



# THE ROCK

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“GUARDIAN OF THE COAST”

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## ‘Great Los Osos News Blackout’ Continues

*Tribune ignores Ripley peer review report by NWRI panel and buries CDO hearings more than a week after the proceedings.*

By ED OCHS

December 2006 came and went, but if you live in Los Osos and read the San Luis Obispo Tribune, you may have missed two important events in December—and they weren’t Christmas and New Years.

According to the Tribune, the release of the Dec. 4, 2006 “National Water Research Institute Final Report of the Advisory Panel on Reviewing the Los Osos Wastewater Management Plan Update” wasn’t news. The peer review of the much-anticipated LOCSD-commissioned Ripley Pacific Company Plan Update didn’t merit a single word by the Tribune. Evidently it wasn’t newsworthy enough to bump out such Tribune staples as “Oak tree protection to remain voluntary” and “Time to put catalytic converters on our cows.”

Coverage of the RWQCB’s Los Osos cease-and-desist-order hearings of Dec. 14 and 15 was buried in the Local news section as the second lead story under

the headline, “Some Los Osos homes told to end septic use”—it ran on Dec. 24, almost a week and a half after the hearings.

### 2011 Deadline

The subhead revealed a bit more skin: “Water quality regulators send cease and desist orders to 14 residents.” But the first three paragraphs of the story rang out like a five-alarm fire on Noah’s ark, foreshadowing a tale light years away from the headline about a smattering of Los Osos homeowners ordered to stop flushing their toilets:

*“Water quality regulators have ordered randomly selected Los Osos residents to stop using their septic tanks by 2011, a move officials say will continue throughout the town if a sewer is not built soon.”*

*“The Regional Water Quality Control Board issued cease and desist orders last week to 14 residents, requiring them to hook up to a community wastewater treatment facility within 60 days of availability.”*

*“If a property tax for a project is not passed by July 2008 or if the county does not make progress on a sewer, then those residents will be ordered to stop using their septic tanks by Jan. 1, 2011,”*

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## Ret. Judge Goldin on the RWQCB: ‘The Most Incredible Kangaroo Court I’ve Ever Observed’

*Forty-plus years of experience in the law did not prepare Judge Goldin for the travesty of justice she witnessed at the RWQCB’s Jan. 22 CDO hearing.*

### ROCK NEWS WIRE

If retired Judge Martha Goldin was still sitting on the bench today, this is what one might hear her rule on the Regional Water Board’s CDOs against individual Los Osos homeowners:

“I’d heard about the CDOs and the proceedings before the water board,” Mrs. Goldin addressed the Feb. 1 LOCSD meeting at the Community Center. “I was curious to see for myself exactly what was going on, so a week and a half ago I attended the water board meeting and hearing on one of the CDOs.

“Calling it a hearing is gracing it with something it is not,” said Mrs. Goldin in biting tones from the podium. “Nobody on the board heard at all. It is the most incredible kangaroo court I have ever observed in my life.

“There is no process. There is no notice—it changes from minute to minute, from day to day, from one

notice to another. There is no opportunity for people who have been accused to present a case—15 minutes. The water board sits as first the accuser, they bring the proceedings. Then they sit as the judge. Then they sit as the jury, and then they sit, supposedly, as the body that will remedy the situation, but instead as the executioner.”

Mrs. Goldin has the credentials to speak. She served as a judge of the Superior Court for 16 years. Prior to that, as required by law, she was an attorney—for 17 years. She retired from the bench in 1996, and remained active as a judge until the end of last year.

She added: “And they have the gall to sit there and say, ‘Well we never said somebody would have to move out of their house.’ Yet if there is no sewer built by 2011, the drop-dead date—‘Thou shall not use water.’ I think this is 2007... Try living in your house without using your water...”

“Folks, get with it. Find out about the CDOs and become part of the total community of Los Osos to help solve a very serious problem of which the water board, regrettably, seems to be part of the problem, instead of part of the solution.”

## S.O.S. From Afar: ‘There’s Something Going on in Los Osos—it’s Bad’

David ‘The Waterguy’ Venhuizen’s recent online



thread on Los Osos provoked an array of responses from experts across the U.S ... who are aware and watching.

### ROCK NEWS WIRE

“It’s very bad,” concluded David “The Waterguy” Venhuizen about the Los Osos sewer predicament, in a mid-January email forum on “onsite/decentralized wastewater management issues.” His commentary drew several well-known water and wastewater experts, a few very familiar with Los

Osos.

Wrote Venhuizen to the far-flung EPA “decentralized list” (decentralized@lists.epa.gov): “There is something going on in Los Osos, California,

that Venhuizen, an expert in decentralized water and wastewater management, sent out his S.O.S. from his home base in Austin, Texas. He has studied the maps but has never been to

*‘Is this religion or is this water resources management?’*

that should give great pause to anyone who is concerned about the rationality of how society responds to water resources management challenges, and the impact of that on our field of endeavor. Quick synopsis—it’s BAD!”

What makes Venhuizen’s comments stand out from similar comments heard from all sides of the sewer debate is

Los Osos. Yet his keen observations from afar over the past year often capture the dynamics of the controversy better than most who live in Los Osos, and he has spent considerable time and energy investigating the sewer debate, even jousting with RWQCB’s Sorrel Marks via email in April 2006.

After spending “a couple hours read-

ing the pleadings of the ‘randomly selected’ citizens...tagged with ‘orders’ by the RWQCB to cease ‘illegal discharges’ from their ‘septic’ systems,” Venhuizen wrote: “I don’t pretend that there is anything simple or straightforward about the situation in Los Osos or the history of how it got to this point, but there is one thing that seems exceedingly plain. The mainstream will go to ridiculous lengths to impose its view that the ONLY manner in which wastewater should be managed in a place like Los Osos is with a conventional centralized sewer system leading to one treatment center. That is, to once again be redundant, they are hopelessly stuck in the paradigm.”

Following is the rest of Venhuizen’s post, and following that, a sampling of

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## NEWS BLACKOUT

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—or face fines up to \$5,000 per day.”

“STOP USING THEIR SEPTIC TANKS BY JAN. 1, 2011”!? “UP TO \$5,000 PER DAY FINES”!? Then what? Vacate their homes because they can use their water? Eminent domain by septic tank? The Tribune had nothing more to add to what appeared to be kickoff to doomsday for thousands of Los Osos homeowners and residents, and (at presstime for The Rock) the Tribune still hasn’t followed up with one word about it since.

The Tribune has 4,955 reasons not to write about the CDO hearings—that’s how many CDOs have yet to be prosecuted. In fairness, it would be unrealistic to expect the Tribune to cover the plight of every single CDO recipient. After all, covering the details of thousands of gut-wrenching prosecutions, at the rate of 12 per day, would fill up the newspaper for an entire year.

Conceding no middle ground, the Tribune has chosen to cover none of it. Apparently, Tribune policy affirms that the public has no legal right to know the injustice they face, and, even if they did have a right, the Tribune has pre-determined that the general public—the rest of the County—isn’t interested in Los Osos. Even if they were interested, the Tribune is not about to become the CDO Daily. Who would advertise? Moving vans and U-hauls?

Maintaining consistency, the Tribune has also made no mention of the continued Jan. 22 CDO hearing. That hearing included a groundbreaking defense by attorney Shaunna Sullivan on behalf of CDO recipients, Charles and Norma Wilkerson. (It was the first time a draft CDO recipient had hired an attorney to represent them at a CDO hearing.) Sullivan was subsequently hired by the LOCSO to represent the CSD’s interests in the CDO process.

*‘If a property tax for a project is not passed by July 2008 or if the county does not make progress on a sewer, then those residents will be ordered to stop using their septic tanks by Jan. 1, 2011—or face fines up to \$5,000 per day.’*

—The Tribune

## Unsettling settlements

The Dec. 24 article also reported that 28 out of the 45 residents “randomly selected” for prosecution for allegedly illegally discharging had “signed settlement agreements that outline similar terms of the cease and desist orders—except for an agreement to submit a technical report outlining an alternative to ceasing discharge should a sewer not be built by the expected date.

“Agreement holders also will have to submit a proposal to water quality regulators on how they plan to cease use of a septic tank if a property tax is not approved.”

[Yet RWQCB staff has approved no “alternative to ceasing discharge” nor have they indicated what technical alternative might be acceptable to them in 2011. Water board prosecution staff engineer Matt Thompson admitted at the Jan. 22 hearing that perhaps he hadn’t thought it through far enough.]

The Tribune erred when it stated that 28 residents had signed settlement agreements. Five of those 28 weren’t “settled” at all because they were homeowners who had been incorrectly served with CDO papers, didn’t have septic tanks, and we’re already hooked up to a neighborhood sewer.

To confuse matters further, there were different

settlement agreements shaped by different authors floated around the CDO hearings; some signed, others unsigned. A few who said they were going to settle changed their minds and decided against it after they studied the agreement. Another few who had settled suffered signer’s remorse, rather than relief, after they realized the full implications of the contract. The prosecutor’s settlement agreement may have hit more than a few speed bumps. The RWQCB’s deal is also under fire from members of the community who consider the settlements nothing more than heavy-handed electioneering, a “terror tactic” to pressure a “yes” vote on any Prop 218 vote.

## Ripley peer review

The final version of Ripley Report, completed in published form on Dec. 18, 2006, was preceded by the National Water Research Institutes’ Dec. 4 “Final Report of the Independent Advisory Panel on Reviewing the Los Osos Wastewater Management Plan Update.” Empanelled to provide independent third-party review of the July 28, 2006 draft of Ripley Pacific’s Plan Update were:

- Chair, George Tchobanoglous, Ph.D., P.E., University of California, Davis
- Martin B. Feeny, P.G., CHG, Consulting Hydrogeologist (Ventura)
- Robert Jacques, P.E., Private Consultant (Monterey)
- Kenneth K. Tanji, D.Sc., Univ. of California, Davis
- Valerie J. Young, AICP, Environmental Planner and Water Reuse Specialist (San Francisco)

In a nutshell, Dr. Tchobanoglous “wrote the book” on water management and wastewater treatment, literally, having authored or coauthored over 350 publications, including 13 textbooks and five engineering reference books.

