

# LOCAL

## SAN CLEMENTE WEIGHS SAND REPLENISHMENT

Erosion has stripped away the beach over 30 years, potentially leaving a future of cobblestones and exposed foundation as restoration costs could prove prohibitive.

If you dumped 251,000 cubic yards of sand onto San Clemente High School's football field and track, you'd have a sand pile 46 feet high.

That's how much sand the Army Corps of Engineers is looking to plop onto San Clemente's shore on each side of the pier. It could happen in 2015 if Congress funds an initial \$11.3 million restoration plan, which could repeat every six or so years for 50 years - total cost, \$98.1 million.



**FRED SWEGLES**  
REGISTER WRITER

The plan is the result of a \$3.2 million study that took lessons from a San Diego County replenishment of 12 eroded beaches. San Clemente would pay half the cost by seeking grants from the California Department of Boating and Waterways, as the city did to pay for most of its share of the study. For the first round of sand, the federal government

SEE SAND • PAGE 2



**BILL JOHNSON**  
REGISTER COLUMNIST

### Shop the madness at packed O.C. mall

Someone told me it would be fun. I should have known better.

What follows is but a snapshot in time of an insane, buy-it-even-though-you-don't-need-it feeding frenzy that occurs every year on Dec. 26, which of course is better known as the day after Christmas.

I arrived at South Coast Plaza in Costa Mesa a little after 9 a.m., figuring that I would arrive a little early to observe the day-after sales madness.

It was something, I was told, I had to witness personally, that it would be a good exercise in seeing Orange County in action, that maybe I could even pick up a sweater or two while I was at it.

The place was packed. And packed, I have come to discover, is quite a relative term. Everyone I encountered on this day all exclaimed the same thing: "This is nothing!" Maybe, I think now, I have been away from Southern California too long.

I'm virtually swimming through people along the walkways, dodging and being tripped by innumerable toddlers and their strollers, coming face to face with a multiple bag-carrying elderly woman in the shoe department of Bloomingdale's because there was no way to avoid it in a swarm of shoppers. If this is "nothing," I never want to see or know what "something" looks like.

Still, you make the best of things.

Stephanie Barnum, 36, of Newport Beach called her sister, Beverly, 46, of Van Nuys, who had spent the night at their parents' Irvine home, at 6:20 a.m.

Get up, she told Beverly, we are going shopping.

It is why you do not see their photographs in these pages today. They had not

SEE JOHNSON • PAGE 3

### SAND SLIPPING AWAY

The San Clemente shores traditionally have the sand taken away in the winter and returned in the summer, in mostly equal doses. But El Nino storms in the 1980s, coupled with less sediment from creeks, has reduced the sand. Congress may vote next year on a \$11.3 million initial project to replenish the beach with imported sand. After initial construction, the beach will need to be refilled every 6 years for 50 years, costing \$98.1 million.

#### WHERE THE SAND MAY BE INSTALLED

**RAILROAD** Rocks protect train tracks from surf and are routinely inspected, particularly after storms. It has been suggested that more sand can help protect the tracks without resorting to more rock, which accelerates erosion.

**0.8 FEET AVERAGE SAND LOST PER YEAR FROM 1990 TO 2001.**

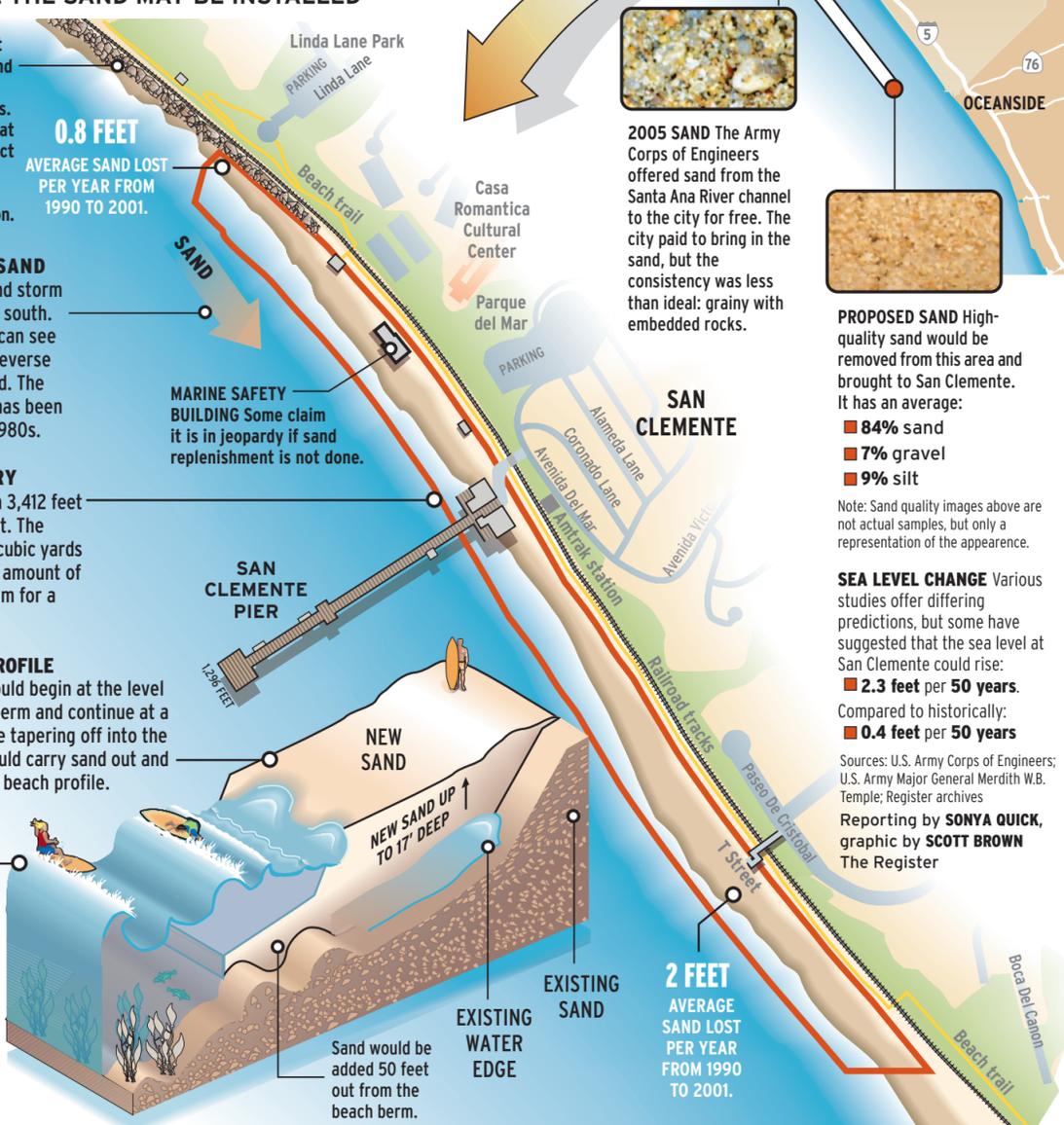
**CYCLE OF LOSING SAND** Winter brings swells and storm surges that carry sand south. April through October can see southerly swells that reverse the normal flow of sand. The seasonal gain in sand has been insufficient since the 1980s.

