Aside from money, tsunami tower moving ahead

Designed to protect 850 people from a 22-foot tsunami

By NATALIE ST. JOHN
EO Media Group

LONG BEACH, Wash. — Work on the vertical evacuation structure near Long Beach Elementary campus is progressing. However, due to previously undocumented issues with the soil conditions at the site, the city will have to spend an estimated $1 million that was not built into the now $3.5 million cost of construction.

"We've really got to find more money," Long Beach City Planner Gayle Borchard said.

Known as the "Safe Haven Berm Project," the effort to build the tower began about seven years ago. It is a collaboration between a University of Washington team, the city and the state and federal agencies that are funding much of the project through grants.

The goal of the project is to provide a safe, easily-accessible place to shelter people in the event of a major earthquake or tsunami.

Though vertical evacuation structures exist in some other tsunami-prone countries, Long Beach's plans are breaking new ground in the United States.

"There's nothing like this in the United States of America right now," Borchard said.

Project gaining momentum

Despite the increase in estimated ground stabilization costs, the design phase of the project is gaining momentum.

"We've just been slowly moving, and now we're quickly moving," Borchard said. City officials recently chose one of four proposed designs for the enormous reinforced earth and concrete structure. The site survey, wetlands and biological surveys, geotechnical investigation and archaeological survey are complete, and technicians are now working on more detailed assessments of building and permitting requirements.

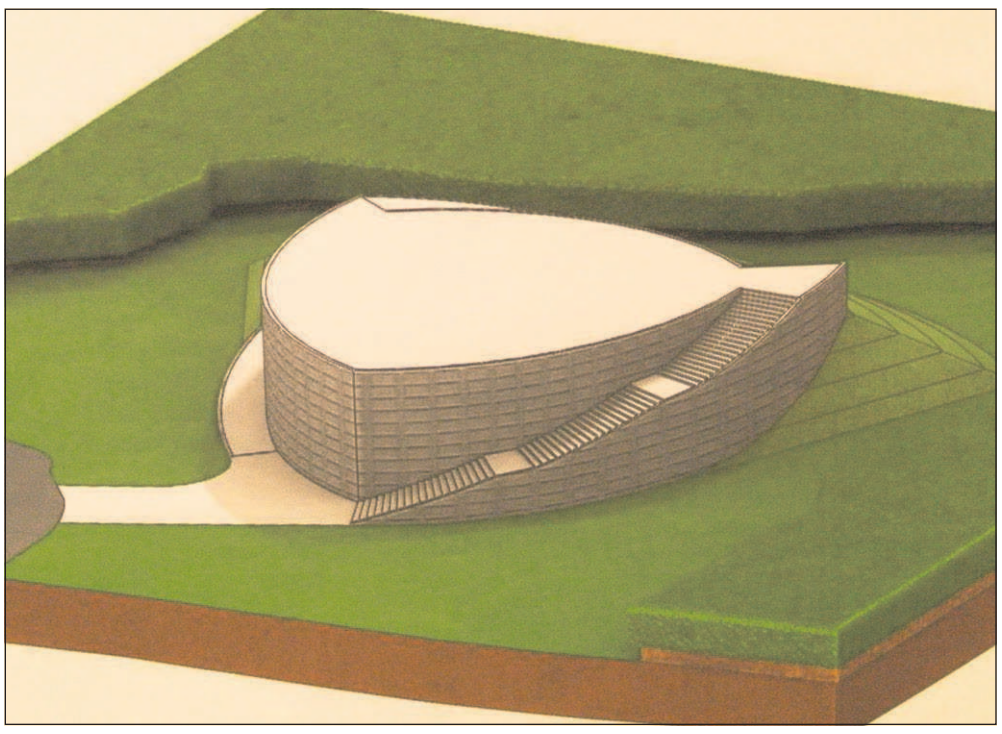
Borchard said the city council and staff originally looked at three proposed designs from PND, Inc. A design nicknamed "The Snail" was quickly dismissed as impractical. Another design, called "The Orb," had a profile similar to a modern professional football stadium. City leaders preferred a third design, known as "The Prow," because it is shaped like the front of a large ship. However, even though it was the most affordable option, it was still too costly. The city asked PND to modify the design, and the engineers came back with "The Simplified Prow" which will cost about $2.9 million in construction dollars.

The city council voted to accept the Simplified Prow design in June.

Plenty of room

According to PND documents, the completed structure will have a flat, 8,500-square-foot top, and will stand roughly 35 feet above ground, with a base that goes down well below ground level. The berm is designed to withstand serious earthquakes, as well as tsunami waves of up to 22 feet in height with a velocity of 18 mph. The design, which has steps and a ramp running around the circumference, also accounts for the effects of "scouring." Borchard said the forceful tsunami waves could potentially shave several feet off the ground surface surrounding the berm.