Representatives from the CCRWQCB and San Luis Obispo Public Works department attended the review panel’s Nov. 8-9, 2006 meeting. (For more on the peer review see The Rock Interview with Dana Ripley on page 6.)

It was one of the most important meetings in the history of Los Osos.

To the Tribune, it never happened.

## S.O.S. FROM AFAR

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exchanges with fellow professionals in the field on Los Osos.

## County liability

“Exhibit A in this assessment - All of the people being targeted have ‘septic’ systems that were legally permitted by San Luis Obispo County. The County was even allowed to issue permits for 1,150 more homes AFTER the supposed water quality problems were identified—that was an explicit provision in the ‘Basin Plan’ (the legal vehicle under which the ‘illegal discharges’ were defined and to have been abated) as I understand it. Doesn’t it seem that if the ‘septic’ systems sited in Los Osos were issuing ‘illegal discharges’ this would be exactly because the systems had not been designed, installed and operated to cope with the site constraints, and the very first thing one would see as necessary would be to modify the standards governing those ‘septic’ systems so that they did not issue ‘illegal discharges’? At the very least, you wouldn’t say, yeah, go ahead and install 1,150 more of these ‘illegal discharges,’ would you?”

“Yet NOWHERE in any of the reams of verbiage about this matter does anyone even mention that those standards are deficient, or hint that the County should modify them in any way. Or that those legal permits have any bearing on the permit holder’s liability. It would appear this is because the RWQCB does not see ‘proper’ governance of those ‘septic’ systems—requiring them to cope with the site constraints in which they are installed so they don’t issue ‘illegal discharges’—as having any bearing whatsoever on the situation. Rather the RWQCB fervently believes that the ONLY means of addressing the matter is totally outside those governance

processes—that is, the ONLY solution is to install a ‘sewer system’ instead.

## RWQCB’s solution

“Confoundingly, the orders issued against the citizens explicitly—and some would say cynically, because they believe the RWQCB has no intention of ever approving them, in fact they appear to believe the methods simply don’t exist—state that the RWQCB would ‘reach around’ the County and directly approve any proposals to put in place an individual on-lot system that does not produce ‘illegal discharges.’ That is, while it appears to explicitly (or cynically) allow that the standards imposed on these systems are the problem and that alternative standards may be a solution, it completely lets SLO County off the hook for its regulation of those systems, or lack of same, and proposes to unilaterally displace the existing permitting process for those systems in Los Osos, and there only. Can’t wait to hear the legal theory on that. In any case, while it whitewashes SLO County’s culpability in the matter, it worked a deal to get the County put in charge of implementing the centralized sewer system. Isn’t that fresh?”

“I am told that under the CA Water Code, the RWQCB may not impose specific methods, rather it may only require outcomes. Yet, from all appearances, the RWQCB is asserting that it ‘knows’ that the one and only solution for Los Osos is a conventional centralized sewer system leading to one treatment center for the whole community [actually a portion of the community]. A CONVENTIONAL ‘big pipe’ sewer system, mind you, not any sort of ‘alternative’ sewer system, as other information on this matter makes abundantly clear. Spurring on the installation of that system—under that process to be run by the County—is an explicitly stated aim of its orders.

## ‘Threat to the field’

“This sort of dedication to form, to the complete neglect (and ignorance) of substance, is a major threat to the whole field practiced by subscribers to this list. It seems to be nothing less than a frontal attack on the very idea that ‘decentralized’ has any part to play in the addressing of water resources management

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challenges. This from a bunch of bureaucrats who, I'd bet the farm, couldn't tell you how, say, a sand filter works if their lives depended on it. Yet they 'know' what the only solution is.

"The RWQCB will tell you that it did not rule that a conventional big-pipe system is the only, or best, solution, rather that this was put forward 'by the community' and they 'just' approved it. But that whole evaluation process appeared to be so devoid of any competent consideration of options, thus so 'rigged' that I hear some in Los Osos are considering racketeering charges. That seems to be a pretty strong statement about how closed-minded RWQCB is seen as being about this whole thing.

"This is a case in point for how intransigent the mainstream is, to how tightly it holds on to the paradigm, based only on its belief system. Is this religion or is this water resources management? Of course, it also shows how broken the on-lot regulatory system is. Where is EPA's 'leadership' on this? Where is NOWRA? Where is the Consortium? Where is WEF? Where are the professional societies—both engineering and legal? If there is truly any interest or intention on the part of any of our institutions that profess to be concerned about the quality of practice—and the quality of outcomes—to actually act on the report to Congress, to put 'decentralized' on an equal footing, why is something like this happening?

"It's very bad."

*Following are excerpts of some of the responses to Venhuizen's commentary:*

**PIO LOMBARDO, P.E., Lombardo Associates Inc., Newton, Mass.**

"As many of you know, Lombardo Associates Inc. invested extensively in reviewing the situation and conceptualizing solutions during the Engineer selection process during spring 2006...

"Compromise-negotiations-good will generation are essential ingredients for any solution—otherwise

*'Creation of a win-win solution needs to be the thinking mantra.'*

courts/legal system take over—as has occurred in many municipalities that can't do it politically on their own. Boston is a poster child on this issue. Los Osos has significant challenges on these needed ingredients...

"Clearly the Los Osos situation is an example of the question of the limits of growth or limits on the density of humans in environmentally sensitive areas. At the end of the day, to live in balance with Los Osos water resources environment realities, water reuse is essential and advanced levels of wastewater treatment are required. In the Los Osos situation, it

behooves the public to be proactive and consider how they should position themselves on what needs to be done to address the endocrine disruptors/pharmaceuticals/personal care products chemicals issues...

"In my opinion until the Los Osos, or any other, community develops a viable decentralized plan that is accepted by the community in a vote to implement the plan, comments regarding what outside institutions are doing to the community are similar to blaming someone else for one's own limitations/behavior. As I understand the situation, that plan has not been generated by the community and obviously no vote has occurred. I understand the community was close—I do not understand why it was not actualized. Until that plan is developed and voted upon by the community, one is a victim of what others do. Again in my opinion, rather than paying legal fees, funds would be better spent developing a solution that the community agrees to implement. My experience in many controversial projects has been that when that is accomplished, the institutions have been very responsive and have changed. Perhaps California is different, but I do not think so. Also negative thinking of outcomes can be (is usually) self-fulfilling. This is not meant to be naïve about political games that occur with wastewater management and engineering...

"I do hope that the community, with the County's help, can create some good out of the situation. I wish the Los Osos community well; it would be good for us all in the industry for Los Osos to succeed. The Los Osos community still needs to vote on any plan."

**DENNIS McQUILLAN, Environmental Health Mgr., New Mexico Environment Dept., Santa Fe:**

"Your reference to 'supposed water quality problems' gave me the impression that you were skeptical... We still see a fair amount of denial about the water quality impacts of septic systems here. We see it among some members of the onsite industry, developers, and elected officials.

"Then, after the water gets polluted, and enough of the community complains and gets organized, we see the requests for public funding of wastewater infrastructure even though some members of the community are still in denial. We think we are making some progress in educating our clients and the political decision makers that these water quality problems are real, and that big pipe is not the only potential solution to these problems."

**BOB RAWSON, President, IWS Corp., Sebastopol, Calif.**

"With so many traditional and innovative decentralized options available to solve almost any wastewater problem, this community, should not be forced into accepting an expensive big pipe solution. The big pipe project is most likely being driven by economic development considerations conveniently wrapped up in public health or environmental camouflage.

"The alleged CWA issues can be confronted within the context of the triennial review of the basin plan-

ning process. Such basin plans can be changed if pressure and funding are made available to study the issues. Regional Boards tend to prioritize the proposed changes, and address the issues that can be funded when they are pressed hard. There is no reason why a community cannot fund its own study of the basin plan components that are at issue."

**TOM MURPHY, CEO, Advanced Environmental Systems Inc., Sparks, NV**

"Most 'alternatives' AREN'T alternatives in the first place. They don't meet the 'qualifying' criteria to be incorporated into an area-wide plan as per the (Clean Water) Act and can NEVER get in the game until it does. Among all criteria, there are only two which your technology must first meet before it will ever be a viable candidate...

"If your alternative technology does qualify, it then becomes a threat to 'their' agenda. You still won't have a future unless you can do one of two things, 1) enable them to still meet their agenda is the most mutually beneficial option, or, if this one doesn't work, then you will have no choice but to do 2) (to be continued...) ...

"One thing must be learned from all of this... 'any viable alternative technology MUST 'eliminate the discharge of ALL pollutants.' There is NO EXCEPTION. Otherwise, you will have no chance to play in the 'BIG GAME'!

**DAVID VENHUIZEN**

"Absolutely the underlying problem is lack of cohesion in the community and consequent lack of ability to rally around even a plan to make a plan much less to arrive at a consensus on a plan.

"Very early on in my discussions with folks here I observed that perhaps the root problem is that Los Osos is not a community in any functional sense—that an urban enclave of some 15,000 remains unincorporated perhaps provides an indication of that—and so has been unable to function as a community to address this matter. Still, heart of the CURRENT matter is that the RWQCB is clearly intent on pushing Los Osos into accepting and installing a conventional centralized wastewater system without any meaningful review of the options available to accomplish the purposes which that centralized system is purported to be able to accomplish.

"Perhaps you are right that if the community came together in force to demand a 'better' solution, the institutions would react in a manner more favorable to 'non-conventional' options. The problem is how do you get that on the table? And that comes down to funding...

