



4. Homer Harbor Critical Float System Replacement: Float Systems 4 & 1

Project Description & Benefit: System 4 is made up mostly of floats that were constructed in 1964 for the original Homer Harbor. In the 2002 Transfer of Responsibility Agreement (TORA) project, those original floats were moved to create System 4. Within two years, the System’s 207 slips for vessels ranging in size from 24 feet to 60 feet in length and over 1,000 linear feet of transient moorage was filled to maximum capacity. System 4 provides dockage for the Seldovia Fast Ferry *Kachemak Explorer* for passenger and freight loading. System 4 has two accessible gangways on ramps 6 and 7 and is supported by a public restroom and public fish cleaning station located at the top of ramp 6.

The 1964 timber floats are 30 years beyond their engineered life expectancy and should be replaced before they are condemned and need to be decommissioned. Major maintenance (adding flotation to the end of main floats and replacing timber piles, decking, and stall floats) has allowed continued use of these floats. Despite these efforts, many conditions have combined to produce a critical loss of structural capacity. Bullrails, used for securing mooring lines, are cracked or deteriorated; older timber piles have areas of rot; flotation foam has disintegrated throughout these floats, reducing freeboard, which ultimately reduces load capacity and increases rates of corrosion. The lack of flotation and deteriorated structural members makes the entire main float lists to one side; snow has to be removed in the winter to prevent sinking. Lack of flotation also causes the stall floats to be unstable or bouncy when walking on them, resulting in a potential safety hazard. Parts of System 1 dates back to 1986 The lack of freeboard flotation, concrete and timber deterioration and broken structural elements at end floats and failures in some headwalk floats likewise puts these components of System 1 in critical to serious categories.

Plans & Progress: R&M Engineers provided a harbor-wide condition report and cost estimate for float replacement in 2023. It recommended replacing floats categorized as serious and critical and upgrading shore power, fire suppression and potable water. AAA float can be expanded towards the load and launch ramp to open up narrow fairways between the floats, giving vessels more room to safely navigate between the float systems. The City submitted a Federal grant application for FY23 Port Infrastructure Development Program funds to assist with design, engineering and construction. State matching funds help leverage federal dollars in support of Homer’s regionally critical port infrastructure.

Total Project Cost:	\$59,289,547
Phase 1: Design, Engineering	\$ 2,205,000
Phase 2: Construction	\$ 57,084,547



System 4 floats to be replaced.



The Headwalk Float AAA is warped, suggesting a failure in the structural members below the deck and lack of flotation..



Low freeboard resulting in submerged pile collar. Decking has rot and hardware connections protrude through it.