

August 5, 2002

Honorable Mayor and Members of  
The Hermosa Beach City Council

Regular Meeting of  
August 13, 2002

**PROJECT NO. CIP 00-630 PIER RENOVATION, PHASE III RECEIVE LIFEGUARD  
BUILDING STRUCTURAL ENGINEERING REPORT AND APPROVE  
PROFESSIONAL SERVICE AGREEMENT FOURTH AMENDMENT**

**Recommendation:**

It is recommended that City Council:

1. Receive and file the structural analysis report;
2. Approve the attached Fourth Amendment to the Professional Services Agreement between the City of Hermosa Beach and Purkiss•Rose – RSI for either Options 1 or 2;
3. Authorize the City Clerk to attest and the Mayor to execute said amendment, upon approval as to form by the City Attorney;
4. Authorize the Director of Public Works/City Engineer to make adjustments to the scope of work as necessary, not to exceed 10% of the amendment amount; and
5. Direct Staff to discuss the condition of the lifeguard building and related issues with Los Angeles County and return to City Council with more information.

**Background:**

During the April 9, 2002 City Council meeting, City Council approved Amendment No. 3 to the contract with Purkiss•Rose-RSI. Part of Amendment No. 3 included a seismic analysis of the lifeguard tower for performance evaluation under the 1997 Uniform Building Codes (UBC), providing a structural engineering report including analysis methodologies used, findings, conclusions, sketches for any schematic structural retrofit per current code requirements, and a preliminary opinion of costs for implementation of the structural strengthening scheme.

The structural engineering report is attached and ready for review.

**Analysis:**

Staff has reviewed the report and found that there is extensive damage to the lifeguard building. Although the report gives a retrofit estimate of \$34,000, it only includes the work related to the structural steel and welding. If all cost items such as mobilization, demolition, and interior architectural work were included, the cost for completely retrofitting the building may be approximately \$650,000 as indicated in the attached letter from Purkiss•Rose. With the addition of the women's locker room and the exterior architectural "facelift" (approximately

\$105,000 and \$100,000), the cost increases to approximately \$855,000. In comparison, a new lifeguard station with the women's locker room incorporated may cost approximately \$600,000 to \$750,000.

The largest factor that may affect the cost of retrofitting the lifeguard station is the actual amount of deterioration behind the wall panels. The structural engineering report analyzed the building at the joints where the steel members connect and not the condition of each beam. If more deterioration is present than anticipated, the retrofit costs may dramatically increase or it may be determined that the building's condition is beyond saving.

Another factor to consider is that the soil layers down to 50+/- foot depth have the potential for liquefaction. (The term "liquefaction" is a phenomenon in which cohesionless soil, such as sand, loses strength and acquires a degree of mobility, similar to a liquid, as a result of strong ground shaking during an earthquake.) Therefore, the existing 40-foot timber piles are unlikely to provide a significant advantage to the structure during a major earthquake according to the soil analysis performed by Converse Consultants. In addition, the condition of the timber piles beneath the building is unknown, but deterioration in this marine environment is very likely. If the existing building were completely renovated, it would be difficult to estimate the new expected life. Most likely, it would be more cost effective to redesign the lifeguard building to current Uniform Building Code (UBC) requirements, incorporating the women's locker room, and placing the new building on concrete piles longer than 50 feet.

Due to the higher cost to retrofit the lifeguard building, the potential of having more deterioration than anticipated, and the lack of protection against liquefaction, redesigning and constructing a new lifeguard building seems to be the better option.

The attached report only involves the lifeguard station and the proposed women's locker room. The plaza area and restrooms remain unaffected by this structural engineering report. Design work for those portions of the project is still on schedule and the preliminary construction documents are expected to be submitted by August 20, 2002 for Staff review.

A copy of the report was sent to Los Angeles County for their review and file.

## **Options**

The options for the lifeguard building and proposed women's locker room are as follows:

1. Renovate the lifeguard building as planned including the structural retrofit as delineated in the structural engineering report. Authorize Staff to approve an amendment to the Purkiss•Rose contract to incorporate the retrofit and all appurtenant work into the construction documents.
2. Design a new lifeguard building to current UBC requirements incorporating the women's locker room and include the demolition of the existing lifeguard building. Authorize Staff to approve an amendment to the Purkiss•Rose agreement to include the new design work in the construction documents.

Probable construction costs for Options 1 and 2 are as follows:

<u>COST ITEMS</u>	<u>OPTION 1: RETROFIT</u>	<u>OPTION 2: NEW BUILDING</u>
A) LIFEGUARD BUILDING	650,000	750,000
B) WOMEN'S LOCKER ROOM	105,000	0
C) BUILDING "FACELIFT"	100,000	0
D) BUILDING DEMOLITION	0	50,000
E) TEMPORARY FACILITIES	200,000	200,000
F) ABESTOS/LEAD ABATEMENT	50,000	50,000
G) 20% CONTINGENCY	221,000	210,000
<b>TOTAL</b>	<b>\$1,326,000</b>	<b>\$1,260,000</b>

For Option 2, the high end of the cost range was used for the lifeguard building. The figures for Cost Items C, D, E, and F are only rough estimates. The total construction cost for the project including either Options 1 or 2 is roughly \$3.8M or \$3.7M, respectively. The previous construction estimate for the project was approximately \$2.5M. More accurate estimates will be obtained once Staff is given direction on which option for construction to pursue.

Either option will impact the project schedule by approximately two (2) to three (3) months.

### **Fiscal Impact**

The possible design fees for Options 1 and 2 are as follows:

<u>COST ITEMS</u>	<u>OPTION 1: RETROFIT</u>	<u>OPTION 2: NEW BUILDING</u>
DESIGN FEE	104,275	112,375
REPRODUCTION ALLOWANCE	3,000	3,000
CONTINGENCY	10,728	11,538
<b>TOTAL</b>	<b>\$118,003</b>	<b>\$126,913</b>

There are sufficient funds budgeted for this fiscal year to accommodate either option for addition design fees.

Once Staff receives direction, additional funds for future construction costs will be requested from various agencies such as Los Angeles County and the Coastal Conservancy.

- Attachment: 1. Structural Engineering Report  
2. Purkiss•Rose letter  
3. Fourth Amendment – Option 1  
4. Fourth Amendment – Option 2

Respectfully submitted,

Concur:

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Tristan D. Malabanan  
Assistant Engineer

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Harold C. Williams, P.E.  
Director of Public Works/City Engineer

Noted for fiscal impact:

Concur:

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Viki Copeland,  
Finance Director

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Stephen R. Burrell  
City Manager