"Your points are well taken (Pio). Especially that all this needs to be determined by competent expertise in a 'proper' analysis of options for THIS community. Unfortunately, that brings us back to the top of the page ...

"And the band played on while the ship went down."

# —Let's TALK!—

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# Affordability ... Is It Even an Issue Anymore?

*With the County authorized by AB 2701 to build a sewer for Los Osos, some believe affordability as an issue that relates to the wastewater project may have run out of time on Jan. 1, 2007, the day the County claimed the wastewater project from the LOCSO. Or, perhaps the County will grasp this vital component of any successful project, and thousands won't have to move because of a sewer. Since affordability means different things to different people, The Rock asked community leaders and guides their opinions on the subject and its place in the Los Osos sewer issue. Here are their responses in alphabetical order:*

## AL BARROW

**'STEP collection is one-third the cost of gravity.'**

"The largest factor of affordability is the choice of collection technology—it's 70% of project cost. STEP (septic tank effluent pump) collection is one-third the cost of gravity. That makes the affordability index 300% more affordable in a project that can utilize STEP collection such as the Orenco/Ripley project. STEP also substantially reduces treatment costs, as the septic tank pre-treats the sewage reducing the treatment costs as well. And it produces 95% less sludge than gravity."

## CHUCK CESENA

**'My goal is to produce a system, including a method of financing, which will not result in the displacement of anyone.'**

"It would be nice and simple to say 'affordability means no one has to move because of a utility bill.' I hope that through grants and other forms of financial assistance, we can reach that goal. The cost of whatever system ultimately is built will be very expensive and without this assistance most assuredly would result in the displacement of fixed- or low-income residents.

"The cost of the sewer project has always been the number one concern of the residents of this community. This was correctly identified in the 2001 Environmental Impact Report. Unfortunately that report went on to deceive us into thinking the Tri-W project would be the least costly alternative. This was not true then, and it was confirmed in the fall of 2005 by the proposed 'Blakeslee Compromise.'

"The out of town treatment plant location is only one way to lower the cost of the project. The collection system is the most expensive component of the project and therefore should have the most potential for savings. Since the Regional Water Quality Control Board seems dead set against onsite systems being allowed in Los Osos, that leaves centralized collection system options. And this comes down to a choice between big pipe gravity collection systems and small pipe effluent collection systems.

"The small pipe size associated with an effluent collection system allows installation through a method known as directional boring. Damage to our streets and yards would be minimized as the small pipe can be installed by boring a few feet under the surface. Big pipe gravity systems requires deep trenching, a difficult task in sandy soils with high groundwater.

"The reduced construction-related impacts led to the effluent collection system being identified as the environmentally preferred system in the 2001 EIR. Unfortunately, it was discarded for supposedly being more expensive to install and operate, and because it was seen as unconventional technology. But this analysis was flawed as it was prepared by an engineering firm with no experience with effluent collection systems. The update to the 2001 Facilities Plan, prepared by Ripley Pacific, demonstrated that this system would not only be cheaper to install, it would be much cheaper to operate due to its lower energy requirements. This report was peer reviewed by the National Water Research Institute and their conclusions were unanimous—the treatment plant belongs out of town and the effluent collection systems must be considered on an equal footing with other collection systems.

"The last piece of this puzzle is the method of financing the project. Up until now we have looked to

the State Water Resources Control Board for a low-interest revolving fund loan. The relatively low interest rate (under 3%) can make these loans attractive. Unfortunately, they sometimes come with strings attached regarding the type of system that can be funded. Before Los Osos can even think about another SRF loan from the State we would have to resolve the issue of the money that was disbursed to the CSD for the defunct Tri-W project. Of course that loan should never have been granted without an assessment vote to secure its repayment, something that is now required for all SRF loans. Fortunately we have an engineering firm willing to bring private financing to the table. They would be willing to build, own and operate the treatment plant until the debt was repaid, at which time the CSD would take ownership of the facility. In addition to avoiding the tainted SFR money, this would initially leave all responsibility for the operation of the plant with the owners of the facility. I believe this to be an option that merits serious consideration.

"There are affordability guidelines built into the Water Codes. I think that a limit of 2% of the mean household income is the usual standard mentioned. But that is applied to the mean household income of the community at large. That will mean different things to different people, depending on whether you are at the upper end or the lower end of the range of household incomes. And that number really has nothing to do with the cost of the sewer system that gets built, it relates to how much a single household should be expected to pay. I believe that the proper approach is to find the most affordable system (considering all life-cycle costs, not just up front construction costs) and then find a way to make that affordable to all community members.

"My goal is to produce a system, including a method of financing, which will not result in the displacement of anyone. It may not be possible as there may be individuals who decide that an extra \$25 per month is just too much. But for all who wish to stay, my goal is to find a way to make that possible."

## JEFF EDWARDS

**'If the community must pay for a wastewater project and the importation of State Water may prove to be truly unaffordable.'**

"The affordability question is important, but I believe its further exploration at this time is somewhat premature. Until the County progresses further it will be difficult to fully assess the cost implications. However, there is a related matter that is on the 'front burner' in terms of community discourse. This timely issue relates to the availability of water resources. The Los Osos Community Services District (LOCSO) and Golden State Water Company (GSWC) are the primary water purveyors that serve approximately 5,200 households. The County of SLO is considering the water issue in detail this spring at the Planning Commission and the Board of Supervisors.

"The fundamental question is, 'How does the community balance its current and future needs against available supplies?' The build-out estimates for Los Osos range from 19,000 people to 28,000 people. This broad range is virtually impossible to deal with in terms of planning for the future. Based on land availability and the number of existing lots, I submit the lower end of the range i.e. 19,000 is the most likely scenario.

"At present, the community is using about 3,250 acre feet per year (afy), with estimates that we are exceeding the safe yield by 100-200afy. Additional

demand from new development, given my build-out number of 19,000, should push total demand by 500 afy to 3,750afy.

"The central question becomes, 'Should we import State Water to make up the difference of some 500-600afy?' or 'Can the implementation of a comprehensive water conservation plan achieve the same?'

"I believe the water conservation plan can achieve savings of at least 15% of our current water demand, which is almost 500 afy. I believe this relates to affordability because if the community must pay for a wastewater project and the importation of State Water may prove to be truly unaffordable. It is estimated the community of Los Osos has between 4,000-5,000 dwelling units with 5 gallon-per-flush toilets. This represents a large untapped resource. I have proposed an offsite residential-toilet-only retrofit program for existing dwelling units. Presently I am working with GSWC to implement the conservation plan for their customers. I hope to realize the same goals with the LOCSO.

"A number of people in the community have called for a water moratorium on top of a sewer moratorium, as if that is going to address the water availability question. To put this in perspective, since the sewer moratorium was established in 1988 there have been just over 100 homes built in the community with the exception of the Monarch Grove subdivision. As you may know, Monarch Grove achieved a water exchange with the golf course. The construction of seven homes per year on average for the last 16 plus years is insignificant. If the community wants to know who is responsible for the current demand, one must simply look in the mirror.

"The irony for those in the community calling for a full building moratorium is that these are the same people that vehemently oppose the importation of State Water. If they persist they are unlikely to get a moratorium but will likely face the prospects of State Water being imported."

## MARIA KELLY

**'If we only look at affordability in Los Osos as housing and bills, then we are leaving out a large portion of what the other issues are.'**

"Los Osos has a unique situation. There has been quite a turnover in the housing market. I would speculate that those who purchased investment housing 10 or more years ago, maybe not even that long, have mortgage payments and tax payments that are well under the market rental rate. The investors that purchased houses in that last five years were not as fortunate, unless they had larger chunks of cash to invest. The new investor, who was borrowing on their home to purchase another didn't always make the best choice. The rates were too high and the market didn't hold. These homes were sold to the next generation of home owners, which decreases the 'affordable' market of rentals. For neighborhoods, this can sometimes create a different and new stability. It is a pattern in housing markets that does seem to repeat itself and the stability it offers can be increased tax revenue for the County and, in return, the county can and should provide the other services that make communities 'livable.'

"From talking to many folks, Los Osos has been the roots for some but a transitional place for many. As we go back to the affordability discussion, there is a component that gets overlooked and that is the issue of transportation and services.

"If we only look at affordability in Los Osos as

housing and bills, then we are leaving out a large portion of what the other issues are. To be truly affordable, we have to have a public transportation system that is reliable and constant and an infrastructure of services that can support those populations that tend to struggle the most, which are the elderly, low- to moderate-income working families, families in transition and individuals with health issues of one kind or another. People who cannot afford to own and maintain a vehicle or are not able to operate a vehicle and are reliant on public transportation would benefit greatly and the affordability of Los Osos would become more of a reality. The other aspect of public transportation is that everyone would benefit. At the Center for Housing Policy in Washington D.C., they combine the cost of housing and the cost of transportation when analyzing the issue and promoting the cause. Driving to and from work, driving for goods and services and the driving demands of an active family has put an incredible burden on families and the working population.

“For Los Osos to be ‘affordable’ in the future, it will also need to sustain a healthy rental market that accurately reflects the market in the County and not become over inflated. It will require a commitment on the part of property owners and the renters to maintain that health. There needs to be a blend of renters that reflects different dynamics of the community. Families can only pay so much but college students can pay per person and generally end up paying higher rents. This has happened in San Luis and it has chased away families, owners and renters.

“Another task for Los Osos is to provide and support the opportunity for agency services, i.e. healthcare, eldercare, daycare, food bank distribution, WIC and food stamp enrollment. Los Osos is 15,000 strong and growing, and there needs to be an infrastructure to support this growth or it or it will become increasingly difficult to live here. Infrastructure provides services as well as increases the job market. If there isn’t a demand for services and opportunity then we can’t expect affordability.

