Designing San Salvador

There are no blueprints for the San Salvador, the flagship of the first European fleet to enter San Diego Bay. To reconstruct the 16th-century ship, the Maritime Museum of San Diego consulted the scarce historical clues that exist.

**Historical decisions**

In planning the reconstruction project, experts in historical documents, marine archaeology, and sailing weighed in on the naval architect’s plans. First, they had to decide whether it was likely a caravel or galleon.

The best clue they found was a watercolor painted by someone who saw a new-built version of the San Salvador’s fleet. The account described the larger ships as galleons, so that is what the group decided to construct.

The San Juan ensigns

The San Juan — a galley that sank off the Newland in 1565 — was discovered in 1978. An extensive study released in 2010 provided the details of the size and shape of the rudder and how it was attached to the ship.

The earliest surviving San Salvador rendition?

Maritime Museum of San Diego/Bayshore: The History of San Diego: Replicas

**Computer tests**

Before construction began, computer simulations were conducted to test whether the design could handle extreme conditions at sea. It must be able to sail at up to 300 degrees and not sink.

**Tiller**

The tiller is the rudder control. It helps steer the San Salvador. The rudder is attached to the stern of the ship and turns left or right. When the tiller is moved to the left, the rudder turns to the right, and vice versa.

**Flags**

The main mast bears the flag of the Cross of Burgundy, which represented Charles V.

**Modern below the surface**

To avoid regulations and accommodate its crew, the San Salvador is equipped with a modern-style bilge that doesn’t allow the ship to sail out of violation, new.

At night, it will run with standard engines and generators, and the water will be removed in port.

**Helm**

The 500-pounder engine is powered by a motor located on either side of the rudder.

Eighteen tons of lead will be in the keel for ballast and 50 additional tons will be made using dense material to provide space — a large amount of what would have been stones and cargo.

At least 20 people will be required to sail the ship compared to more than 300 on the original. When necessary, some space below deck will be converted from hold to living quarters (officers).

**Topsail**

The San Salvador sailed with another large ship and a small one. If this shows the fleet, it may be the pilot or supply ship. The San Salvador itself will be a 35-foot-long ship with a crew of 12.