

McLennans Diving Service

- Marine Contractors

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To Hannah Curtis
Senior Natural Resource Management Officer
Crown Lands

From Alan McLennan
Project Manager

Post Storm Survey of ex-HMAS Adelaide

An MDS Dive team visited the ex-HMAS Adelaide on Monday 1st August 2022 to carry out a post storm inspection of the wreck.

Our objective was to inspect the condition of the wreck following several “high seas” events to determine if the wreck is safe for recreational diving activities, in accordance with the approved Long-Term Monitoring and Management Plan (LTMMMP). In addition to the usual LTMMMP monitoring, the dive team focused on the state of the starboard hanger, and the state of the paneling in the superstructure. These were items of concern highlighted in our annual LTMMMP survey which was completed in June 2022. (Here is a link to the report [LTMMMP Report 2022](#))

The dive team consisted of Dive supervisor Alan McLennan; with divers, Zoe Pocklington, Stafford Malapa and Ben Darwin; and the skipper was Paul Minto. The Dive Team operated from the charter dive vessel “Sea Runner” using SCUBA equipment in compliance with AS2299.1:2015. The team also deployed a Deep Trekker Revolution ROV to carry out additional inspections based on the divers’ reports.

Results of the survey

Inspection of interior - The divers swam through all the passageways in the superstructure and checked for any, debris blocked exits or loose panels. They found no blocked passageways, or significant debris that requires removal. The objects which had been blocking passageways in the last inspection have now been washed away.

Vessel List and Trim - The vessel remains at the same list as in previous inspections at approximately 4 degrees to port. This was determined by use of digital depth gauges on opposite gunwales amidships and by using a spirit level on the flight deck. The trim of the vessel was also unchanged. The sand level was very similar to previous years with the sand being very close to the vessel’s seagoing waterline. The vessel was fully supported by sand, with the sand line just above the duckbill, and the bow buried to the tip of the keel.

Barred Off areas – We inspected as many barred off areas as we could in the time available. We found the bars on the openings were all intact and unchanged since our last inspection.

Hull Integrity - The vessel can be divided horizontally into two halves. The top half is the aluminum superstructure and the lower half below the main deck is the steel hull.

- The Aluminum Superstructure

The superstructure is highly corroded. Several new panels have come free from the exterior of the superstructure on 01 deck. This has not created any new problems and no swinging panels or blocked exits were created as a result.

- The starboard hanger area was closely examined. The suspended roof is identical to the port hanger roof that collapsed in 2021. The starboard wall has been missing since May 2015. No new deterioration was noted since the LTMMMP inspection in June. The ROV was used to closely examine the supports for the starboard hanger roof. It was found that a catwalk runs around the inner circumference of the hanger and that this structure is providing extra bracing to the remaining hanger. This would explain why this hanger has outlasted the

port side. Another reason is that the lifting davit on the roof of this hanger, is in the “folded in” position, so that its weight sits over the hangar door frame, rather than being cantilevered over the flight deck, as the port side was when it collapsed.

- Hanger companionway wall –the hanger companionway wall from the flight deck to the funnel has separated along its connection to the main deck. A distance of 14 metres. The supporting frames have also separated. The wall is now swinging with the swell surge along the top connection. This wall is on the opposite side of the companionway to the wall that MDS cut down in April 2022. This wall presents less danger as it can only swing up to 100mm, due to objects fastened to the main deck on either side of it. This restriction won't last long as we expect the wall will either break around these objects or snap at the top connection. This is an item that should be monitored regularly.
- The weather shield is the vertical wall that separates the bow area from the main deck. The bridge is located at the top of the weather shield. This is one of the LTMMMP monitoring sites. A breakdown of the weather shield has been observed for the first time. A vertical strip on the port side has cracked and partly come away from the structure. It is 6 metres long and 1 metre wide. A breakdown of the weather shield will impact the long-term stability of the aluminum superstructure, as the weather shield is a structural component of all the upper decks and provides them with protection from the force of the ocean swell. The panel that has broken does not present any significant danger to divers currently, but it will continue deteriorating and should be monitored closely, as this area is the most highly visited part of the wreck after the main mast.
- The Steel Hull - The lower half of the vessel below the main deck has suffered no noticeable deterioration since the previous inspection. No corrosion, cracking or displacement of fittings was observed on the outside or inside of the steel hull. All entrance ways inspected were clear. All long-term monitoring points were inspected, and no deterioration was found since our last inspection. These locations were:
 - the Missile launcher opening,
 - the Forward screen,
 - the Hangar frames
 - the Transom