“Affordability is one of several challenging issues, and as we start addressing our issues we’ll find that the solutions overlap. If we don’t have a strong community infrastructure, which then requires traveling to other communities to have their healthcare needs taken care of, do all their shopping away from the community, or even move away out of frustration, there is less time for us to cross paths and meet. This decreases the potential of developing friendships and opportunity for understanding. Those things, I can’t afford to live without.”

#### PANDORA NASH-KARNER

**‘Work with the County to create the best possible solution that will solve the problem in a timely way, and not delay the process any longer. Then, we should all work together to find the funding to help offset the costs.’**

“If we don’t create a solution this time, we will further degrade our ground water basin, and continue to pollute the bay. More delays will only make the problem worse. If we have to add imported water costs on top of sewer costs, what will the costs be? My hope is the community will work with the County to create the best possible solution that will solve the problem in a timely way, and not delay the process any longer. Then, we should all work together to find the funding to help offset the costs. I think we all have to trust the process and the new leadership.”

#### JOE SPARKS

**‘Removing uncertainty and minimizing delays is the best way to improve affordability, not just for wastewater treatment, but for long-term water management’**

“I’m not sure I can define affordability accurately, but I believe in the following philosophy: The role of government in our wastewater project is to insure water quality improves, and at the same time provide

a mechanism whereby every ratepayer has the means to pay for the improvements, does pay for those improvements, and then gets to realize the benefits of those improvements.

“Given the two RWQCB constraints (Prohibition Zone and Waste Discharge Requirements) that have been imposed on the community, achieving lower cost (and affordability) is difficult. We have seen the result from a series of community-rejected ‘compliance-oriented’ projects. In contrast, conceptual projects that might have gained wider resident approval have fallen short of meeting some aspect of RWQCB approval.

“So what do we do?

“We cannot use affordability to defray our responsibility. We have collectively benefited from having no solution to date by not having to pay the costs of capital improvements and better treatment methods than septic systems. That benefit for long-term homeowners may actually be over \$20,000 for some households.

“Removing uncertainty and minimizing delays is the best way to improve affordability, not just for wastewater treatment, but for long-term water management. Continued uncertainty and indecision leads to escalating costs. We need to support a site and treatment selection process by the County, and then act to implement a project.

“Only then will we have the means to refine and contain costs, obtain cost deferrals in the form of grants, and get financial commitments backed by our government. We also need to advocate for providing flexible financing for those that cannot afford the cost to meet their obligations.

“Every homeowner has an equity interest, and the implementation of a project will enhance that. If their income cannot support the cost, then time of sale options that allow them to defer cost against equity are needed. We must lobby our state and federal government and financial institutions for more creative equity programs that allow deferred payments, or in extreme circumstances, deferred hook-ups. Reverse mortgages may be an option for some, but in general are a poor financial tool for an individual to use for such a large public works improvement project.

“Ultimately, we need to listen, cooperate, and compromise among ourselves so that as a community we can advocate our interests with credibility. It will maximize our ability to secure funding, obtain competitive bidding, obtain assistance, and thereby increase affordability.”

#### JULIE TACKER

**‘Our project must be tailored to those grants and low-interest loans that are innovative in nature.’**

“What does affordability mean as an issue to me? I can’t put a number on what the sewer will or should cost, I know what it shouldn’t cost. It shouldn’t cost Los Osos its sense of diversity, its spirit, its love of thy neighbor, and it shouldn’t cost the community its governmental voice. Achieving a successful project shouldn’t be under the ‘boot on the neck’ approach of the CCRWQCB; a sewer in Los Osos is not about pollution, it’s about groundwater management. Groundwater management is not about ‘Move the Sewer’; it is about ‘Move the Water.’ To do this it will take great conservation efforts and pumping regimes. It must be done right or we will not have water for our community and any ‘affordability’ will be lost to a State Water project that is forced on our community because we don’t have the good sense to take care of what we have. ‘Affordability’ is the very reason I became involved in the sewer/community issues.

“What will contribute to closing the affordability gap? The County is asking for the community’s help to find grant funding through letter writing campaigns, which have been done before, and we’ll do it again. But until the community unites its support behind one project, there will be no interest on the part of elected officials or grant providers in subsidizing any project. Let this be a warning to those analyzing the project this time, they had best come

back with a great project or they will find divided support which will yield no subsidies again.

“I am of the opinion the only way to make the sewer somewhat affordable is to make it inexpensive to begin with. I have said it before; it’s worth saying again... If we build a sewer project creatively and innovatively we can offset some of the high cost to build in today’s complex regulatory and increasingly expensive construction climate. Our project must be tailored to those grants and low-interest loans that are innovative in nature. For example, if we build a sewer project that uses solar panels it can doubly save money by offsetting use of electricity for the system, and receive subsidies for its construction cost. Choosing a treatment technology that reduces sludge (i.e. ponds with drying beds) leaves water within our basin, and offsets cost to the sewer user. Innovation, similar to the City of Morro Bay’s system, sludge is used to generate electricity in a grant funded co-generation system. Septage (the material in septic tanks) handling for county-wide use is under consideration by the County, and can be revenue generating, additionally easing the financial burden to the Los Osos sewer user. That idea was discarded by previous LOCSD Board when they learned it might be odorous (undesirable in a downtown location).

“Treated wastewater can be used to restore and or build wetland habitats, benefiting the environment. Grants are available for such restorative projects as well as use of treated wastewater to charge steelhead creek habitat (as the Men’s Colony sewer system does), out of town locations can easily charge the Los Osos Creek.

“These innovative, out-of-town aspects of sewage treatment can assist in reducing the costs associated with the Los Osos sewer and benefit the County as a whole, uniting a community behind a common goal...protecting our environment and our community’s socio-economic diversity.”

#### LYNETTE TORNATZKY

**‘Closing the affordability gap will need to be a community-wide, countywide and statewide cooperative effort.’**

“Affordability is an issue that concerns many of us, me included. I am going to be specific to Los Osos’ affordability in its sewage treatment plant options, and ignore issues such as healthcare, energy and global warming. I also think that we are talking about future affordability, since up until now Los Osians have had a pretty good deal in living near the ocean, in a temperate zone, in California, amidst incredible beauty and little traffic.

“If we are open to sane and creative options as to design, building and contracting, financing and ongoing operations, I think a sewer will be on its way to being built by 2010. Ideas to best solve these tasks will not please all of us, but they WILL WORK for most of us.

“I believe that most of us will continue to live here, with property values at least \$100,000 more than what they were with no sewer. We will continue to live in this beauty perhaps doing with a little less. We might consider a reverse mortgage—(there is more than one kind, and do recall, you will have made a significant pile with your ‘improvement’). Perhaps we can pay nothing by putting a ‘sewer lien’ against the future sale. Some might prefer to sell once our property values have gone up and live elsewhere very, very nicely. Our choice. We will not pay ‘nothing’ for our sewer.

“Closing the affordability gap will need to be a community-wide, countywide and statewide cooperative effort. The sewer itself can’t make or break that problem. We all must realize that we cannot afford to lose the human infrastructure of our community: teachers, healthcare workers, and service people.”

## THE ROCK Interview

# Dana Ripley, P.E.

Pleasanton, California-based Ripley Pacific Company was hired by the Los Osos Community Services District in April 2006 to develop the Project Update Report for the 2001 Facilities Plan. Ripley finalized the draft in July and submitted the final Report to the LOCSO in mid-December 2006. The peer review of the Project Update was conducted by the National Water Research Institute, and its panel of experts issued its review on Dec. 4, 2006. The Rock asked Mr. Ripley to detail the Los Osos sewer from a designer's viewpoint and provide some context and perspective for the Report. Said Mr. Ripley about the list of questions submitted to him by The Rock, "I am providing the responses below from a technical viewpoint without regard to any political correctness."



Team leader Ripley: "A distant observer of Los Osos sewer issues for almost two decades ... actively contemplating design solutions for about half of that time."

**Q.** How long have you been observing Los Osos sewer issues, and what brought you to this focal point?

**A.** I have been a distant observer of Los Osos sewer issues for almost two decades, and I have been actively contemplating design solutions for about half of that time. I have observed the parade of sewer design consultants come and go, I have seen the various design proposals come and go, I have seen the political leadership change, and I have seen the changing of faces within the activist community over this extended period. While I have truly enjoyed the acquaintances and friendships made with many Los Osos residents, my focus over the last decade has been on the technical design challenges. Through the two decades of change, the design challenge has remained a constant—the technical issues today are identical to the technical issues 20 years ago.

Indeed, I too have marched in the Los Osos parade of sewer consultants. But having said that, I want to thank the Los Osos ratepayers for allowing me to assemble the expert team necessary to develop the design concept that evolved through my own thought processes over the last 10 years or so. I believe our expedited team effort this last summer was highly successful. Based on the validation of our design concept by the National Water Research Institute in its report of December 4, 2006, I finalized our Project Report Update (unchanged from our July 28, 2006 draft) and hand-delivered copies to CSD Director Cesena on December 18, 2006.

**Q.** What was your reaction when you opened the Tribune on that early December day and discovered that news of the NWRI peer review report on the Ripley plan was nowhere to be found? Did you think

the peer review was newsworthy?

**A.** My reaction was one of relief. A sewer consultant's job is to stay out of the headlines, and as a designer the obvious mission in Los Osos is to get the sewer project off the front page and in the ground. The peer review report was as newsworthy as the fact that the trains ran on time and none of the airplanes fell out of the sky that day. The overview statement by the NWRI panel set the tone for report: "The Plan Update prepared by Ripley Pacific Company has provided an extremely valuable service to the Los Osos community by identifying alternative technologies and waste management opportunities that can be used to develop an overall integrated water management plan."