**MARINE SAFETY BUILDING** Some claim it is in jeopardy if sand replenishment is not done.

**PROJECT BOUNDARY** Proposal is to replenish 3,412 feet of shoreline out 50 feet. The project totals 251,000 cubic yards of sand - 42 times the amount of dirt put in Angel Stadium for a Supercross event.

**PROPOSED BEACH PROFILE** The additional sand would begin at the level of the existing beach berm and continue at a height of 17 feet before tapering off into the ocean. Wave action would carry sand out and form a more equalized beach profile.

**SURFING** Reefs influence the surf at T-Street. As sand is carried offshore it would fill in deeper areas and possibly on the reef, which could affect wave characteristics. Local officials expect any impact, such as waves breaking more quickly, to be temporary. It would be monitored and could affect future replenishments.



**2005 SAND** The Army Corps of Engineers offered sand from the Santa Ana River channel to the city for free. The city paid to bring in the sand, but the consistency was less than ideal: grainy with embedded rocks.



**PROPOSED SAND** High-quality sand would be removed from this area and brought to San Clemente. It has an average:

- 84% sand
- 7% gravel
- 9% silt

Note: Sand quality images above are not actual samples, but only a representation of the appearance.

**SEA LEVEL CHANGE** Various studies offer differing predictions, but some have suggested that the sea level at San Clemente could rise:

- 2.3 feet per 50 years.

Compared to historically:

- 0.4 feet per 50 years

Sources: U.S. Army Corps of Engineers; U.S. Army Major General Merdith W.B. Temple; Register archives

Reporting by **SONYA QUICK**, graphic by **SCOTT BROWN** The Register

### MORE INSIDE

#### KWANZAA BEGINS

Bea Jones, right, lights one of the seven candles of Kwanzaa during a celebration Wednesday in Santa Ana. **Local 6**

#### SAN ONOFRE

Federal regulators want more analysis of the nuclear power plant's damaged steam generators. **Local 8**



EUGENE GARCIA, ORANGE COUNTY REGISTER

#### CLARIFICATION

An article on Page 25 of the News section of the Dec. 16 edition of the Register cited county Supervisor John Moorlach's estimate of \$6 billion of unfunded liability for Orange County Employees Retirement System after it reduced its assumed investment return. Moorlach estimated the unfunded liability based on what he said was prior information released by OCERS. However, the pension fund's actuary recently calculated that the unfunded liability would have been \$5.36 billion as of Dec. 31, 2011, had the lower investment assumption been in place then.

We will promptly correct factual errors. Call 714-796-7951 or email [corrections@ocregister.com](mailto:corrections@ocregister.com). Legal demands for correction must be in writing and sent to the publisher at Box 11626, Santa Ana, CA 92711-1626.

#### LOOKING AHEAD

Our Honk columnist, Jim Radcliffe, answers your traffic questions, sometimes with an attitude. Today on [ocregister.com/honk](http://ocregister.com/honk) and in Friday's Register



We celebrate the New Year safely  
**We ride OCTA Free**

Free bus rides 6:00 pm - 2:30 am New Year's Eve  
Monday, December 31, 2012

[octa.net/FreeNYE](http://octa.net/FreeNYE)

start riding