Sediment Levels – the recent storms created flood events in the Hawkesbury River and the onshore lakes. Some of the interior spaces received large deposits of silt as a result. In June 2022, MDS cut a panel out of the radar room to allow water circulation to clear the silt. This has been successful with the level reducing from 1 metre deep to 200mm. We expect that this will continue. The remaining sediment is quite coarse and did not stir up easily.

Moorings – The two special markers were present and in their correct positions. Four mooring buoys were present. The mooring on the main mast has lost its red surface float but it was still operational because of the subsurface float that was holding it up.

Suitability for Recreational Diving: the vessel has no new dangers for recreational divers since our last visit in June. I recommend that the wreck be opened for recreational and scientific diving activities. Note that diving on shipwrecks is inherently dangerous. The permit form, which all divers must sign, clearly explains the risks of visiting the wreck. The wreck should only be dived by suitably qualified and experienced divers, and if they are not familiar with the site, they should be led by an experienced divemaster.

Future Monitoring of the Wreck

The structural monitoring program under the LTMMMP has consisted of an annual survey and a port storm event survey. (Storms being defined as events of greater than 5 metre swell height). In addition, reports from local dive tour operators of damage to the wreck, have been used to provide timely warnings that a structural survey is required.

The starboard hanger and the companionway wall have withstood two very large swell events of greater than five metres since June, and only minor deterioration has occurred, with no danger to recreational divers being created.

Therefore, the current survey regime remains adequate. If the local dive operators report any further breakdowns of the hanger structure, or weather shield then it would be prudent to follow up their observations with another survey.

Conclusion – The vessel's position, list and trim remain unchanged. All passageways are open and unobstructed. We found no debris or obstructions that could restrict access or egress from the wreck. All "barred off" area barriers remain intact.

The status of new areas of concern are:

- The starboard hanger has not deteriorated since our last visit.
- A major panel in the weather shield has partly broken free since our last visit. This panel does not currently impact divers.
- The companionway wall in the starboard hanger has broken along the lower connection to the main deck. Its movement is restricted now and is not currently a danger to divers.

Please find following photographs and drawings illustrating this report, Also please view a video report of this survey at this link [Post Storm Video Report 1-8-22](#)

Thank you for asking us to undertake this inspection, regards,

Alan McLennan
Phone 0433111528



Figure 1: Looking up at the starboard hanger roof. Note the many corrosion holes.



Figure 2: The divers hand pointing to the separation of the hanger companionway wall from the main deck. It is not currently presenting any dangers due to objects nearby holding it in position



Figure 3: The large panel on the weather shield which has started to come away from the wreck.



Figure 4: The catwalk in the starboard hanger which is adding strength to the roof.



Figure 5: The aft supporting column of the starboard hanger looking from inboard. The column shows no sign of deterioration. The similar column on the port side showed cracking and crumpling in the weeks before the hanger collapsed.