The number one technical issue in my mind is the integration of the wastewater plan with the water plan, and the NWRI panel was very insightful on this and quickly saw the true simplicity and elegance of our concept plan. The complete validation by the NWRI panel of the overall concept was the ultimate reward as a design professional, irrespective of any lack of notoriety in the local press. Good news does not make good headlines for newspapers.

**Q.** What was the peer review process like? What were a few of the panelists' credentials to review? What key points were raised that upheld the Ripley Report, as well as challenged the Report, as you see it? How did the county and water board participate? How would you "critique" the peer review report? Did you think it was a fair, independent and impartial audit of your Report? Does the peer review now make it any more difficult for your Report to be dismissed by the county as biased or flawed or whatever disparaging term they might adopt?

**A.** The NWRI itself is recognized internationally for leadership in water resources research both at theoretical and practical levels. The panel members, all California residents, have world-class credentials in the water and wastewater world. The panel chair [Dr. George Tchobanoglous] is the undisputed world preeminent authority on water reuse, and has authored 13 textbooks and five engineering reference books.

The NWRI meetings in Los Osos on Nov. 8, 2006 for me could be characterized as an "interrogation." It was unquestionably the most intense day of my professional career. At the end of that first day of the panel visit, it was not clear to me at all what portions of the concept plan would be validated by the panel, and what portions might be considered invalid. To my relief, on the morning of the second day, the Ripley plan was strongly validated.

The only issues of potential challenge were related to priority and timing. The panel recommended co-trenching of the STEP mainline with the purple pipe return line as a cost saving measure, and even recommended challenging State Health Department pipeline separation criteria that would preclude co-trench installation. The panel was also concerned regarding implementation of the agricultural exchange concept within the timeframe of the construction schedule, and we agreed on contingencies in that regard.

The County and water board participated in the NWRI review meetings, and were actively engaged in the discussions, particularly on the second day. An issue of concern for the County was that the Ripley Plan was "biased" and the "numbers are too low." For the water board, concerns were primarily related

to schedule and timing—there were no expressed concerns relating to any technical or regulatory aspect of the Ripley Plan. Of particular interest to me was that the water board staff indicated that it was "on the fence" and "may have erred" in approving the high rate effluent dispersal plan at Broderson. I wrote previously in November 2003 that the Broderson effluent plan needed to consider the State Health Department recharge reuse criteria, and the NWRI panel agreed with that assertion since the Los Osos upper aquifer has historically been a potable water source. State antidegradation policies, in my opinion, require that it be considered a potable water supply irrespective of any degradation that has occurred over recent decades. This was a major concession that strikes at the heart of the feasibility of the Broderson high rate dispersal plan.

**The complete validation by the NWRI panel of the overall concept was the ultimate reward as a design professional, irrespective of any lack of notoriety in the local press. Good news does not make good headlines for newspapers.**

Since the NWRI provided a strong validation of the Ripley concept plan, obviously I was pleased. I thought the panel was fair, independent and impartial. I think the NWRI provides the necessary credibility for the Ripley plan.

**Q.** How has the Regional Water Board and the County responded to the Ripley Report, as they've expressed it to you, through the peer review and in other meetings? Without seeming paranoid or getting yourself in any trouble...where do you think their biases lie that make them less accepting than they should be of your plan?

**A.** With respect to the water board, timing and schedule are paramount. Staff sees that the Ripley plan is consistent with all state water reuse policies and regulations, and is far superior, from an anti-degradation perspective, compared to the prior plan that failed to consider State potable recharge reuse guidelines. From the County perspective, the primary objective appears to be restart of the prior plan, or some portion thereof. I am somewhat jaded on the County staff's true intention when a plan is presented to the Board of Supervisors to "consider all alternatives" and then on the next day proclaim in the local press that the Ripley plan is "untested." The "irresponsible" characterization came a few days later.

I think the words "bias" and "advocacy" in this context may be synonymous. I advocate the Ripley plan because I believe it is superior to any of the other six or so plans previously developed by other consultant teams, it has a world-class validation in hand, and it is a masterpiece of simplicity and elegance (sure, only a sewer designer could see it that way). The Ripley plan addresses the major concerns of affordability, timeliness, and sound environmental

stewardship. If I am guilty of bias for advocating this Plan Update as the right solution for Los Osos, so be it.

**Q. What is the State Water Board's primary source of negativity regarding permitting STEP collection? (Or, more specifically, STEP collection in Los Osos?) What do you think it will take for them to permit a treatment system that is both progressive in design and economical in execution? What can you do to bridge their concerns, if anything?**

A. I am accustomed to the initial negative reaction to STEP collection from both clients and regulators. The issues always get reduced to the on-lot interceptor tanks. For Los Osos, the on-lot issues are incremental—what is the difference between on-lot issues with connection to the gravity sewer and on-lot issues with the interceptor tanks? Focus now on the incremental on-lot STEP issue, and then consider all of the benefits—less than 25% right-of-way pipeline cost, no deep excavations, no leaky sewers (both in and out), no manholes, significant biosolids reduction of over 90%, no treatment plant headworks, no sewer spills during storm events, near elimination of wet weather peak flows, reduced treatment plant power consumption due to septic pretreatment, etc. My belief is that the on-lot issues constitute a relatively small price to pay for the savings in environmental footprint, not to mention reduced operating costs that will continue into the future. And finally, the common assertion that pressure effluent sewers use electricity and that “gravity sewers do not need power” is completely false in Los Osos. Technical Memo #8 (on CSD website) demonstrates how the STEP system will use less power (for collection alone) compared to all of the power required for lift stations in the “gravity” system.

Once clients and regulators get past the on-lot issues and see the bigger picture, the debate is over. Headline issues now with climate change, sewer spills, biosolids disposal—are each addressed in a significant way with STEP collection. This is an expansive topic beyond the scope of this writing, however I would encourage open discussion and debate in the form of a technical workshop. My team could advocate the pressure effluent concept in a face-to-face discussion with any gravity advocates—two biased groups in the same room with ratepayers present. We need closure on this now—this debate needs to be over in Los Osos.

**Q. What can you tell me about the failure of STEP in Olympia, Washington, that might be applied in Los Osos? Wasn't part of the problem due to the fact that it was a more cheaply designed and engineered STEP project and was then unsuccessfully connected to an existing gravity system? What were the lessons learned there?**

A. The City of Olympia is a hybrid system containing both STEP and gravity collection. In review of Olympia information there is no reference to STEP system failure. The Olympia system is not failing and STEP continues to be installed in areas slated for that technology. Olympia's STEP issues do not appear to be technology related. Four other STEP system communities in close vicinity to Olympia, similar in size and age are not experiencing problems with the STEP technology that Olympia purports. One of these communities, Montesano, Washington, replaced a leaky gravity sewer with STEP and virtually eliminated infiltration and inflow. Our subconsultant, Orenco Systems Inc. of Sutherlin, Oregon, has questioned, both publicly and in writing, the validity of a report prepared by a consulting engineer, hired by the city, that contains allegations of poor STEP performance. To address this issue further, Orenco even went so far as to offer a fixed-fee management contract for all STEP systems to the city of Olympia in March 2005. While that offer has not been exercised at this date,

the lesson for me is that the combination of STEP and gravity systems perhaps creates both managerial and technical issues that need attention. Since the STEP portion of Olympia's system relative to the regional gravity sewer system is a very small fraction of the total collected area, all of the “environmental footprint” benefits described above are not readily evident at the regional treatment facility. Secondly, there is a different operations mindset necessary for STEP collection versus gravity collection. Since the Ripley plan includes 100% STEP or STEG collection in Los Osos and no conventional gravity collection (except for existing community systems), the appropriate

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operational mindset will be there both with residents and operations staff. For the existing small gravity collection systems already in place (e.g., Cabrillo and Monarch), we propose cluster interceptors as opposed to on-lot interceptors.

**Q. Can you point out a success story or two with STEP in California or elsewhere that might serve as a working, real-world example, so one could say, “It worked in So-and-So and it can work in Los Osos”? That a STEP model is hard to find has diminished its value to the county and skeptical residents of influence.**

A. There are a fair number of STEP systems in approximately a dozen California counties of different sizes, age, and management structures. However, for the sake of brevity and relevance, a good case study to review is titled, “Case Studies of Economic Analysis and Community Decision Making for Decentralized Wastewater Systems” by The Rocky Mountain Institute - National Decentralized Water Resources Capacity Development Project, Chapter 8, Charlotte County, Florida. The STEP system in Port Charlotte is one of the oldest in the country, of a similar size (number of current connections) and has a coastal geography similar to Los Osos. Recently, Charlotte County Utilities (CCU) fronted 20,000 lots with a STEP pressure main as part of their expansion program. (see [http://www.rmi.org/images/other/Water/W04-20\\_DecentWasteSys.pdf](http://www.rmi.org/images/other/Water/W04-20_DecentWasteSys.pdf))

Salient points to take away from the report: Los Osos and Port Charlotte's situations were in many ways very similar including the state mandate to replace on-site septic tank/leachfields. The traditional gravity sewer option was too costly for the ratepayers. Alternative sewer options were not properly evaluated by the contract consultant. This led to a ratepayer revolt (sound familiar?). CCU turned to low-pressure STEP systems as a solution. The STEP system is working well today.

The longevity of the STEP system and its planned expansion testifies to the performance of this technology. Please take the time to review this question from

another angle. You don't have to go far to find failing gravity sewers. Some California beaches are closed more than they are open due to gravity sewer spills. Yet somehow we don't learn from history repeating itself. Orenco was borne of out necessity to address the needs of a Glide, Oregon community that was suffering from a sewer war. And for over 25 years they've been quietly delivering solutions to small communities across the U.S. and now globally. These small communities carry a high risk of failure because they don't have a large ratepayer base. The economics of a large ratepayer base can absorb and hide the costs of a technology failure. Can STEP work on a larger scale? The STEP systems in Camas, Washington, and Charlotte County, Florida, are sized for 30,000+ connections each.

