, they are at a high risk of failing, he said.

Without a reliable system of levees, it will be harder for the delta to meet the needs of the water customers it serves throughout the state.

The possibility of the water estimate for next year could change. The lowest estimate ever - 10percent of need in 1993 - was upgraded to 100 percent during the water year as conditions developed, according to the press release.

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## Ontario works to extend water recycling

Liset Marquez, Staff Writer

Article Created: 11/10/2008 02:37:09 AM PST

ONTARIO - With the statewide drought, the city is moving forward with the expansion of its recycled-water program.

The \$20 million, four-phase project would connect some of the schools, parks and businesses in the city to recycled- water pipelines, said Ken Jenske, the city's director of public works and community services.

The program adds pipelines to transfer recycled water for landscaping.

"It's so important to solidify water rights. Recycled water is very viable and reliable," he said.

In October, the city completed the first phase of the expansion when it connected the Toyota Parts Distribution Center.

Toyota is the largest industrial or commercial user - with an estimated take of 120 acre-feet of water per year - to have recycled-water pipelines in the city.

That's more than 39 million gallons of water - enough for 250 households for one year, Jenske said.

The program now has 1.5 miles of new recycled-water pipes in the city.

The city began using recycled water about 20 years ago, Jenske said. It began recycling water with the help of several grants.

This year, with the completion of the first phase, the city has spent about \$1 million, part of \$4.5 million spent in the past two years, he said.

Richard Atwater, general manager for the Inland Empire Utilities Agency, applauded the city.

He said it "has done an outstanding job" and is a leader in Southern California.

Ontario's commitment to including recycled-water pipelines in future developments also sets it apart from other cities, he said.

The city requires development to have landscaping managed by one system that uses recycled water.

The New Model Colony is required to connect to the IEUA's recycled-water system, Jenske said.

"We all need to be much more efficient with water," Atwater said. "We don't need to be using valuable drinking water to irrigate a park."

Over the next several years, the city will continue to expand its recycled-water system, Jenske said.

## Santa Cruz desalination pilot plant meeting expectations

Alia Wilson - Sentinel staff writer

Article Launched: 11/09/2008 01:33:50 AM PST

[Click photo to enlarge](#)



(Bill Lovejoy/Sentinel)

Six months into the seawater desalination pilot test program, the Santa Cruz Water Department and Soquel Creek Water District opened the doors to the facility and allowed about 100 curious residents a glimpse Saturday.

Visitors reviewed information about desalination technology and water supply issues within the community, toured the facility and learned about the pilot test project.

"Everything has been going as we expected them to turn out," technical adviser Todd Reynolds said. "We're hoping for more challenging source waters to treat. Santa Cruz waters have been, typically, very clean."

The Santa Cruz Water Department and Soquel Creek Water District are investigating the feasibility of using desalinated water as a supplemental water source during times of drought. Four different pre-treatment technologies along with reverse osmosis desalination technology are being tested for at least a year at the facility, which is near the Seymour Marine Discovery Center at the end of Delaware Avenue.

The results of the pilot plant operations will be used to define the design requirements and costs of a full-scale desalination facility, which may be built in 2015. The pilot plant also will provide data to ensure water quality standards can be met or exceeded for a potable water source and will be included in any environmental impact report prepared for a full-scale desalination plant.

No decisions regarding the construction of the plant have been discussed yet, according to officials.

"The important thing today is we really want people to see the pilot plant and the capabilities it has especially as this very dry winter is approaching," City Councilwoman Cynthia Mathews said. "We want the public to see how timely such a project is."

Testing at the pilot plant began in March and will continue until March 2009. Pumping 50 gallons a minute, the \$4 million pilot plant is expected to help determine the best kind of pre-filtering process the plant should use.

Visitors throughout the day had no shortage of questions for the pilot plant's staff, and were intrigued by the kinds of filtering being used at the plant.

"Forty years ago, at the Moss Landing power plant, I started the thermal seawater conversion plant," said Sam Farrington of Santa Cruz. "We've come a long way since then."

Bridget Canty and Sergey Frolov just moved to Santa Cruz in September and were eager to learn about the city's water issues and solutions.

"As an environmental consultant, I like to be involved with issues on a local level and it's interesting to see how the water scarcity problem is going to be solved," Canty said. "It's great information and is a great project."

Tour group leader and project engineer Erik Desormeaux said the day's turnout was a nice surprise, despite poor weather.

"People in Santa Cruz seem more involved with the city's developments," Desormeaux said. "This plant really is the city's last option for supplemental water. We have to do something otherwise the next drought will be very difficult."

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