

Wharf to be sharpened up

By BOB SMITH

Capitola Wharf will have an "armored" steel bow when it's rebuilt this spring.

The Capitola City Council last Thursday night approved plans that call for replacing the storm-destroyed tip of the wharf with heavy steel pilings that will form a stub-shaped bow — a shape that engineers believe will better withstand the impact of the sea, logs and other debris in the water.

Rebuilding will cost an estimated \$184,000.

Financing will probably come from three "pockets" — federal, state and city.

The Federal Emergency Management Agency will pay 75 percent of the cost to rebuild the portion of the wharf actually damaged or destroyed by the waves.

But the federal agency won't pay anything for the "mitigation" measures which are supposed to prevent or minimize future damage to the wharf.

Responsibility for those federally required measures is the city's. But the council was told last Thursday that City

Manager Steve Burrell and Public Works Director Craig French have asked the state Wildlife Conservation Board to pay half of the local costs.

The board was scheduled to meet Tuesday morning in Sacramento to hear the city proposal and Burrell was confident that the state board would approve the request.

If so, said French Thursday night after the council meeting, the city will end up paying an estimated 25-30 percent of the total cost — or approximately \$50,000.

Marine structural engineer Harold Anderson suggested rebuilding the missing 30-foot end of the wharf, using 16-inch diameter wooden pilings. But then the wharf would be extended another 20 feet and narrowed from 60 feet to 20 feet, with 14-inch diameter steel pilings. The vertical steel pilings would be welded to second metal pilings driven at an angle behind them, forming an "A-frame."

Steel pilings can support 2.5 times the

column load of wooden pilings, are 3.5 times as strong in bending, and when two are welded together in an "A-frame" the combination can resist lateral loads at the deck level 40 times greater than a single timber pile.

The recommendation to substitute the steel piling for wood is a compromise, Anderson said. "The best selection would be prestressed concrete," he said in a report to the city. "The problem in our case is weight. A 12-inch square concrete pile weighs 150 pounds per foot and handling a 60-foot pile would require equipment larger than can be supported by the Wharf deck."

The steel piles weigh 55 pounds per foot, making it possible to transport them onto the wharf and then drive them with equipment that the wharf can support.

Anderson estimates that it will cost 1.6 times as much to install steel pilings compared to wood.

But he adds: "It should be recognized

that if timber piles will fail under certain predictable wave loads, that they are simply not adequate and a pile of stronger materials is necessary, regardless of cost."

The reconstruction could be out for bid by the end of March, French said, if the city gets the go-ahead from the state, FEMA, and the state Coastal Commission.

When the wharf is reconstructed, there will be some new "don'ts" for its users.

The council tentatively approved amendments to the city ordinances, banning any sort of fires on the wharf, trespassing when the wharf is closed, and water skiing or the use of a boat to tow a water skier within 300 feet of the wharf.

The council banned the use of "jet skis" anywhere in the city, which includes the water around the wharf out approximately one mile.

The ordinance will be presented to the council for a second reading in two weeks and if adopted, will become effective a month later.