**Q. Fleshing out your resume a bit, what are some of your past professional experiences in Los Osos prior to the 2006 Ripley Report—and how have you fared in Los Osos looking back? As a result of your experiences, what observations, even “biases,” have you developed over time with familiarity?**

A. My first assignment in Los Osos was to develop the water exchange and nutrient exchange concept for the Monarch Grove project. The exchanges were the basis of the water board permit issuance in 1992 even though the moratorium was instituted in 1988. Monarch Grove residents probably do not know that they would likely not be residents of Los Osos had it not been for the development of the water/nutrient exchange concept that I started working on starting in 1988. Looking back, the concept has worked as planned—irrespective of the Monarch plant compliance issues—that have unfortunately put the wastewater project in a negative light in the local press. On review of the effluent reports for 2006, however, the performance of late has been stellar, and the upgradient/ downgradient groundwater data indicate that the nutrient concept plan I developed in the early 1990s is working perfectly.

The water exchange and nutrient exchange idea is very simple—it is simple in concept and is simple in execution. This model developed for the Sea Pines golf course is in fact the same model currently proposed in the Ripley plan for the ag exchange east of town. The ag exchange includes both a water and a nutrient exchange nearly identical to what has been operating successfully at Sea Pines for six years or so. Looking back, the exchange concept was smart and was key to approval of the Monarch project. It is

***It is not a fact that the Los Osos STEP option will be more costly than a traditional gravity sewer in the long haul. STEP is not a panacea for all wastewater collection challenges, but it is the best choice in this application. The on-lot component cost for STEP is more than with gravity collection, however all other components are less, and in some cases significantly less.***

also smart for the larger Los Osos project today, and will be a key component of environmental clearances as the project advances.

The bias I have with familiarity of the Los Osos situation is a painful one. It is simply that the cascade of horrific events starting with activist protest, CSD director recall, construction stoppage, dissolution attempt, bankruptcy, compliance enforcement, CDOs,

*Continued on page 8*

DANA RIPLEY

*Continued from page 7*

etc. leading to AB 2701, were all preventable. I will remain silent on the details of this assertion because of the extent of outstanding litigation, but this personal bias I have has been painful watching as a distant observer. I hasten to add that this “bias” in no way affects my technical judgment and my recommendations for the most appropriate, the most environmentally sustainable and the most cost-effective sewerage system for Los Osos.

**Q. It's obvious you care about Los Osos, and that you have a viable plan, but opponents of your plan state as fact that STEP will cost more in the long haul than gravity. Is it a fact that STEP would be more costly than gravity in Los Osos? What would make it more costly? If it is less expensive, why is it getting this bad rap—and from where?**

A. No, it is not a fact that the Los Osos STEP option will be more costly than a traditional gravity sewer in the long haul. STEP is not a panacea for all wastewater collection challenges but it is the best choice in this application. The on-lot component cost for STEP is more than with gravity collection, however all other components are less, and in some cases significantly less. For collection of the Prohibition Zone only, the overall capital costs are \$179 million for the prior gravity/Tri-W project compared to \$85 million for the Update Plan (see report Executive Summary). In the long haul, the decreased power consumption and reduced biosolids management will provide costs savings lasting literally indefinitely. The absence of mechanical headworks is also a substantial operating savings that I really have not discussed previously. For the treatment capital and operating costs (Tech Memo #8) we assumed influent full strength wastewater, which would result in conservative capital and operating cost estimates since septic pretreatment in the interceptor tanks provides a very weak strength influent wastewater which is much easier to treat to tertiary standards. Therefore, we see value engineering opportunities in the design phase to take full advantage of septic pretreatment included with STEP collection.

The “bad rap” is an interesting question. The mantra of modern wastewater engineering to eliminate on-site “septic” systems by connecting to gravity sewers to transport sewage to somewhere far away. “Septic” systems, from my perspective, mean septic tank and leachfield, or some form of cesspit. STEP systems maintain the on-site septic tank, but eliminate the leachfield or pit dispersal. Many folks do not make the distinction, but it is significant. Because STEP has a septic component, it is still erroneously considered a “septic system,” and I think that that association perpetuates the “bad rap.” But once the full features of the STEP system are fully explained, particularly with off-site treatment and beneficial reuse, the distinctions are obvious and the negative connotations dissipate quickly.

**Q. The county claims it has yet to be “persuaded” that Ripley and STEP are the way to go. Since the county has had full knowledge of STEP for years, doesn't this comment suggest they are predisposed toward gravity and have probably already made their minds up?**

A. There is no need to repeat my prior statements on this. Suffice it to say that STEP collection was the environmentally preferred alternative in 2001, and there is no question that it will be the environmentally preferred solution in 2007. Nothing has changed in six years that would warrant a different conclusion by the EIR consultant. Since the same EIR consultant recently retained by the County wrote the 2001 CEQA document, it is virtually assured that the environmentally preferred collection alternative will be the same. Interesting that County hired this same EIR consultant, and now proclaims STEP collection

“untested” and “irresponsible.”

Just for the record, here is word-for-word the conclusions of the EIR consultant in 2001:

*Geology. STEP/STEG has the potential to be installed using trenchless technology which reduces construction-related impacts associated with the excavation of open trenches. Trenchless installation has a lower potential for impacts associated with erosion and does not require trench stabilization or de-watering.*

*Cultural Resources. A STEP/STEG system can be installed at a shallower depth using a drill instead of a trench. The smaller pipe and shallower installation depth would be expected to result in less disturbance to cultural resources than a conventional trench.*

*Traffic. Trenchless installation would generate slightly less construction traffic and would be less disruptive to traffic patterns in the community. However, once installed, each of the 7,000 septic systems would require periodic maintenance which would generate truck trips to and from the treatment plant site.*

*Noise, Air Quality and Biological Resources. The less disruptive nature of trenchless STEP/STEG installation would generate less noise, require fewer internal combustion engines and would disrupt*

***The fact that Tri-W scored lowest of all candidate sites (with and without criteria weighting) speaks for itself. The NWRI weighed in on this as follows: Given the number of problematic issues with the downtown site, it is the unanimous opinion of the Panel that an out-of-town site(s) is a better alternative...Tri-W is simply the wrong treatment location for a host of reasons and the pre-existing approvals are simply of no value.***

*biological resources slightly less than installation of a conventional system.*

The EIR consultant indicates that life-cycle costs associated with STEP/STEG are “much greater than that of a gravity system.” Our cost analysis concluded the reverse on both overall base capital cost and long term operating costs.

**Q. Did you incorrectly weigh or mistakenly steer the county away from the Tri-W site as the best possible location for a sewer plant? Why is Tri-W not the most preferred site when you consider all the factors including all pre-existing regulatory approvals and dollars already spent?**

A. Our assignment by the CSD was obviously to locate an alternative treatment site to Tri-W. Technical Memo #2 (Site Selection) was based on our best professional judgment and not any predisposed attempt to steer anyone one way or the other. The fact that Tri-W scored lowest of all candidate sites (with and without criteria weighting) speaks for itself. The NWRI weighed in on this as follows: *Given the number of problematic issues with the downtown site, it is the unanimous opinion of the Panel that an out-of-town site(s) is a better alternative.*

With respect to pre-existing regulatory approvals, I again draw attention to the Broderson effluent dispersal plan. The prior design team knew that the success of the Broderson dispersal plan was questionable at best, and had contingency plans for both reverse osmosis treatment and a \$3 million pipeline to the east-of-town ag sites. The MBR treatment alternative, while not included in the 2001 project report as a treatment alternative, was ultimately selected later on

the basis of being an excellent RO pretreatment process, which is correct.

If the high rate dispersal plan requires RO, then the whole benefit of the Broderson site comes into question. If Broderson is abandoned for dispersal, then what justification at all remains for keeping Tri-W? Answer: none whatsoever. The pivotal issue, in my opinion, is whether or not the upper aquifer constitutes a potable supply. Since it historically was potable supply, state antidegradation policy would mandate that it be considered potable supply today, and a plan advanced to restore potable water quality. The State Health recharge reuse guidelines therefore apply. The NWRI panel made the same determination and the water board staff agreed that it “may have erred” on this. If Broderson is abandoned for dispersal, then Tri-W automatically needs to be abandoned as well, for what is a treatment plant worth without an effluent plan close by? Tri-W is simply the wrong treatment location for a host of reasons and the pre-existing approvals are simply of no value.

**Q. What are the most significant reasons for locating the sewer plant out of town and not in town? Please give us a basic skeletal comparison of in-town versus out-of-town.**

A. First, the obvious—wastewater treatment facilities are generally located remote from urban centers. The out-of-town sites are removed from downtown, and provide sufficient space for buffer setbacks and visual barriers. Our recommended Site D is near the heart of the ag exchange sites, and ample land is available for off-basin dry land irrigation immediately east, if necessary. Also, seasonal effluent storage sites are readily available at and near Site D. Bottom line here—there is simply more room to do what needs to be done and the cost per acre is a fraction of the per acre cost downtown. The landowner of Site D is a willing seller and seeks fair appraisal value.

**Q. Why is a gravity collection system and MBR plant wrong for Los Osos? Please explain.**

A. I personally am a member of a relatively small but growing group of sewer designers that feel gravity sewers will generally become obsolete in the next century. The leakage issues and now the rehabilitation costs everywhere for sewers over 50 years old are simply staggering. Add to that the fines for sewer spills, increased treatment costs for discharges to creeks, rivers, and the ocean—the gravity collection systems in many communities creates a greater cost for treatment and effluent management from infiltration than the raw sewage it is designed to collect. There is a gravity sewer system built in California within the last two years—a brand new system—that is robbing the treatment plant owner of capacity due to excessive groundwater infiltration. And, the tertiary effluent has become unusable—degraded in quality because the salinity of the shallow groundwater is so high. The water board (R5-Rancho Cordova) will not let the owner use the brand new purple pipe distribution system—why? The salinity exceeds allowable Central Valley Basin Plan standards. This could easily happen in Los Osos. High salinity groundwater infiltrating into the gravity system could degrade the effluent quality to the point where it becomes unusable. Now add seawater elevation rise due to global climate change and melting glaciers—just another recipe for disaster.