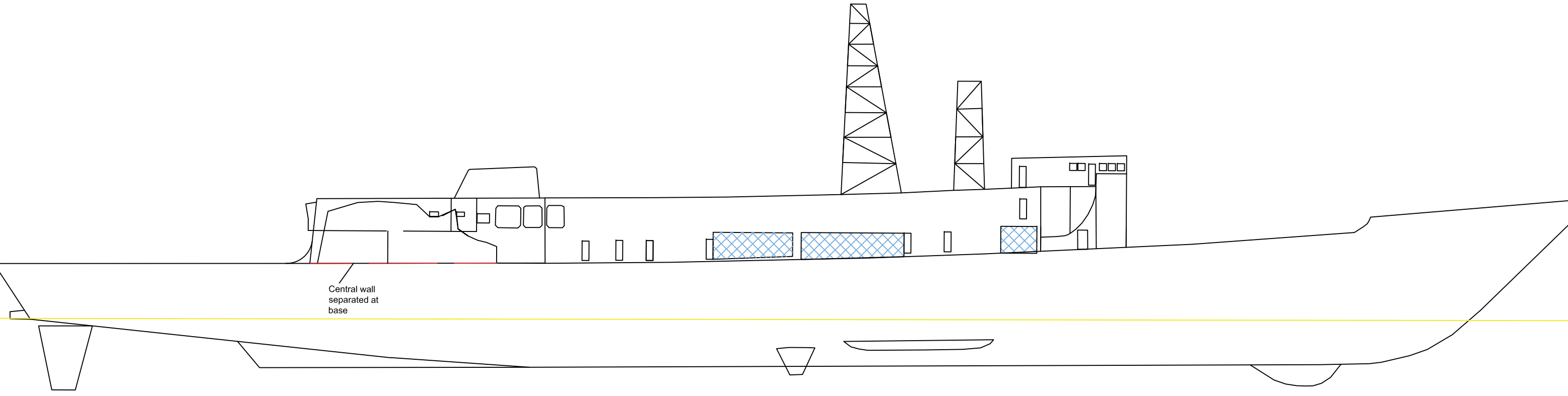
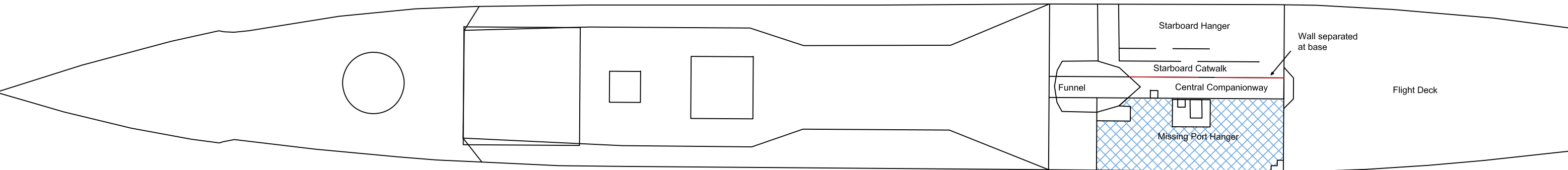
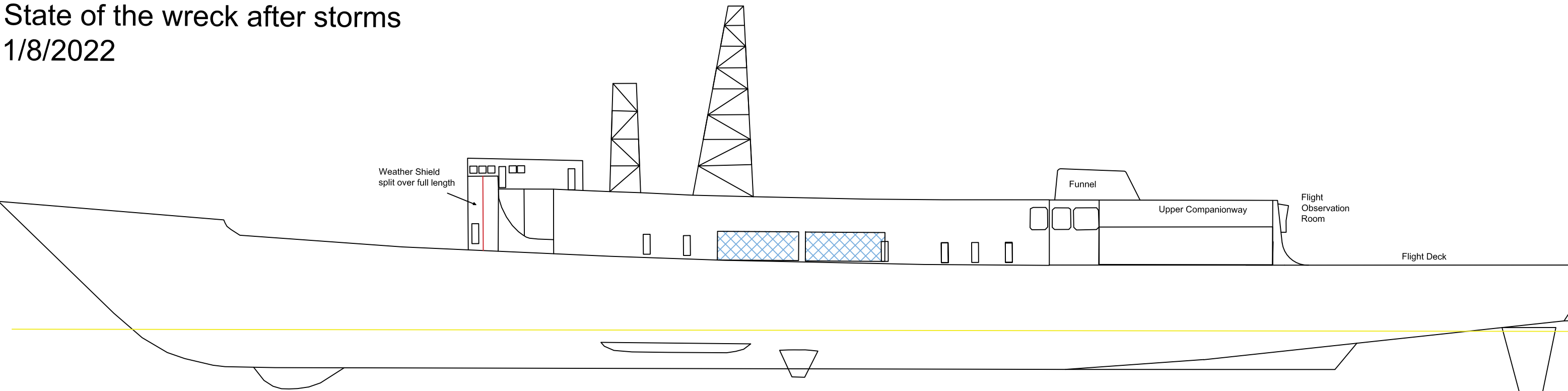


