Whidbey Island Class LSD to SEAL Support Ship (Conversion Project)

LT Brandy Dixon, USN; LT Kathleen McCoy, USN; LT Matt Strother, USN

"Our recommendations seek to protect capabilities uniquely suited to the most likely missions of the future, most notably special operations forces used for counterterrorism and crisis response. Accordingly, our special operations forces will grow to 69,700 personnel from roughly 66,000 today."

Secretary of Defense Chuck Hagel, February 24, 2014

The purpose of this conversion project was to determine the structural and arrangement adjustments necessary to convert a selected decommissioning ship into a Special Operations Forces (SOF) support platform, which was to be used in response to a hypothetical, specific, emerging threat or crisis within a limited geographic region. The converted ship was intended to perform this mission for up to 90 days, and then to return to port for decommissioning. The design philosophy for this project focused on conversion speed and SOF support capability.

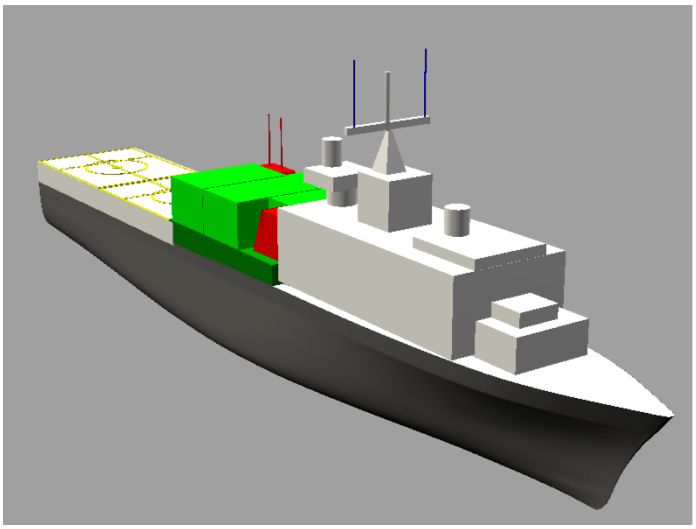
In order to provide effective SOF support, the ability to launch both aircraft and small boats was considered essential. The team analyzed recently decommissioned carriers and amphibious ships, or those scheduled for decommissioning, and ultimately selected the Whidbey Island Class LSD as the vessel to be converted. One factor in this decision included the LSD's existing flight and well decks, which meant a shorter conversion time as compared with adding these capabilities to ships without them. In addition, the LSD operates on a diesel plant, which is much less labor-intensive than the steam plants of other vessels considered.

The first major modification to the LSD included the removal of various topside equipment and the installation of an aircraft hangar. In order to minimize conversion time, the equipment removal and hangar installation did not affect the existing flight deck, air traffic control tower, or exhaust stacks. The hangar design allows for the transport of a total of 12 helicopters of four varieties, including attack, transport, and unmanned craft. This arrangement also has the benefit of creating a straight, level, and unobstructed path from the flight deck to the medical bay.

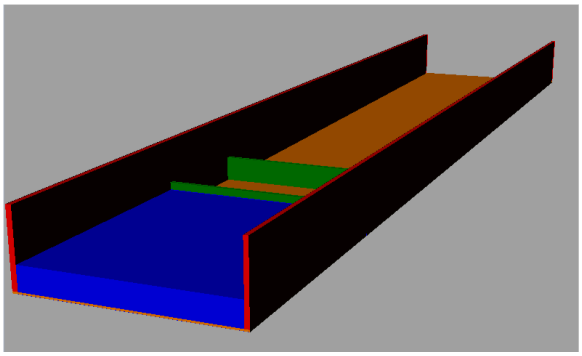
The other major conversion area was the well deck. While the original well deck supported a few large hovercrafts, the converted design is more suited to several smaller craft of the variety used by the Navy SEALS. This was accomplished through the installation of two seawalls near the aft end of the well-deck and a large track crane to lift the vessels over the walls. In addition to enabling greater flexibility in launching and recovering vessels in any order, this design has the benefit of eliminating the necessity of ballasting and de-ballasting the ship for every launching evolution.

The team estimates that this conversion project could be completed in approximately 16 weeks for about $30 million.

Ship Characteristics	
Parameter	**Value**
LBP	609 feet
Beam	84 feet
Draft	21 feet
Full Load Displacement	15,700 tons
Speed	20+ knots
Helicopter Storage:	
MQ-8C	4
MH/AH-6	2
MH-47	2
SH-60	4
Small Boat Storage:	
Mk-5	4
SOC-R	2
RHIB	6
Conversion Cost	$30 million



Converted topside arrangement



Converted well deck