The alternative MBR technology was not included in the list of treatment alternatives in 2001. It was added later based on its ability to provide RO pretreatment. While the MBR technology has advanced impressively over the last decade—its one Achilles' heel is power consumption. The small footprint of the MBR plant comes at a cost of much higher power consumption—double or triple the more conventional alternatives. With carbon taxes on electricity on the horizon, the relative power costs for MBR treatment will only magnify. With the out-of-town treatment and lower land costs, the small footprint advantage

diminishes in importance significantly. There are other well-suited treatment options that will do just as well with a fraction of the energy consumption.

**Q.** *There are lots of smoke and mirrors in the wastewater treatment business. At the recent meeting on peer review of the Ripley plan, it was agreed that some sort of nitrate reduction to the effluent used for ag exchange would be required. The nitrate level in the water would probably be more than what the plants could use and would penetrate into the aquifer. Ripley NEVER addressed this issue. This would significantly increase costs. Would the added costs of removing nitrates make the Ripley plan too expensive? Please explain.*

**A.** Good designers avoid smoke and mirrors, however an excellent question nevertheless and one dear to me. First, the NWRI panel did waffle a bit on this, but the important recommendation on this: *Effluent disposed by land application (i.e., spray irrigation) will not need to undergo nitrogen removal when applied at agronomic rates.*

All crops need nitrogen supplementation and their need per acre is on the order of 2x to 3x the amount delivered in the recycled water for irrigation at agronomic rates. Therefore, under all circumstances, the farmer still needs to add some (albeit reduced) amount of chemical fertilizers to grow a crop. Lowering the level of nitrogen in the final effluent (recycled water) is foolish in two ways: it costs energy to remove it and it costs energy to produce the chemical fertilizer to replace it on the farm.

Our position has always been that nutrients need to be managed every bit as much water in the groundwater basin. It is not difficult—keep track of the application of both effluent nitrogen and fertilizer nitrogen, and keep close tabs on shallow groundwater nitrogen. What is to be avoided is the blind assertion that nitrogen levels need to be reduced to a specific level at the end of the treatment process completely neglecting the value of the nitrogen to the end user. How much sense is using electricity to remove nitrogen in the treatment process only to deliver that effluent to the adjacent farmer that buys inorganic fertilizer made with copious amounts of guess what? Electricity. We just need to be smarter on this, particularly with climate change issues front and center now. Ask the golf superintendent at Sea Pines—how much trouble is adding up the nitrogen application at the end of the year? Not much.

I am not opposed to including denitrification unit

***As the world is watching California in leadership on climate change, the world of wastewater is watching Los Osos. Such a power savings in a complete sewer system, designed from the ground up, will be watched internationally. The impact of these design decisions will be felt far beyond San Luis Obispo County. Future generations of sewer designers will look to a new standard as to what power benchmarks ought to be. I will now term the new efficiency standard in wastewater energy intensity the “Los Osos Benchmark.” Five years from now, it will be in the engineering textbooks, guaranteed.***

processes as a backup in the event that it is needed as recommended by the NWRI panel. But to be used only if necessary and only nitrogen reductions in amount necessary to protect shallow groundwater beneath the ag exchange sites.

**Q.** *Can you summarize the level of energy efficiency and energy costs saving offered by the Ripley Plan, compared to the Tri-W MBR facility? Why is saving energy such an important part of the Ripley plan? Describe the theory behind controlling energy usage and what it really means for all of us now and in the future.*

**A.** The actual number tabulations are provided in Tech Memo #8. We estimated an overall 68% reduction in power demand for collection, treatment, and effluent pumping. Since release of the draft report in late July, we have received only one comment on TM #8 from a Los Osos resident who indicated that our STEP pump units need only operate 20 minutes per day, and not 30 minutes per day that I conservatively estimated. Very insightful observation by that one Los Osos ratepayer.

I was in disbelief when I first completed the spreadsheets, but having cross-checked numbers repeatedly, I believe they will withstand scrutiny. Since writing TM #8, I have read articles by other designers and operators that have come to identical conclusions about MBR power consumption relative to more conventional treatment. This was the conclusion of a national design/build/operate team as presented recently at WEFTEC 2006 in Dallas last October: *The significant energy needs of an MBR plant make it difficult to justify on a life-cycle basis against other comparable technologies, especially in times when energy costs are expected to increase at an accelerated rate.*

This design team is attempting to reduce the power consumption for the MBR process design in collaboration with the same vendor selected for the Tri-W MBR plant, however the control and piping complexity increases substantially to achieve desired results.

The debate on the existence of global warming is over. The debate now is how to accomplish the greenhouse gas reductions to meet AB 32 goals in California, and it is obvious since November that federal goals are coming. The importance is that power consumption needs to be a very high-level consideration in any evaluation of alternatives. With AB 32, carbon budgets will most likely be required by the State Air Resources Board for any evaluation of alternatives under CEQA, and for the federal rules for anything under NEPA.

Controlling base load energy usage in the design phase is important because that efficiency will last the life of the facility. This analysis eliminates redesign work in the name of conservation after-the-fact. Not only is money saved on power bills, and carbon emissions are reduced by the power utility, but it also opens the door for alternative power sources such as solar that can be much more cost effective if the base load is reduced as much as by two thirds. We are also considering expanding up-front equalization to allow the treatment plant to “pause” during peak demand periods (e.g. 4 pm to 7 pm) and time of use (TOU) contracts with PG&E to substantially reduce \$/kwh costs overall. There are some creative things going on now in that regard, and PG&E is very aggressive in TOU pricing mechanisms to offload the grid during peak power periods. There are big potential cost savings here.

**Q.** *What exactly is sustainability and how do its principles apply as it relates to the Los Osos situation, and how important is to fully engage this concept to help to guide and meet our future water and energy demands?*

**A.** There are many definitions of the word sustainable to the point of it becoming trite. However “sustainability” or ‘sustainable development’ was popularized by the World Commission on Environment and

Development (WCED) in its 1987 report entitled “Our Common Future,” suggests that a project is sustainable where it “meets the needs of the present without compromising the ability of future generations to meet their own needs.”

The word “sustainability” can mean so many things to different people. For the Los Osos project, I have focused on power demand, biosolids generation, and integrated water management as the sustainability features of greatest interest. Power is discussed previously above. Biosolids has become a hot-button issue in California due to Kern County’s action against Los Angeles on biosolids land application. My prediction is that all counties will enact importation barriers and each County will be on its own, or rail transport to Utah. With no external energy source, the STEP interceptor tanks provide approximately 65% reduction in organic load to the treatment facility (corroborated in technical references)—simply by anaerobic digestion afforded by the long solids residence time in the tanks. This reduction in organic loading directly relates to a significant reduction in biosolids production at the treatment facility, making the options for producing Class A biosolids for local use are much more economically palatable. Different treatment processes produce varying amounts of biosolids, however the right combination of STEP collection and treatment can recognize as much as 90% biosolids reduction over traditional gravity sewer collection and treatment. This makes the option of producing Class A biosolids for local use much more economically palatable.

And with space available in the out-of-town location, there is no off-site transport for biosolids processing. Everything can be done onsite, with beneficial local use of high quality biosolids—no transport to a who-knows-where out-of-county site. We all know Santa Maria is now off limits.

The integrated water management portion of the Ripley plan is a fundamental sustainability feature. While we have been criticized as to specific aspects of the plan, such as the hydrogeologic connection between the eastern limit of the aquifer and the main basin, we see low-cost resolutions whether our hydrogeologist is right or wrong. We do agree with the NWRI panel that the main effluent return line should be advanced to Phase 1, and that that will be important with respect to reducing seawater intrusion particularly with wells near the bay (e.g. Sea Pines) that need to decrease or stop pumpage.

Logically, sustainability must also include what’s affordable to the users. What good would it do to design and build something that protects the environment yet no one could afford? The Ripley design embodies the knowledge of an expert team that has strived to deliver a sustainable solution that is affordable today and to future generations.

**Q.** *What impact, if any, did concerns raised by global warming have on the thinking behind some of the guiding principles in the Ripley Report?*

**A.** In the development of the plan last summer, global warming had really very little impact. Only when it became evident that the power demands varied by a factor of three that we decided that we could make a difference, in an incremental way, on the global warming issue. As the world is watching California in leadership on climate change, the world of wastewater is watching Los Osos. Such a power savings in a complete sewer system, designed from the ground up, will be watched internationally. The impact of these design decisions will be felt far beyond San Luis Obispo County. Future generations of sewer designers will look to a new standard as to what power benchmarks ought to be. I will now term the new efficiency standard in wastewater energy intensity the “Los Osos Benchmark.” Five years from now, it will be in the engineering textbooks, guaranteed.

**DANA RIPLEY***Continued from page 9*

**Q. Is it correct to say that the peer review seemed to de-prioritize an exchange as an achievable goal in the near term? How does this impact your overarching plan to provide “beneficial reuse of water and nutrients” and long-term sustainability of the aquifers? Please explain.**

A. The original NWRI panel recommendation was to “decouple” the wastewater project from the ag exchange beneficial reuse project. While we might agree in concept, we feel it is unnecessary. The concern centers around having enough ag participation by the time of startup. If startup begins in say 2010, we have plenty of time to secure ag sites—either on-basin or off-basin. We prefer of course on-basin sites for the exchange, but the available sites off-basin far exceed what is needed for agronomic application. We see no issue with this except for timing, and we have a ready contingency in the event we have not secured sufficient on-basin farm land signed up for reuse of the recycled water by startup.