"The speeds are just phenomenal," Borchard said. Though it's designed to hold 850 people, Borchard said it can easily hold more people, because that estimate is based on allowing a 10-by-10 "bubble" around each person. Engineers have assured her that the structure is sound enough to hold as many people as can comfortably fit on it.



David Plechl/EO Media Group

This architectural rendering shows a design for the evacuation berm proposed for a site behind Long Beach Elementary.

Budget challenges

So far, the city has spent about $230,000 of its $448,000 design budget. That money went to design costs, site investigation and permitting.

Before construction can start, the city will have to go through an involved permitting and approval process with various state and federal authorities. Though it's developed as a sports field, the soggy school property where the berm will be built is technically a wetland, Borchard said. That means the U.S. Army Corps of Engineers will likely require the city to do mitigation work to offset the effects of construction.

The more recent in-depth geotechnical investigation revealed that there is a thin layer of peat near the surface that will need to be excavated. Analysis is still underway, but it is likely that builders will need to take additional steps to be sure the foundation meets current seismic and tsunami standards.

"The take-home message is that things will change, because this is a pilot project," Borchard said — in other words, it's not shocking there were no surprises, because no one in America has ever done a project like this before.

Cost of saving citizens

"My hope and belief is that it will come from the state of Washington," Borchard said, when asked where the additional money would come from. She pointed out that the estimated budget was developed several years ago, so it was inevitable that real costs would rise somewhat by the time construction actually started.

In Borchard's opinion, the state should be doing all it can to protect schoolchildren against a known hazard.

"I believe morally, we are obligated to keep those children safe," Borchard said.

Regardless of the increased cost, Borchard said she believed the project is making good progress, and is worth the expense, because it provides a lot of potential benefit for the cost. Based on the conservative 850-person capacity estimate, the total cost would work out to about $4,000 to $5,000 per person. Borchard pointed out that at that rate, the cost of protecting a citizen from a tsunami is less than the cost of many pretty basic hospital procedures.

"What a slammin' deal it is to save 850 lives," Borchard said.

Albacore in abundance this time of year for Ilwaco anglers

Trip produces bounty of fish

By LUKE WHITTAKER
EO Media Group

ILWACO, Wash. — Tuna season is in full swing, with local fishermen reporting high numbers and bigger-than-average albacore.

Ilwaco-based Shake N Bake fishing charter provided an inside look this month at what some consider the best fishing worldwide during a tuna trip for five first-time albacore fishermen. In less than three hours, more than 50 tuna were caught.

It was a successful trip in what's considered one of the most productive fisheries on the West Coast, where "plugging the boat," or filling the hold to the top with tuna, has become routine.

"The fish are aggressive and there are a lot of them," said Aaron Walker, owner of F/V Opportunity. "There's hardly a fishery that compares to this type of action, fight and food quality. This is Tuna Town USA."

Into the blue

Eleven miles west of the mouth of the Columbia River, the Astoria Canyon emerges underneath. The 75-mile long canyon begins at around 330 feet deep, before dropping into an abyss beyond 6,000 feet. The canyon is an epicenter of scientific research, but also a highway for migrating albacore tuna.

North Pacific albacore begin an expansive annual migration in the spring and early summer in waters off Japan, continuing throughout the late summer into inshore waters off the U.S. Pacific Coast, ending late in the year (late fall and winter) in the western Pacific Ocean, according to the National Oceanic and Atmospheric Administration's Southwest Fisheries Science Center.

Oceanic conditions strongly influence both the timing and geographical extent of the albacore's migration in a given year. The vast majority of albacore are caught in waters with sea-surface temperatures that range from 15 to 19.5 degrees C (59 to 67 degrees F). The migrating fish are typically bounded by these thermal gradients as they conduct their round-trip travel across the Pacific Ocean, according to NOAA.

Thirty-five miles offshore, fingers of warmer southern currents shimmer in hues of blue. It's within these slightly warmer surface waters that albacore can be found in an abundance. While passing along the Washington and Oregon coast, they feed primarily on mackerel and northern anchovy.

Finding the fish

Jigs are trolled until a school is located and the first hookup occurs. A screaming drag from the first albacore on a reel often serves as the alarm. Once the first tuna is hooked, the remaining jigs are reeled in and replaced with lines baited with a live anchovy.

"Fresh one!" yelled deckhand Clark Von Essen, signaling the first hookup of the day.

Nearly simultaneously, each of the half-dozen rods slumped and shook violently against the strain of a newly hooked albacore. Diving and making repeated runs, each albacore took a minimum of 10 minutes to reel in. Several took nearly 20 minutes or more before being gaffed and pulled overboard.

Once aboard, the tuna were bled on deck and then stacked in the hold. After a little over three hours of fishing, the vessel was "plugged," a term reserved for when there's no longer any room in the hold.

In total, more than 50 tuna were caught; 42 were kept for the trip home and another eight were caught and released.

"We are having some canned, some smoked and some for sushi," said Jill Cleary following the trip, adding that they looked forward to sharing the catch with friends, family and neighbors.