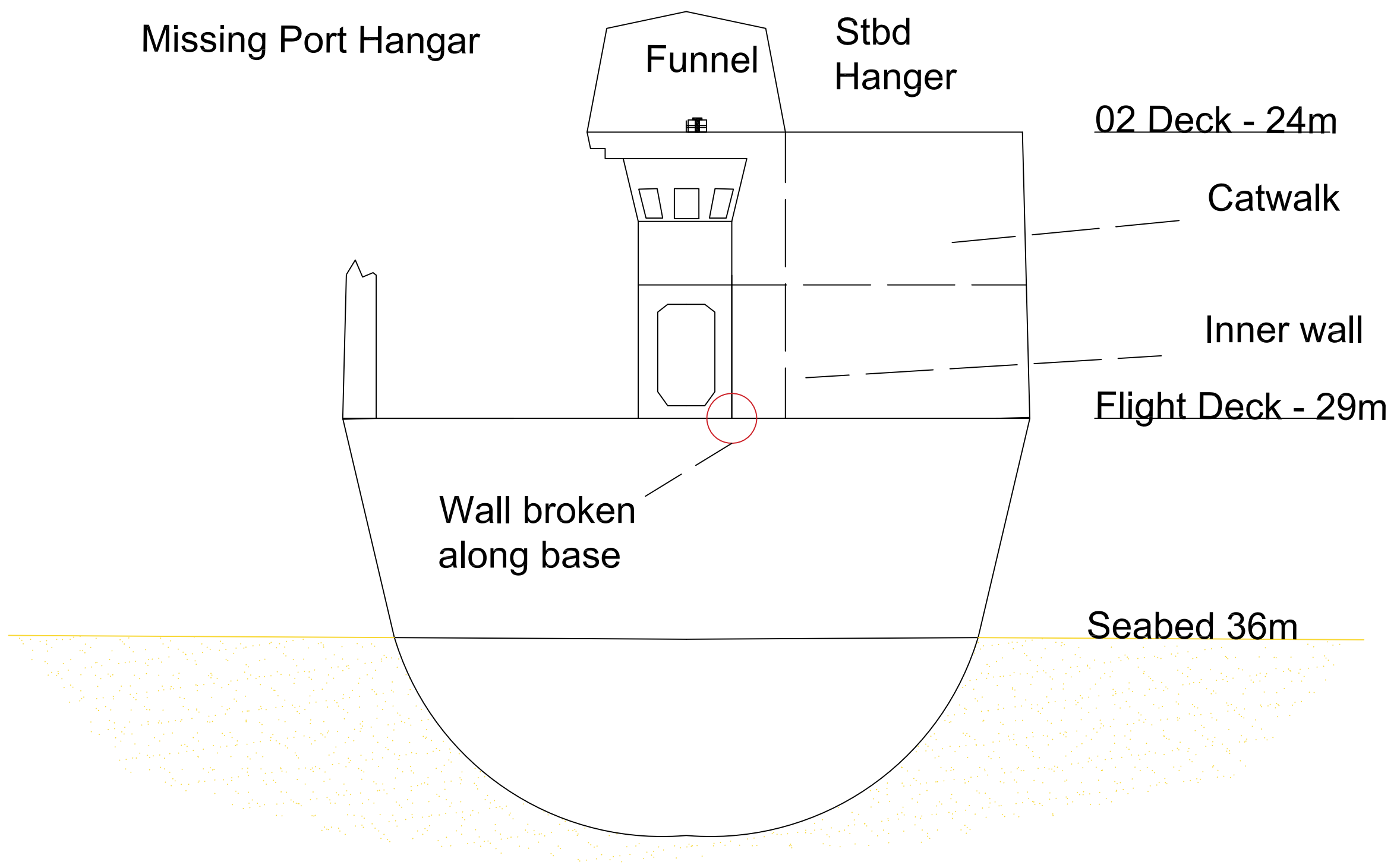
Figure 6: The starboard lifting davit on the hanger roof is folded in on the starboard side which places the load over the hanger door frame. This is in contrast with the port side on which the davit was cantilevered over the flight deck, which increased the load on the hanger.



Figure 7: A historical view of the port davit as was, swung out over the flight deck. This is a key difference between the two hangers. This hanger collapsed in June 2021.

State of the wreck after storms
1/8/2022





Ex HMAS Adelaide Stern View 1st Aug 2022 Post Storm