For any critical discussion of the Ripley effluent management plan, the details of the Broderson dispersal plan need to be included for comparison. We remain at a loss as to whether the 800,000 gpd subsurface discharge at Broderson left the groundwater budget or remained in as potable supply. There seemed to be a schizophrenic debate as to characterization of “recharge” or “disposal” on the Broderson dispersal plan. Either way, State Water Board and State Health Department draft guidelines were ignored. Since the harvest well discharge had an undetermined volume and destination, it is not possible to compare the two plans with respect to long-term sustainability of the aquifer. What is clear is that the aquifer beneath Broderson site cannot possibly retain 800,000 gpd for more than a few months without a discharge or reuse outlet—neither of which were provided for. The Broderson high-rate dispersal plan would not be sustainable even from a hydraulic retention basis.

**Q. Are leaking septic tanks the primary source of Los Osos’ groundwater contamination? Or is it failed leachfields, or both? How can anyone know the scope of the task with any degree of certainty without first doing a thorough septic management survey? The Basin Plan long ago called for a septic management program, but it was never implemented. What is your take on the Los Osos septic situation? Is it a health hazard at this point?**

A. The answer is clear. In most cases, it is not the tanks, it is the disposal fields that are failing. The scope of these failures is evidenced by the nitrogen maps showing hot spots with N concentrations exceeding 10 mg/L, a level deemed unsafe for use of the water for mixing baby formula for fear of methemoglobinemia (blue-baby syndrome). While the sources of nitrogen in the shallow groundwater may be disputed, there is no question that at least some of it is contributed by the failing septic systems (disposal fields). Presence of pharmaceutical compounds in the groundwater further confirms the source of contamination as septic systems. To that extent, yes, the current septic system in Los Osos is a health hazard. The NWRI panel weighed in clearly on this one: *Doing nothing is not an option.*

**Q. In your project costs, I believe you budgeted for the replacement of a high number of septic tanks, which was really a cost variable, depending on the actual number of tanks needing replacement. What role does the replacement of septic tanks play in the Ripley Plan, and what would be the ballpark cost for replacement to the average homeowner under your plan (vs. hooking up to the county’s gravity sewer)?**

A. We budgeted for a 95% replacement rate. The replacement of these tanks is critical to the success of the overall system. We need to ensure that the interceptor tanks are properly sized, structurally sound, water tight, and that the pump vaults are correctly installed. We are recommending that the cost for replacement be included in overall project financing, and not be a direct homeowner cost. We note that the gravity sewer system did not include on-lot connection costs in the system budget, and that the homeowner was responsible for both the cost and installation. In our STEP plan, the homeowner is responsible for neither.

**Q. Why, in your opinion, do you think the lobby for gravity has been so aggressive—and successful—at controlling the “choice” and location of a wastewater treatment solution?**

A. The gravity sewer industry is substantial—from designers, pipeline contractors, maintenance equipment vendors and contractors, and rehabilitation contractors. The STEP design reallocates a fraction of the conventional costs to different designers, contractors and suppliers. Any threat to an established industry will cause disruptions—that is the way of life in the competitive world in which we all live. Unfortunately, or fortunately for others, Los Osos has become ground zero in this long-standing debate.

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With the loss of Broderson as a dispersal site, there is absolutely no justification whatsoever to continue any further consideration of the Tri-W site—that determination is completely independent of the STEP versus gravity debate. With the loss of Tri-W, any treatment site location with gravity sewers would be a rehash of the past: Pismo, Eto or Turri Road sites. The reason the Site D location was never considered previously with gravity collection is simply that it makes no sense to terminate a gravity system at a distant high elevation out of the service area. With STEP collection, terminal elevation is nearly irrelevant—the site can be higher or lower. The STEP collection system (with all units using ½ horsepower pumps), will reach Site D without aid of any booster pumps, so the Site D location, just east of the prime ag exchange sites is ideally situated.

This discussion adds to the distinction between STEP and gravity collection. In gravity collection, the plant location is ideally at or near the low point of the service area. For undulating topography, lift stations are needed at low points where gravity flow is not possible. These two constraints for gravity collection do not exist for STEP collection. The terminal point (treatment site) can be anywhere—low point, high point, or same elevation remote from urban center. No lift stations are needed in the collection system since each STEP unit itself is a mini lift station capable of discharging over the high points in the service area. The undulating topography coupled with

high groundwater and sandy soils, makes gravity collection problematic for both construction and long-term operation. Conversely, pressure STEP collection is ideally suited to the topography and soil type, and allows siting of the treatment plant literally anywhere within say five miles of the urban area without any need for booster pumps. Again, the STEP collection system is ideally suited for the unique soil, groundwater, and topography characteristics of Los Osos.

**Q. How much of a role do you think big money and politics are playing in Los Osos’ situation? If money and politics were not involved, what kind of treatment system do you think would best fit Los Osos?**

A. The issues of money and politics are matters of concern for the ratepayers of Los Osos, not me. The only money subject that is important to me is the sustainable affordability of whatever sewer solution for Los Osos is implemented. Irrespective of any non-technical influences, the Ripley plan describes the system that best fits the needs of Los Osos in terms of immediate water quality compliance issues and in terms of cost-effective and sustainable infrastructure for many, many generations to come. The validation of the Ripley plan by the NWRI has provided an independent expert third-party review that, in my opinion, is second to none.

**Q. What have you discovered that people most misinterpret or misunderstand about the Ripley Report that you can clarify here?**

A. The ag exchange component generates the most comments. In response, I look at the history of ag effluent reuse projects in Salinas and Santa Rosa, and note that in each case there was a two-decade resistance to the plan, primarily from the ag interests themselves. Now that both systems are up and running, the biggest issue for the farmers in reliability of effluent supply. Farmers are competing with geothermal production and expanding urban purple pipe delivery systems, and shortages of effluent during the irrigation season are real. In both cases, the districts are advancing seasonal effluent storage projects to retain effluent during the winter season for use during the irrigation season. For these projects, zero-discharge is the goal and storage is the key to that end. We can state with confidence, that while we had only three and a half months to produce the Update Report, much work remains to be done including further development of the ag exchange component. With the experience of other ag reuse projects in the state behind us, we are confident that all of the pieces will fall into place once our team gets back on the ground in Los Osos to execute the plan.

**Q. With your plan, what’s next?**

A. There is enough said above for consideration at this point. I could write an equal volume on the what’s next question, and will save that for another day. The obvious question for our team is whether the Ripley plan will or will not be considered on the true technical and cost basis that it deserves by County staff and recently hired consultant team.

Suffice it to say, if our team is directed to proceed, our job is simply to get this sewer project off the front page and in the ground and beat the compliance deadlines. Our team has the expertise and is ready to execute. Our team can offer the community a private finance design/build option completely separate from the SRF program. According to District counsel, a Proposition 218 vote may or may not be needed for the private finance option, and this may potentially offer the benefit of expediency and speed. If Los Osos ratepayers wish for us to proceed on that finance/design/build/transfer basis, either on an emergency sole-source or an expedited open RFP procurement, we stand ready to be of service.

# The Rainbow Lure of Tsurugi

**Konnichiwa!** If you've been looking and still haven't found authentic Japanese food in San Luis Obispo, then perhaps you know what really good Japanese food actually tastes like—and what a rare commodity it is in the city and on the coast. With Tsurugi, you know that you're going to get Japanese food as you remember it from having dined in LA or San Francisco, and while it may not be on a par with the gourmet poles of culinary California, it is still superior to any Japanese restaurant in SLO.

Oh there are Japanese restaurants in the area, and while each has its specialty, each is missing something vital that would make it special. Some are more Japanese-American, others mired in mediocrity. At the skyrocketing prices for sushi, who wants to pay



restaurant, located downtown in The Creamery complex since 1983. Many of the chefs have worked at Tsurugi for years, and loyal customers have dined there for years. Older doesn't always mean better, but with Tsurugi it means a long tradition of high quality and a dedication to making sushi the old-fashioned way—from scratch with the best ingredients.

As with most Japanese restaurants these days, it's the "Special Rolls" that are the sexiest items and attract the most attention. Although Tsurugi is more of a dinner destination than a special roll emporium, the Spicy Tuna Roll on soy paper (\$12.50), dripping in a tangy mayonnaise-based sauce, and Spicy Albacore Roll with Garlic Chips (\$12.50), immediately register on the palate as lifesavers for sagging tastebuds (\$12.50), as does the sashimi and roll lunch (\$13.95), seared tuna, halibut, salmon and lobster salad rolls. Tsurugi is also known for its tatakai—oysters, salmon, albacore or yellowtail tuna swimming in a delicate vinegar or soy sauce that removes any

fishiness and coats the fish in flavor. One gentleman comes into Tsurugi's almost every day, sits in a corner of the sushi bar, and merrily consumes his Tuna Salad of seared tuna sashimi and cooked tuna with avocadoes over mixed greens. Now that's the life!

Lunch menu selections comes with a bowl of miso or clear soup and small side salad with choice of wasabi, sesame or soy vinaigrette dressings. Tuna the World—four pieces of prime tuna sushi and six pieces of tuna roll (\$12.95), Shrimp the World—four pieces of large shrimp sushi and six pieces of shrimp salad roll (\$12.95) and Salmon the World are designer food traps for lovers of all-tuna, all-salmon or all-shrimp dishes. Prices have increased noticeably over the past year. Quality of the fish may vary.

The Tokyo-based Goshi Group also owns Goshi in Paso Robles and Sushi 101 in Studio City.

Tsurugi is located at 570 Higuera St. in The Creamery, San Luis Obispo. Open for lunch 11:30 a.m. to 2 p.m., for dinner 5 to 10 p.m. Seating at sushi bar. Tel.: 543-8942. —Ed Ochs



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